Trends in the development of Thailand's nutrition and health plans and programs

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Thailand's achievements in health and social development, since its First National Economic Development Plan (1961) and those of its National Food and Nutrition Plans beginning in the Fourth National Economic and Social Development Plan (1977), have received worldwide acclaim. During the last decade the nation has experienced dramatic results in reducing protein-energy malnutrition (PEM), including the virtual eradication of severe PEM. Children and adults alike have better access to health care services, preventive and curative, during the past decade as Thailand's poverty alleviation, primary health care and quality of life approaches have reached out into even the remotest of rural villages. This paper explores the reasons behind this successful effort with special reference to how Thailand integrated nutrition plans into national health and rural development policies and programs.

Introduction

During the last decade, Thailand dramatically reduced the prevalence of protein energy malnutrition (PEM) in preschool children. PEM by weight-for-age in children under five (which reflects macro-nutrient deficiencies) was over 50% between 1979–1982. Growth monitoring was then institutionalized by the Division of Nutrition, Ministry of Public Health (MOPH), at the beginning in the Fourth National Economic and Social Development Plan (NESDP) in 1981, and it has achieved a coverage of more than 2.7 million pre-school children by 1991. Using a Thai growth standard, combined mild, moderate and severe malnutrition by weight for age, as shown in Table 1, declined consistently from approximately 50.8% in 1982 to 17.1% in 1991 (for moderate and severe combined, the decline went from about 15.13% to 0.77% in the same period).

Table 1. Percent prevalence of protein energy malnutrition (PEM) in preschool children (wt/age) Thailand*.

Year	No. of children surveyed	Nutritional status (%) as per PEM			
		Normal	Mild	Moderate	Severe
1982	1 000 000	49.21	35.66	13.00	2.13
1983	1 270 393	64.77	28.53	5.90	0.80
1984	1 590 830	70.67	24.85	4.20	0.27
1985	1 620 518	71.55	24.35	3.90	0.21
1986	2 277 908	74.91	21.84	3.12	0.13
1987	2 351 521	77.11	20.53	2.30	0.06
1988	2 435 129	78.85	19.51	1.60	0.02
1989	2 539 407	79.14	19.72	1.14	0.01
1990	2 598 000	80.00	18.00	0.80	0.004
1991	2 714 314	82.90	16.32	0.77	0.0035

*Division of Nutrition, Ministry of Public Health[1]
Using Thai growth reference of body weight as percent of standard weight: 90 and up (normal), 75–89 (mild), 60–74 (moderate) and below 60 (severe) cut-off points.

This paper's objective is to explore and document the reasons behind this successful effort in malnutrition eradication which may prove valuable for countries in the region who are restructuring their health and nutrition policies and plans. Major emphasis will be on the Thailand's main five-year social, health and food and nutrition plans, especially the Poverty Alleviation Plan, a new directional policy with specific activities implemented since 1982.

Nutrition and health situation in Thailand

Thailand occupies an area of approximately 514 000 square kilometers in the center of South East Asia with a total population of about 56 million in 1990 (approximately 80% of which live in rural areas) and a population growth rate of 1.3%. The major food items produced, consumed and exported are rice, corn, legumes, sugar, chicken, fish, beef, pork, seafood and fruits. Thailand imports dairy products, wheat flour and some fruits. Even in major agricultural exporting countries such as Thailand, nutritional deficiencies persist, especially among the main target groups of pregnant and lactating women, preschool and school-aged children. Moreover, the afflicted are located predominantly in rural poverty-stricken areas where inappropriate food habits, lack of nutritional awareness, inadequate purchasing power, and poor environmental conditions constantly threaten the lives and livelihoods of the local people[2].

