Thailand’s progress in meeting food and nutrition security goals

Kraisid Tontisirin, M.D., PhD.

Professor and Senior Advisor, Institute of Nutrition, Mahidol University
President of Nutrition Development Foundation

A Keynote address at the South-South Learning Workshop to accelerate progress to end hunger and undernutrition.
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Introduction

Policy and strategy for alleviation of under-nutrition

Current nutrition challenges: strategic plan and actions

Conclusion
Thailand: Current situation

- Population of 68.3 m.
- Success in reduced maternal and child malnutrition since the eighty under the Poverty Alleviation Plan (PAP)
- Currently facing with double burden of malnutrition (DBM), a coexistence of under and over nutrition, and related non-communicable diseases (NCDs)
- Thailand has been a major food exporter
Trends in preschool child malnutrition (Wt/Age)
in Thailand

Note: * Very low prevalence and is included in moderate PEM.
Elimination of undernutrition: a global deficit and priorities*

*From ACC/SCN 1999
Great progress in reducing hunger in Thailand*

- Hunger fell from 35% to 7% (1990-2015) or reduced by 79%
- Number of hungry people fell from 20 to 5 million in same period or reduced by 75%
- Thailand has achieved MDGs

*Slide courtesy from IFPRI with some modification

Sources: FAO 2017, Tontisirin et al. 2014
“Food and nutrition security exist when all people at all times have physical, social and economic access to food, which is safe and consumed in sufficient quantity and quality to meet their dietary needs and food preferences, and is supported by an environment of adequate sanitation, health services and care, allowing for a healthy and active life.”

* From FAO 2012
Multi-stakeholder Comm.

Nutrition goals and indicators are incorporated to strategies and actions.

Community based approaches

Provision of basic services with mass mobilization: 1 volunteer / 10 households

Agri. & food production for subsistence econ., suppl. food for mothers, complementary food for IYC & dairy farm for school children

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Nutrition is a link between food and health, regarding the fulfillment of energy, protein and micronutrient requirements and non-nutrients from food in human life course.

**Ultimate Goals**

**Good Nutrition & Well-being for All**
Main causes of maternal & child malnutrition

- Poor maternal nutrition and health leading to LBW of newborn, low milk quality and quantity
- Declining of breast feeding practices
- Inadequate and inappropriate complementary feeding
- Poor sanitation in IYC feeding and cares
- Recurrent of illness i.e. diarrhea and respiratory tract infection
- Undesirable eating habits
Forging the Link Between Government and Community

Fostering interaction between the levels

NATIONAL LEVEL
Policy formulation
Setting of goals/indicators
Strategies implementation
Institutional arrangements
Training and support system
Monitoring/evaluation

DISTRICT LEVEL
Adapting action plans
Training and support services
Implementing actions
Monitoring/evaluation

COMMUNITY LEVEL
Participation and social mobilization
Adapting action plans
Implementing actions
Monitoring using basic minimum needs indicators

Source: FAO
Community-Based Approaches

- Is an *integrated program* implemented at local level (district level and below)

- *National commitment* with sound nutrition improvement strategies and goals

- *Community actions*: basic services, mass mobilization, mutual efforts/actions to reach all people and to prevent malnutrition
Components of a successful community based program

Minimum Basic Services
(Health, Education, Agr. Extension)

Supportive System
• Training
• Funding
• Problem Solving
• Supervision

Interface
(service providers and community leaders)
• Plan/goals
• Implementation
• Monitoring/evaluation

Community Leaders
Family
Individual

Facilitators
Mobilizers
(1:10 households)

Menus (Activities)
• Antenatal Cares (ANC)
• Growth Monitoring and Promotion (GMP)
• Food production
• Food and nutrition education
• Food sanitation & safety
• School lunch and milk program since 1992
• Other activities

Basic Minimum Needs Goals/Indicators

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Menu Activity on ANCs

- 4 ANC visits for all pregnant mothers
- High risk check up and treatment
- Monitoring wt. gain
- Food, Nutrition and health education
- Food supplementation
- MTV, iron and folate supplementation
- Two tetanus toxoids
- Referral system and safe delivery service

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Menu on Growth Monitoring and Promotion (GMP)

- Growth monitoring (wt.& ht.) and remedial actions
- Child growth education and cares
- Breastfeeding and complementary feeding
- Immunization
- Village based complementary food production for infants and young children
- Health and nutrition education
- Cooking and feeding demonstration
- Treatment of malnourished child
- Referral of severe illness and malnutrition

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Monitor weight and height regularly and take remedial actions based on growth monitoring.