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Nonetheless, over the last decade and up until the present, Thailand has successfully reduced the magnitude and severity of certain critical problems such as that noted above for protein-energy malnutrition. In addition, iron deficiency anemia has declined among children aged 0–5 years (29% in 1988 to 15% in 1991) as well as school-aged children and pregnant women (both of which show the same trend from 27.3% in 1988 to 18.8% in 1990). Iodine deficiency disorders have fallen in prevalence in 15 key provinces from 19% in 1989 to 16.8% in 1990. Other micronutrient deficiencies which have shown declines in certain areas are vitamin A deficiency, urinary bladder stone disease, vitamin B1 deficiency and angular stomatitis.

In looking at the types of illness with which the Thai are faced, the country is encountering an epidemiological transition, that is, from pre-transition health problems – such as infectious and parasitic disease, nutritional deficiencies – to those most characteristic of a post-transition phase, that is, chronic and degenerative diseases of adult life including heart disease, cancer, and stroke.

For infectious diseases, the Expanded Program for Immunization (EPI) has successfully led to the decreasing incidence of diptheria and tetanus neonatorum, that is, from 2009 and 753 cases with 162 and 200 deaths in 1979 to 85 and 292 cases with 12 and 58 deaths in 1989, respectively. By 1990, coverage of BCG, DPT, OPV, measles and tetanus toxoid in pregnant women were 100%, 85%, 86% and 75%, respectively. Malaria and tuberculosis are no longer major health threats, but the leading causes of illness which bring people to health centers and hospitals are still infections such as acute diarrhea (1248 per 100 000 in 1989), parasitic infestations, and upper respiratory tract infections. Other persistent items on the unfinished agenda of pre-transition health problems include viral hepatitis (7–11% of the Thai are hepatitis B carriers) and dengue hemorrhagic fever (more than 300 per 100 000 in the latest epidemic in 1987).

For post-transitional problems, Thailand is now not only facing a growing burden of non-communicable, chronic and degenerative diseases, but also the emergence of new health threats, such as the propagation of addictive substances, injury from accidents, occupational hazards, and environmental pollution. Over the past two decades, infectious diseases have ceased to be major causes of death, while accidents and poisonings, cardiovascular diseases, and neoplasm have taken over as the top three causes of death, respectively.

The most urgent new public health problem in Thailand, though, is AIDS. This disease was initially perceived as a foreign disease, carried by foreigners and brought from foreign lands. In 1988, however, the disease spread rapidly among intravenous drug users, followed by female and male commercial sex workers in 1989, then among sexually active heterosexual men, and then to non-high risk groups such as married women, newborns and children[3]. As a result, seven years after the detection of the first HIV+ patient in Thailand, HIV/AIDS prevalence has risen alarmingly. From 1984 to the end of 1991, the Ministry of Public Health (MOPH) reported a total of 332 cases of full-blown AIDS and 507 AIDS-related cases (ARC). In 1991 alone, the MOPH's Division of Epidemiology revealed 256 full-blown AIDS cases and 98 ARC. This number has risen now to 367 full-blown cases (333 males and 34 females); 213 are still alive and 154 have died. By the end of 1991, the MOPH has estimated that approximately 250 000–300 000 persons were HIV+, though other estimates reach as high as 400 000–600 000. Women are the most vulnerable group and will become the largest group by 1995[3].

In response, the Royal Thai Government (RTG) launched in 1991 a nationwide AIDS campaign led by the National AIDS Committee and chaired by the Prime Minister. In 1992, the RTG allocated increased budgets to every ministry for AIDS campaign activities. It also supplied additional financial resources, backed by a nationwide mandate, that each of the country's provinces must develop and rapidly implement their own concrete AIDS intervention activities to meet their existing conditions. In September 1992, the Cabinet also approved Thailand's National AIDS Prevention and Control Plan which contains four major components: Human Rights and Social Support, Public Information and Education, Medical Treatment and Care, and Research and Evaluation. The RTG's national AIDS program aims to accomplish three measurable goals within the next two years: (1) to reduce sexual contacts with different partners by half; (2) to double condom use from the current level of 30 per cent to 60 per cent; and (3) to treat sexually transmitted diseases quickly and effectively. As of yet, however, no definite plan or formal activities on AIDS and nutrition have materialized, though interest is starting to focus on identifying the nutritional needs of the afflicted and how these can best be provided.

Health and nutrition improvement plans and programs

The First through Fourth National Health Development Plans

The first important step in the development of Thailand's national health and nutrition policies was the formulation of a series of five-year National Health Development Plans (NHDP) as a part of the National Economic and Social Development Plan (NESDP) started in 1961. The First five-year NHDP emphasized the construction and expansion of health facilities especially at the provincial level. The Second and Third NHDPs shifted this emphasis towards optimizing resource use. This fostered greater planning coordination between national, regional and provincial levels resulting in an increase in available resources for public health facilities. There was also a strengthening of new programs in line with national socio-economic development goals, most notably maternal and child health care, family planning, nutrition, development and environmental health, and communicable disease control and eradication.

While nutrition was one focus of these three plans, it was a small, integrated portion of health service activities which still had very low coverage and an emphasis on curative, rather than preventive aspects. Another major facet of these plans, especially towards the end of the Third five-year plan, was a heightened concern on increasing the number of qualified health personnel and their capacity to undertake work in line with the

NHDP. This was prompted by the need to expand the range of existing health facilities in order to improve their availability.

The Fourth NHDP (1977–1981) was the first time that full attention was given to formulating a concrete five-year strategy which took into serious consideration the need to upgrade and expand government health services to people living in rural areas with a quality comparable to that provided in urban settings. During this plan, a number of district hospitals were constructed which led to a target of increasing the number of health personnel in various fields, especially those who would work in rural areas. It was during the Fifth NHDP, however, that a concerted attempt was made for full coverage of general and specialized hospitals at the provincial level, community hospitals for districts, and health centers at the subdistrict level.

The First National Food and Nutrition Plan

Historically, Thailand's nutrition program was a component of the National Health Development Plan. But it was not until 1977 that the First National Food and Nutrition Plan (NFNP) was included as an entity in the Fourth National Economic and Social Development Plan (NESDP) (1977–1981). This coincided with the implementation of the Fourth NHDP. Since it was clear that malnutrition was a multifaceted problem, a multisectoral approach was devised. Thus, a National Food and Nutrition Committee was appointed, consisting of members representing various ministries, especially the four major Ministries of Agriculture, Education, Health and Interior (community development). A committee at the provincial level with a similar composition was also appointed.

The First NFNP listed seven major nutrition problems: protein-energy malnutrition, iron-deficiency anemia, vitamin A deficiency, beri-beri from thiamine deficiency, goiter caused by iodine deficiency, angular stomatitis induced by riboflavin deficiency, and urinary bladder stone disease resulting from phosphorous deficiency. Protein-energy malnutrition was considered the most significant and a priority problem because of its high prevalence, especially among pregnant and lactating women and preschool and school-aged children. Possible causes were identified as inadequate food production for household consumption; inefficient and inequitable food market system; poverty and high population growth; improper food habits and lack of nutrition education and inadequate health services.

The First NFNP set out ambitious and comprehensive goals to improve the nutritional status of the population by tackling it on many fronts, most notably the improvement of health care and hygiene; increased food availability; nutrition education; and improvement of socio-economic conditions of the vulnerable groups. The plan targeted rural infants, preschool children (children under age five), pregnant and lactating women, and, to a lesser extent, school-aged children. At that time it was estimated that 55 000 infants and preschool children died annually due to PEM as either a direct or associated cause of death.

Although both short- and long-term strategies and activities were formulated, short-term actions to remedy severe and moderate malnutrition were the most obvious outputs which were largely achieved by feeding children high-protein supplements at Child Nutrition Centers (approximately 1200 were constructed). These foods were centrally produced and supplied through the health system to the periphery. Home delivery of supplementary foods was provided for children with severe malnutrition.