Food services—school lunch and milk programs.

Food, personal and environmental hygiene.

Nutrition education.

Promotion of physical activity and exercise.

Positive school environment for healthy diets.

Plan to set up a “Nutri-teacher” post.

School gardens.
**Nutrition Situation**

1960 - Anaemia in pregnant women: 57%;
- B1 deficiency: 23%;
- B2 deficiency: 47%;
- Low serum retinal: 38%;
- Goitre in school children: 29%
- PEM cases

1961 - PEM (Wt/Age of U 5): > 50%

1981 - PEM (Wt/Age of U 5): 30%
1982 - GOitre in school children: 19%

1995 - B1 deficiency: < 1%;
- B2 deficiency: < 1%
1996 - PEM3 (Wt/Age of U 5): 15%
- Anaemia in preg5: 13%;
- Goiter in school children4: 4%

2003 - Goitre in school children: 1%
2005 - Anaemia in preg: 10%
2006 - PEM (Wt/Age of U 5): 9%

2007 - UI in preg8 < 150 µg/L: 61%;
- Low serum retinal9: 16%

2008 - UI in preg < 150 µg/L: 56%
2010 - UI in preg < 150 µg/L: 43%
2012 - PEM (Wt/Age of U 5): 7%

**Thailand’s Development Plans**

1962 - 1st NEDP: Economic Infrastructure, Sectoral Plans

1967 - 2nd NEDP: Improvement of Agriculture, Infrastructure

1972 - 3rd NEDP

1977 - 4th NESDP: + Social Plan + Food and Nutrition Plan (FNP) + Primary Health Care (PHC)

1982 - 5th NESDP: + Poverty Alleviation Plan (PAP) + Integrated and implemented PHC

+ FNP and Basic Minimum Needs (BMN) Indicators in rural/urban communities

1987 - 6th NESDP

1992 - 7th NESDP: 1992 + School Lunch Program (SLP) + School Milk Program (SMP)

1997 - 8th NESDP

2002 - 9th NESDP

2007 - 10th NESDP: 2008 + National Food Committee Act
- 2010 + Strategic Framework for Food Management (SFFM) approved by cabinet

2012 - 11th NESDP: Integration of the SFFM and the 11th NESDP
- 2011 - Universal salt iodisation (USI)
- Promote cooperation and integration of all relevant sectors, academia, business and NGOs to strengthen national food and nutrition security

**Policies and Strategies**

2008 - National Food Committee Act
- 2010 + Strategic Framework for Food Management (SFFM) approved by cabinet

**Figure** Milestones of Thailand’s National Social and Economical Development Plan related to food and nutrition
School milk program in Thailand

- Based on Food Nutrition Plan aiming to provide daily 200 ml of milk to children in kindergartens and primary school 200 days/ year
- The program has been implemented since 1992 along with school lunch program in kindergartens and gradually stepped up to cover 6 grade-students in 2009
- School milk program has created demand for local dairy industry
Strategies/ actions to prevent and control of malnutrition

1. **Food based approach**: ensuring food security, food fortification, food regulation.
2. **Supplementation** with micronutrients/food
3. Food, nutrition and dietetic **education**/communication
4. **Public health measures**: basic services, immunization, sanitation, water supply, deworming
5. **Community and setting based** (integrated) approaches
6. Others: M&E, R&D, Capacity Building (CB)
**Improvement of maternal & child nutrition, Thailand**

<table>
<thead>
<tr>
<th></th>
<th>1980</th>
<th>1990</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANC coverage %</td>
<td>35</td>
<td>75</td>
<td>95</td>
</tr>
<tr>
<td>Anemia in pregnancy %</td>
<td>50-75</td>
<td>18.8</td>
<td>?10</td>
</tr>
<tr>
<td>LBW %</td>
<td>16</td>
<td>10</td>
<td>&lt;10</td>
</tr>
<tr>
<td>Underweight of under 5 %</td>
<td>51</td>
<td>20</td>
<td>&lt;10</td>
</tr>
</tbody>
</table>

**Recent trend of nutritional status of under 5***

* Source: NHES 2; Holistic Development of Thai Children; NFNS 5; NHES 4; and NHES 5
Global Nutrition Targets 2025 in 2012 WHA Resolution 65.6

- achieve a 40% reduction in the number of children under-5 who are stunted;
- achieve a 50% reduction of anaemia in women of reproductive age;
- achieve a 30% reduction in low birth weight;
- ensure that there is no increase in childhood overweight;
- increase the rate of exclusive breastfeeding in the first 6 months up to at least 50%;
- reduce and maintain childhood wasting to less than 5%.