Yet by the end of the First NFNP, the nutrition program was not fully implemented due to the lack of inter- and intra-sectoral collaboration, little involvement of people, and many policies were not successful in attaining their set objectives, such as the central production of supplementary food and creation of village nutrition rehabilitation centers. Although some action plans were well-defined, planning was entirely a top-down approach. Planning, authorization and budget allocations were decided at the central or provincial levels and vertically channeled to the grass-root levels (districts, subdistricts, communities). No single agency, however, was responsible for overall coordination and monitoring of programs. There was no change in the program planning and budget allocation structure to support multisectoral efforts. There was also very little participation by the community.

It was not surprising that the First NFNP produced limited results. Malnutrition continued to be a serious problem, especially protein-energy malnutrition among infants and preschool children and iron-deficiency anemia among children, pregnant and lactating women. A 1980 nationwide survey showed that 53% of preschool children suffered from protein-energy malnutrition. However, the most significant accomplishment of this plan was the creation of a strong awareness of nutritional problems among public and private sectors alike and at all levels. This led to an even stronger political commitment on the part of the nation's policy makers.

The Fifth National Health Development Plan (1982–1986) and the Second National Food and Nutrition Plan

The Fifth NHDP's main policy centered firmly on people participation as opposed to the government shouldering the entire burden. The primary health care (PHC) approach was seen as a practical mechanism for attacking many of the persisting health problems of the time. This led to the nationwide training of village health volunteers and village health communicators which are now found in virtually every rural village. Regarding health infrastructure development, the top priority was given to districts and communities. At least one hospital was made available in each district area which also spawned a remarkable increase in the number of lower level health facilities, particularly community hospitals, and subdistrict health centers.

Likewise, the Fifth NESDP (1982–1986), which coincided with the Fifth NHDP, continued to include the food and nutrition plan, however the planning concept and approach changed. Rather than being a food problem, malnutrition was recognized as a manifestation of poverty and ignorance. Consequently policy makers and planners targeted the eradication of poverty as the chief control measure. Nutrition programs employed during the Fourth NESDP were seen as only stopgap measures to relieve the most severe forms of malnutrition until more systematic solutions could be developed.

As in the First NFNP, the Second NFNP's main target groups were infants and preschool children as well as pregnant and lactating women. Moreover, this plan also paid greater attention to school-aged children. The Second NFNP's goals were also more quantifiable, that is, the elimination of severe malnutrition among target groups, a reduction in moderate malnutrition by 50% and mild malnutrition by 25% in infants and preschool children, and a reduction in protein-energy malnutrition by 25% in infants and preschool children, and a reduction in protein-energy malnutrition by 50% in school-aged children, and the eradication of iodine deficiency goitre in nine endemic provinces in the North.

The main nutrition policity thrust during this period rested within the broader national social development policy (Fifth NESDP). The latter centered on a Poverty Alleviation Plan (PAP) entailing the development of backward areas along with a primary health care (PHC) approach for health development. This emphasis marked an important turning point in Thailand's developmental approach which formally focused attention an overall economic growth and its trickle down effects for rural development. The strategies employed to solve malnutrition and improvement of the nutritional status of the population included the following.

First, nutrition surveillance included growth monitoring by using weight charts, prevalence of goiter, clinical signs of anemia and angular stomatitis. A child was weighed every 3 months at a community weighing post. For a case of moderate or severe PEM, or for a child who did not gain weight, he/she would be weighed monthly along with a monthly supplementary feeding program. PEM cases with complications such diarrhea, measles or pneumonia were referred to a nearby health center.

Second, nutrition information, education and communication emphasized increasing food and nutrition knowledge during pregnancy and lactation periods, promotion of breast feeding, introduction of proper supplementary foods, increased awareness of the five food groups, food hygiene and correction of false food beliefs and taboos.

Third, production of nutritious foods in communities was also promoted through such activities as home gardening, growing of fruit trees, cultivation of legumes and sesames, fish ponds, and the prevention of epidemic diseases in chicken.

Fourth, supplementary food production and supplementary feeding program at village level has also strengthened. Supplementary food mixtures containing rice, legumes and sesames or rice, legumes and peanut were prepared at the community level by women's groups with the support of village health communicators (VHC) and village health volunteers (VHV). These food mixtures could be kept for 1–2 months and used for the supplementary feeding of severe and moderate PEM cases in the community[4]. The mixtures were also sold to the mothers or to nearby villages. Income from such sales was successfully used to establish village nutrition funds for development.

Fifth, school lunch programs covering 5000 schools in the poverty areas were established. This program was eventually expected to be community-supported with only initial funds being provided by the Ministry of Education.

Sixth, food fortification was emphasized in terms of salt iodization and distribution to endemic goitre areas through both the health infrastructure and private channels.

Seventh, training was provided for health personnel, VHC and VHV, as well as community leaders.

The success in implementing community-based nutrition programs was further strengthened and accelerated by the long-term policy of improving people's quality of life through the Poverty Alleviation Plan in which policies placed nutrition as an important component for reaching the Health for All goal.

The Poverty Alleviation Plan (PAP)

Based on a 'Rural Development Policies' report prepared by the Prime Minister's Advisory Council, Thailand's Prime Minister General Prem Tinsulanonda initiated the Poverty Alleviation Plan in 1981[5]. Subsequently it became a major program of the Fifth NESDP (1982–1986) as noted above. The objective of the program was to improve the quality of life of 7.5 million poor people in the North, Northeast and Southern regions. The PAP was targeted at high poverty concentration areas as the foremost priority. Two hundred and eighty-eight district and subdistricts in 38 provinces of these three regions were included. It aimed at raising the population's standard of living to a subsistence level by providing them with minimum basic services, introducing appropriate technology and gradually transferring responsibilities to the people. Maximum participation by the people was considered fundamental for solving their own problems. Five basic principles of the Plan were: (1) primary consideration was taken for the development of specific areas with high poverty concentration to be given top priority; (2) the population's living standard was developed to a subsistence level, with minimum basic services to be available everywhere in high poverty concentration rural areas; (3) emphasis was laid on the need for making improvements so that the people could gradually do more to take care of themselves; (4) introduction of low-cost technology that would be handled by the people themselves; and (5) maximum participation by the people to solve their own problems.

A central coordinating organization, the National Rural Development Committee, was appointed in 1982. This committee soon replaced all other committees involved in rural development prior to 1982 and served as the only national rural development committee. At the provincial level, the Provincial Employment Creation and the Provincial Development Committee was created, while for districts, subdistricts and villages, a similar committee was also established at each respective level. Four major ministries, namely, Health, Agriculture, Education and Interior, served as the implementing agencies. Their activities were integrated and targeted towards poor villages through the village committees. Nutrition was implemented as one of the PHC elements by the village-based health volunteers, committees and community members. Intersectoral collaboration at the village level was strengthened by an integrated training team, consisting of extension personnel from the four main ministries to facilitate

community activities. Four key programs were implemented.

Rural job creation program. Jobs were created for rural people during the dry season to boost their income. Most of the employment was given to people in the rural locale so that they would remain in their communities and participate in community development activities.

Village development projects or activities. The activities included village fish ponds, water sources, prevention of epidemic disease affecting poultry, cattle and buffalo bank, and other development projects focused on the rural poor to improve their economic status and household food security.

Provision of basic services. Public services for rural poor such as health facilities and health services, nutrition, clean water supplies, illiteracy education programs were directed to the targeted areas.

Agricultural production program. Important programs included nutritious food production (especially crops used for producing supplementary foods for young children), an upland rice improvement project and a soil improvement project. Income generation and household food security were the direct benefits.

Rural development management reorganization

In the Thai governmental system, the Prime Minister is the chief of the central administration. Each Minister who is responsible for a corresponding Ministry works through the Permanent Secretary of the Ministry and the Director Generals of the Departments. At the provincial level, a Governor, who is an appointed officer from the Ministry of Interior, is the head of the provincial administration. While provincial governors and district officers take orders from all state ministries of the central government, they also supervise provincial administrative organizations and local administrative bodies which in turn answer directly only to the Ministry of Interior. This may be the reason why other state ministries always prefer to set up their own extension centers or offices in the various regions and provinces of the country, thus adding to the confusion of development activities.