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Situation of malnutrition among child <5 yrs.

Exclusive breastfeeding 6 m., anemia in CBA women and LBW

Source: Thailand Multiple Indicator Cluster Survey (MICS3-2006, MICS4-2012, MICS-2015-16)

Source: *Thailand Multiple Indicator Cluster Survey (MICS3-2006, MICS4-2012, MICS-2015-16)

**National Health Exam Survey (NHES4-2008-9, NHES5-2014-15)

Courtesy from; Napaphan Viriyautsahakul
Director of Bureau of Nutrition
Situation of nutrition among school children

- stunting
- wasting
- obesity

Situation of BMI among Thai people 15-59 yrs.

Source: National Health Exam Survey (NHES4-2008-9, NHES5-2014-15)

1. การสำรวจสุขภาพประชาชนไทย โดยการตรวจร่างกาย ครั้งที่ 2 1995
2. โครงการพัฒนาระบบคัดกรองเด็กไทย 2001
3. การสำรวจอาหารและโภชนาการ ครั้งที่ 5 2003
4. การสำรวจสุขภาพประชาชนไทยโดยการตรวจร่างกาย ครั้งที่ 4 2008-09

Courtesy from; Napaphan Viriyautsahakul
Director of Bureau of Nutrition
Median urine iodine in pregnant women

Median UI in 3-5y children and elderly and percentage of qualified iodized salt 2011-2015

<table>
<thead>
<tr>
<th>Year</th>
<th>MUIC (μg/l)</th>
<th>3-5 y</th>
<th>≥60 y</th>
<th>≥30ppm</th>
<th>20-40ppm</th>
<th>≥20ppm</th>
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<tbody>
<tr>
<td>2011</td>
<td>229.2</td>
<td>129.0</td>
<td>72.6</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2012</td>
<td>212.6</td>
<td>108.3</td>
<td>-</td>
<td>60.3</td>
<td>84.6</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>226.6</td>
<td>113.8</td>
<td>-</td>
<td>82.5</td>
<td>91.9</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>234.6</td>
<td>111.3</td>
<td>-</td>
<td>83.5</td>
<td>91.5</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>205.4</td>
<td>108.8</td>
<td>-</td>
<td>78.9</td>
<td>95.3</td>
<td></td>
</tr>
</tbody>
</table>

Source: Bureau of Nutrition, DOH

HH coverage of iodized salt in 2014 = 91.6%

Courtesy from; Napaphan Viriyautsahakul
Director of Bureau of Nutrition
Average heights of Thai males and females born in different years*

*Modified from: http://www.sizethailand.org/region_all.html

Kraisid Tontisirin, Mahidol University
'Malnutrition can be reduced dramatically in two years'

26 June 2009, 12:00am IST

With nearly 60 per cent of its children undernourished, Madhya Pradesh is worse off than sub-Saharan Africa. Thailand's Kraisid Tontisirin, renowned for his work in nutrition and poverty alleviation, was recently in Madhya Pradesh, offering expert advice on behalf of UK's Department for International Development that is funding MP's nutrition programme with a 60 million pound assistance package. He spoke to Narayani Ganesh:

Can Thailand's experience help MP's poor nutrition record?

What MP is experiencing now is very similar to what Thailand faced during 1982-85 the GDP, population and malnutrition figures are comparable. Among MP's under-five-year-old children, 45-60 per cent are underweight; 60-75 per cent are anaemic. Antenatal care coverage is barely 35 per cent. Only 45 per cent have access to basic sanitation, latrines and water. And this was Thailand's situation in 1980s. But within a decade, Thailand managed to reduce the number of underweight under-fives from 51 to 20 per cent, increase antenatal cover from 35 to 75 per cent (now 95 per cent), reduce anaemia in pregnancy from 50-75 per cent to 18 per cent. Current figures are a huge improvement over these, with less than 10 per cent of the population still needing improvement. Pre-packed granola-type nutrition bars...
Madhya Pradesh

HINDUSTAN TIMES, BHOPAL WEDNESDAY, JUNE 24, 2009

'Mobilise masses to fight malnutrition'

Chairman of the Policy Board of The Thailand Research Fund, who has served as Director of Food and Nutrition Division of Food and Agriculture Organization (FAO) of United Nations, Prof Kraisri Tontisirin - a paediatrician basically - has been instrumental in Thailand’s successful crusade against malnutrition. Prof Tontisirin was in city under an DFID initiative to share lessons on malnutrition combat with MP Government. He spoke at length with Srawani Sarkar on the road that MP could take to reduce malnutrition drastically.

What is the most basic change required in the present system to tackle malnutrition in MP?

Situation in MP is exactly like Thailand 20 years ago with same population, same socio-economic conditions and even same indicators of malnutrition among children and pregnant women. My interaction here tells me that MP has strong political leadership, strong bureaucratic commitment, a multi-sectoral team willing to take up the job, a clear understanding of the problem and a reasonable service system in place. What is immediate necessity is mass social mobilization for reaching to the unreached and strengthening and expansion of the basic civic and health services to the target group. Also improvement of quality of services is important.

What exactly do you mean by mass social mobilization? How would it help?

You need to involve the community directly as volunteers/mobilisers to become a link between beneficiaries and the service providers. This could be done with help of community leaders - social or political. Going by Thailand experience, one mobiliser per ten households should be the target. They could be trained in the basic aspects. They would be very helpful as they would know local conditions, problems and the effective ways to deal with them. They would also instil confidence among the beneficiary groups.

But it might entail a long process that would take up a lot of time.

Not at all. One needs to start the process at selected areas - preferably the malnutrition-endemic areas, as learning period projects. In these selected areas, the service providers - members of the multi-sectoral teams and the community leaders can visit the areas and work with people as select mobilizers. This could be provided ten-day training and later be recognized publicly for their efforts. This has worked perfectly in Thailand.

What should be the overall strategy in the present scene, since the problem is multi-faceted?

Apart from mass mobilization, use of basic indicators for care of pregnant women and infant and young children and increasing coverage of basic civic and health facilities are of utmost importance. It has to be ensured that the target groups eat healthy foods, eat it well and use it to remain healthy. Antenatal care in form of provision of multivitamins, iron and folic acid tablets, regular checkups and immunization of pregnant women is must. For young children, breast feeding for first six months followed by supplementary diet is to be taken up. The emphasis should be on locally available food and water being good nutritious food including vegetables and fruit. Clean water and sanitation along with good quality health care services is required. This is where multi-sectoral approach would be helpful. This would result in drastic reduction in malnutrition during first two years with further reduction during next three to four years, like in Thailand.

How to tackle traditional misbeliefs of women that often prove to be obstacles?

Social beliefs could be categories as undesirable, desirable and neutral. The undesirable beliefs often arise from bad experiences or consequences in past. These are to be slowly edged out by instilling belief in the community that the good practices could change the consequences.
Conclusion

Thailand had reduced maternal and child malnutrition successfully since the eighty using community based approaches under the Poverty Alleviation Plan (PAP).

Success experience has been currently employed through all strategies and particularly through the Strategic Framework for Food Management (SFFM) under the National Food Committee with the aims for food and nutrition security, elimination of some remnants of under-nutrition and prevention and control the rising trends of obesity and NCDs.

Kraisid Tontisirin, Mahidol University
Introduction

Policy and strategy for alleviation of under-nutrition

Current nutrition challenges: strategic plan and actions

Conclusion
Food and Nutrition Challenges*

- Some remnant of under-nutrition
  - Undernourished or hunger and stunting and underweight of under five
  - Micronutrient deficiencies: of iron, iodine, vit. A

- Overnutrition and diet related diseases
  - Overweight & obesity
  - NCDs: Diabetes mellitus, high blood lipids, high blood pressure, cardio-vascular diseases
  - Cancers

- Food safety and quality
Figure 6 Prevalence of **overweight and obesity** in the Thai population

Source: Bureau of Policy and Strategy (1996); Bureau of Policy and Strategy (2006); Aekplakorn et al (2011b)

Figure 7 Increase in prevalence of **non-communicable diseases** in Thailand

Source: Bureau of Policy and Strategy (2011)

Thai males consume fruit and vegetable daily only 268 g and females 283 (Aekplakorn et al. 2011)

Medical expenses for treating and managing NCDs were estimated at 140 billion Baht

Several organizations and agencies are conducting projects/programmes focusing especially on nutrition education and public campaigns.
Multi-stakeholder approaches

SFFM covers: Food Security, quality & Safety, Education & research, and Management

Linking of food, nutrition & health implemented at central & community levels for nutrition and p/c of NCDs

Roles of agriculture and food systems:
- Ensuring nutritious and safe food supply i.e. fruits & veg; low sugar, fat & sodium food; legume & fishes, milk …etc
- Facilitation of trade and tourism
- Caring of environment & sustainable agriculture.
Key Elements of Strategic Framework for Food Management in Thailand