Similar problems in rural development management were observed prior to 1982 because too many committees were established and duplicated in several forms at the national, provincial, district and village levels. A large number of these, while being existing agencies which possessed legal authority, were neither recognized nor utilized. In addition to existing committees, many more were established by law, by resolution passed by the Cabinet and by the state ministries involved in different development sectors. They all operated without sufficiently coordinating activities with one another. The National Food and Nutrition Committee chaired by the Minister of the Ministry of Public Health was also the case. Very little was done to improve the efficiency of government mechanisms already in existence or to put resources to better use. The general practice was always to form a new committee, either permanent or temporary, and such a committee often fails to accomplish required results.

The National Rural Development Committee noted earlier, was approved by the Prime Minister's office to enhance efficiency and effectiveness by avoiding duplication of activities and the mountain of paperwork and red tape associated with each. According to the new plan, only this national committee was (and still is) in charge of rural development policies. At the national level, the National Economic Policy Steering Committee, the NESDB and the Rural Employment Creation Committee still continued to function, while all other national committees were dissolved and replaced by a National Rural Development Committee. At the provincial level, there are only two committees: the Provincial Employment Creation Committee and the Provincial Development Committee. At the district, subdistrict and village levels, there is only one development committee for each.

Four major ministries, ie Health, Agriculture, Education and Interior, were involved and integrated their activities to target poor villages through the village committees. Each ministry also strengthened the intrasectoral collaboration among various departments or divisions. The Ministry of Health had utilized the Primary Health Care (PHC) approach with a long-term target of achieving HFA as a core of all its activities. Up to 1986, 500 000 village health communicators and 50 000 village health volunteers were trained covering almost every rural village in the country. Nutrition activities were integrated within the PHC approach with other health services such as maternal and child health, family planning, immunization, clean drinking water supply and improvement of environmental conditions. Intersectoral collaboration at the village level in implementing nutrition activities among the four ministries was also strengthened by establishing an intersectoral training team for local personnel working at the community level and the integration of activities among targeted villages.

Basic minimum needs (BMN)

To strengthen rural development and its health and nutrition components, the basic minimum needs approach (BMN) was used as the principle to achieve good quality of life for the rural people during the Sixth NESDP (1986–1991)[6]. In addition, the approach has been developed as a response to problems encountered in the course of actually implementing PHC programs and projects. Two major problems were a lack of participatory orientation and the necessary skills among local government workers in promoting and supporting community participation, and inadequate opportunities for villagers to manage their own community development process, especially data collection, planning and decision-making. To overcome these obstacles, an Intersectoral Social Development Project was launched under the auspices of the NESDB in 1981. The project's outcome was a set of basic minimum needs (BMN) and their indices were to be used by the villagers themselves.

The BMN approach may be succinctly defined as a socially-oriented, community based, intersectoral and scientifically-sound development process. It is also a

process to be carried out by the people and community with support from the government aiming at fulfilling basic human and community needs. Eight groups of BMN indicators (32 measurable indicators) were developed and used as tools for problem identification and the setting up of goals for community development. These groups were: (1) adequate food and nutrition; (2) proper housing and environment; (3) adequate basic health and education services; (4) security and safety of life and properties; (5) efficiency in family food production; (6) family planning; (7) people participation in community development; and (8) spiritual or ethical development.

The BMN has been implemented throughout the country via the rural development infrastructure, although more attention is given to rural poor areas. At the community level, the village committee is responsible for data collection and compilation of each indicator. The data are presented as village aggregates and compared to the criteria of success set forth for the scheme. There are 3 BMN forms employed in the process. BMN-1 form is employed to collect data on BMN indicators from each household. Village committee members are responsible for in this process. BMN-2 form is employed to collect general village level information by compiling the data collected in BMN-1. BMN-3 form is the aggregated and summarized form in the planning, prioritization and decision-making process. This form will also be sent up the hierarchy and put into a nationwide, computerized database at the central level.