Prepared by
The Secretariat of The National Food Committee

Kraisid Tontisirin, Mahidol University
“Thailand ensures food and nutrition security, and is a sustainable source of nutritious and safe food with premium quality for Thai and the world”
Continuum from agriculture, food, nutrition to health

Agiculture
- Food production, processing & supply
- Nutrition orientation for healthy diet
- Food, feed and fuel and bio-products
- Climate changes

Food
- Food quality
- Food safety
- Food service (For consumer and trade)

Nutrition
- Nutrient needs
- Dietary intakes
- Nutritional wellbeing
- Nutrition literacy

Health
- Promotion
- Protection
- Treatment
- Safe from Hazards
- Good health

Food and Nutrition Security

Food, Nutrition & Dietetic Education

Food Culture

Technology
Food Chain Approach

Safe and Nutritious Food

Good Manufacturing Practices

Good Hygienic Practices

Good Agricultural Practices

Plant and Animal Agro-Biodiversity (Genetics)

Nutrition For Plant and Animal

Plant and Animal Diseases Prevention and Control

Land Use

Water Management

OUTCOMES

GOOD PRACTICES

BASIC ISSUES
**Theme 1: Food Security**

*Principle:* Ensuring a sustainable food security and effective management of food production resources by active stakeholders participation

- Natural & Agricultural Resources
  - Land & Water Management/Reforming
  - Balancing Food, Feed & Fuel

- Production
  - Food Production Zoning
  - Innovation & Technology
  - Capacity Development & Career

- Supply & Access
  - Enhancing Food Access at Household & Communities
  - Logistics Improvement

Establish Crisis Management Systems

R & D Along the Food Chain

Active Stakeholders Participation

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Theme 2: Food Quality and Safety

Principle: Ensuring high quality and safe food to protect consumer health and to facilitate domestic/international trade

Trading & marketing promotion
To protect consumer and create fairness as well as facilitating trading

Establishment of harmonized standards.

Food standard
- Quality
- Safety
- Nutrition

Strengthening of food quality and safety assurance systems.

Trading & marketing promotion
To protect consumer and create fairness as well as facilitating trading

R&D, GAP
Standard farm
Farmer agglomeration
Food educator (Smart Farmers)

R&D to create knowledge/innovation
Food storage and processing/
food loss reduction
Local culture
Promote collecting and processing station

Value added
International standard

Primary Product

Community Food Production

Food Industry

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Theme 3: Food Research and Education

Principle: R&D and knowledge utilization through engaging stakeholders in sustainable and effective use of food production resources along the food chain and also strengthening desirable consumption behavior for well-being.

- Knowledge Integration
- Knowledge Dissemination
- Knowledge Utilization & Practice
- Research and Knowledge Development

Output

Best Practice

Basic

Kraisid Tontisirin, Mahidol University
Community Based Program for Health Promotion

Minimum Basic Services
*(Health, Education, Agricultural Extension)*

Menu *(Activities)*
- Antenatal care
- Growth monitoring/promotion
- Elderly cares
- Cares of NCDs
- Food production
- Nutrition education
- Food sanitation & safety
- Other activities (Tobacco and alcoholic consumption control)
- Recreation and physical activities
- Etc.

Supportive System
- Training
- Funding
- Problem Solving
- Supervision

Interface
*(service providers and community leaders)*
- Plan/goals
- Implementation
- Monitoring/evaluation

Community Leaders
- Family
- Individual

Minimum Indicators of well-being & NCDs

Facilitators

Volunteers
*(1:10 households)*
Thailand: Agriculture & Food Systems for...

Source: the Thai National Food Committee 2014

Kraisid Tontisirin, Mahidol University
Some Sustainable Development Goals (SDGs)

17 Goals & 169 Targets

- End Poverty everywhere
- End hunger, improved nutrition and Promote sustainable agriculture
- Attain healthy lives for all
- Provide quality education for all
- Attain gender equality, empower women and girls
- Ensure availability and sustainable use of water and sanitation for all
- Ensure sustainable energy for all

- Make cities and human settlements inclusive, safe and sustainable
- Promote production and consumption patterns
- Tackling climate change and its impacts
- Protect and promote use of terrestrial ecosystems, halt desertification land degradation and biodiversity loss
- Strengthen the means of implementation and the global partnership for sustainable development

Kraisid Tontisirin, Mahidol University
Thanks for your attention