The results from the process are used to formulate a village proposal which is submitted to the subdistrict committee. The latter is assisted by extension personnel from government agencies who serve as a supervisory committee. Proposals which are approved by the subdistrict committee are then submitted to the district and provincial levels, respectively. The provincial rural development committee makes the final decision as to which proposals in the province are to be supported. The approved proposals are then sent to the central level. Finally, all provincial proposals are considered and budget allocation decided.

The entire process thus includes problem identification, planning, prioritizing the types of activities and supports needed, implementing, and evaluating by resurvey of the BMN status of the village. As a result, villagers by themselves are aware of their own problems and levels of achievement. At the same time the district and provincial administrations are able to carry out effectively their supervisory and supportive tasks and closely interact with villagers in trying to respond to their needs.

At the end of the Sixth NESDP, crucial factors that contribute to the successful application of the community based BMN approach were identified. They are: 1) appropriate leadership styles and roles, as well as attitudes of responsible government workers at different levels and of community leaders at the village and subdistrict levels; 2) on-going but realistic technical, financial and morale support from relevant ministries and the government; 3) long experience of trial and error efforts in community development with a spirit of self-help and a sense of loyalties (esp. community consciousness) among villagers; and 4) effective management of village committees in community development with mobilization and development of adequate and appropriate community resources (ie, human, financial and technological).

At present, more than 95% of all the villages throughout the country are using BMN indicators to gauge their development status and achievement. There have been some modifications, especially in some rapidly improved areas, when either new indicators were added or the criteria for success were raised to a higher level.

Results of the Poverty Alleviation Plan (PAP) and current activities

Under the new approach of the PAP during the period 1982–1986, there were 32 development projects implemented in 12 562 poor villages of 288 districts and subdistricts in 38 provinces. Direct financial support for the PAP, excluding the rural job creation program, was 8593 million Baht for the 5-year period or approximately 1700 million Baht annually (equivalent to 68 million US$). This expense was only about one per cent of the annual government budget. The outcome and some impacts were however quite impressive considering the relatively small budgetary input. The total prevalence of PEM in preschool children was reduced from 51 to 21 per cent with almost the elimination of moderate and severe PEM as indicated in Table 1. Living conditions of rural poor were also improved with more availability of nutritious foods such as fish, chicken, vegetables and fruits. Approximately 60 000 families utilized new agricultural technologies for production improvement and there were 2655 new village fish ponds. The cattle and buffalo bank was able to lend animals to 20 000 families. Health services through primary health care approach had reached more than 80 per cent of the targeted villages. Village health communicators and volunteers had been trained for all poor villages and also received close supervision. The establishment of subdistrict health centers and a community hospital for each district reached full coverage under the PAP. These facilities were utilized for primary health care development and health services.

The rural development plan (RDP) of the Sixth NESDP (1987–1991) continued to utilize the approach of the PAP emphasizing quality of life improvement for the entire rural people so that they will be gradually self helping and able to adapt to the changing economy and environment[7]. Villages are classified into 3 levels of development:

1 Backward or poor areas where people face four or five problems in transportation; no land holding for agriculture; low agriculture productivity or low income; poor health; inadequate clean drinking water and ignorance of quality of life improvement. There are 5787 villages in this category requiring intensive government support as in the PAP.

2 Intermediate areas where people are facing one to three of the problems mentioned in poor areas; 35 514 villages in this group require also government input.

3 Advanced areas where people are economically better off and have production potential, facing few of the problems mentioned relating to poor areas. These 11 621 villages will be encouraged to work with the private sector.

In all areas, BMN indicators have been used for problem identification and goal setting for development. Improvements in the planning process at all levels and the integration of development activities have been strengthened. Management of information and data concerning rural development is also being strengthened at the provincial, departmental and national levels for planning, coordination and evaluation.

Conclusions

This case study of Thailand's experience in alleviating malnutrition has shown encouraging results. The entire period of this endeavor required approximately 10–15 years. Of these about 5 to 6 were needed to create awareness and strong political commitment. The subsequent implementation period of 5 to 9 years was essential for maintaining political support, developing effective managerial structures and functions for efficient coordination and integration of development activities, formulation of detailed operational plans and objectives for each activity based on research and experiences, and the promotion of active community participation.

Since 1982, malnutrition has been considered a symptom of poverty and ignorance. The Poverty Alleviation Plan (PAP) thus targeted high poverty concentration areas as a remedy. This holistic approach was implemented through a restructuring of the managerial process of the National Rural Development Committee down to the provincial, district, subdistrict and village levels. Nutrition activities, primary health care, nutritious food production and other basic social services were integrated in the target villages under the PAP. The BMN or quality of life indicators had also been developed and used for problem identification, goal setting for development and evaluation. People or community participation has been an essential part of the development process.

Based on Thailand's experiences therefore, health and nutrition improvement is a long-term developmental process. It is a lengthy course laden with obstacles that need crusading spirits from all parties involved if they are to be overcome. It may take more than a decade to get things off the ground and in full operation. Yet the benefits in terms of health, social and economic growth will reach even beyond this time and into the next century.

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บทคัดย่อ

ความสำเร็จของประเทศไทยในการพัฒนาด้านสุขภาพและสังคม ซึ่งเริ่มมีมาตั้งแต่แผนพัฒนาเศรษฐกิจแห่งชาติ ฉบับที่หนึ่ง (พ.ศ. 2504) และตลอดเรื่อยมาจนถึงแผนอาหารและโภชนาการแห่งชาติ ซึ่งเริ่มผนวกเข้าในแผนพัฒนาเศรษฐกิจและสังคมแห่งชาติ ฉบับที่สี่ (พ.ศ. 2520) นั้นเป็นที่ยอมรับกันอย่างกว้างขวาง ช่วงระยะ 10 ปีที่ผ่านมา ประเทศไทยประสบความสำเร็จในการลดอัตราการเกิดโรคขาดโปรตีนและพลังงานในเด็กรวมทั้งการลดอัตราการขาดสารอาหารดังกล่าวที่รุนแรงไปด้วย ทั้งกลุ่มเด็กและผู้ใหญ่ได้รับบริการสาธารณสุข, ระบบการป้องกันและรักษาโรคที่ดีขึ้น ในระยะที่มีการนำแผนพัฒนาชนบทยากจนไปใช้ พบว่าได้มีการกระจายระบบสาธารณสุขมูลฐานและในเรื่องคุณภาพของชีวิตไปสู่หมู่บ้านชนบทที่ห่างไกล บทความนี้ได้แสดงที่มาแห่งความพยายามซึ่งช่วยให้แผนงานบรรลุเป้าหมาย ตลอดถึงวิธีการที่ไทยเราได้ผนวกเอาแผนอาหารและโภชนาการเข้าไปในแผนและนโยบายพัฒนาด้านสุขภาพแห่งชาติ และแผนพัฒนาชนบทยากจน

簡要書

泰國社會衛生保養的一些成就，始于“國家經濟建設”第一份法定計劃（佛歷二五０四）投入工作，一直到“國家飲食營養”的計劃。也在佛歷二五二０加入于“國家經濟建設”第四份法定計劃中，參與各方面的擴大作業。在過去的十年時間中，泰國獲得的成就，即顯著地減少了缺少蛋白質引起的疾病，及對兒童發育方面的不良影響的減少。不論大人或小孩都能得到衛生部門的良好指導，收到防御疾病及治療的進步，尤其在進行對農村發展的工作中，也同時擴展初步衛生保養的認識工作，介紹到各個窮鄉僻壤，努力使計劃獲得更大的成就。可見泰國是在努力做到，將飲食營養的計劃滲入于國家社會衛生保養的法定計劃中與發展貧窮農村的計劃同時進行。