



**Food and Agriculture  
Organization of the  
United Nations**

**Regional Consultation on  
“Promoting School Gardens and Home Gardens for Better Nutrition  
in Asia and the Pacific”**

**REPORT**

**13-14 July 2015  
Bangkok, Thailand**

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The wealth of knowledge and varied experiences brought into the consultation by country stakeholders (Ministry of Education, Ministry of Agriculture and allied sectors) as well as practitioners and programme implementers from 18 countries (Afghanistan, Bangladesh, Cambodia, Indonesia, Lao PDR, Malaysia, Maldives, Mongolia, Myanmar, Nepal, Papua New Guinea, Pakistan, the Philippines, Japan, Sri Lanka, Thailand, Timor Leste and Viet Nam) have provided useful information on the extent of establishment of home gardens and school gardens in conjunction with enhancing nutrition, food safety and security in Asia and the Pacific.

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## **List of acronyms**

4Ps	Pantawid Pamilya Pilipino Programme
APRACA	Asia-Pacific Rural and Agricultural Credit Association
ADB	Asian Development Bank
ASEAN	Association of Southeast Asian Nations
CoRRB	Council for Renewable Natural Resources Research of Bhutan
CRS	Catholic Relief Services
CSO	Civil Society Organizations
CU5	Children under 5 years
DA	Department of Agriculture
DAE	Department of Agricultural Extension
DepEd	Department of Education
DOEs	District Offices of Education
EHFP	Enhanced Homestead Food Production Programs
FAO	Food and Agriculture Organization
FAO	FAO Headquarters
FAO RAP	FAO Regional Office for the Asia and the Pacific
GAP	Good Agricultural Practice
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
HGSF	Home Grown School Feeding
HKI	Helen Keller International
ICN2	Second International Conference on Nutrition
MAIL	Ministry of Agriculture, Irrigation and Livestock
MDG	Millennium Development Goals
MNP	MicroNutritient Powder
MoAF	Ministry of Agriculture & Forest
MOAI	Ministry of Agriculture and Irrigation
MoFA	Ministry of Food and Agriculture
NGO	Non-Governmental Organization
PCD	Partnership for Child Development
POEs	Provincial Offices of Education
SAARC	South Asian Association for Regional Cooperation
SABER	Systems Assessment for Better Education Results
SAP	School Agriculture Programme
SEAMEO	Southeast Asian Ministers of Education Organization
SF	School Feeding
SFRG	Sustainable Food Reserve Garden
ToT	Training of Trainers
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
WFP	World Food Programme
WFS	World Food Summit

## **Executive summary**

The Regional Consultation on promoting school gardens and home gardens for better nutrition in Asia and the Pacific was held in Bangkok, Thailand on 13-14 July 2015 under the auspices of the Food and Agriculture Organization Regional Office for Asia and the Pacific (FAO RAP). This report documents the Consultation proceedings and a synthesis of key policy options and priority actions.

The main objective of the Consultation was to contribute to the improvement of nutritional status of children and members of rural poor households by promoting the school gardens and home gardens approach.

The meeting produced the following outputs: i) case studies/good practices for promoting school gardens and home gardens presented and shared with participants; ii) country experiences and lessons learnt in implementing school gardens and home gardens for sustainable food security and nutrition shared; and iii) key policy and programme strategy options and recommendations for promoting school gardens and home gardens identified and agreed upon.

The two-day event attracted a total of 59 participants from the Ministries of Education and Ministries of Agriculture, including allied sectors, of 18 countries in Asia and the Pacific (Afghanistan, Bangladesh, Cambodia, Indonesia, Lao PDR, Malaysia, Maldives, Mongolia, Myanmar, Nepal, Papua New Guinea, Pakistan, the Philippines, Japan, Sri Lanka, Thailand, Timor Leste and Viet Nam). The consultation was also attended by representatives of the FAO, leading UN offices and international development partners as well as academic and research institutions.

This Consultation provided an opportunity for dialogue among key stakeholders represented by officers and project implementors of the Ministries of Education, Ministries of Agriculture of the participating countries as well as representatives from FAO and other international development partners. It was also a platform for sharing expertise and experiences in promoting the setting up of school gardens and home gardens for better nutrition in Asia and the Pacific. Based on the plenary presentations, workshop group discussions and ensuing open forums, a set of policy options and priority actions at country and regional levels was identified and agreed upon by the Consultation.

The Consultation began with opening statements from the FAO Assistant Director-General and Regional Representative for Asia and the Pacific and the Permanent Secretary of the Thai Ministry of Education and followed by technical presentations by highly regarded experts in the various fields of endeavor pertaining to school and home gardening, nutrition, hygiene, health and basic agricultural activities. Country representatives presented the status and scope of establishing school gardens and home gardens including with the end in view of enhancing nutrition, hygiene, food safety, food security, curriculum and community-school participation in their respective countries.

A panel discussion consisting of key international development partners and national-level project implementers exchanged views, deepened the knowledge gained and extracted further lessons learned from national-level school garden and home garden project implementations.

Four workshop group sessions were organized to address the following challenges and issues: i) the main purpose for which home and school gardens should be established; ii) the best practices or key factors for success in designing, implementing, monitoring, evaluating and scaling up school garden and home garden projects; iii) the emerging themes and priority areas in promoting, implementing and scaling up home as well as school gardens; and iv) priority actions for addressing the identified challenges and issues. The four groups presented their findings to the plenary. A synthesis of the group presentations formed part of the Consultation's key policy issues and priority actions.

Thus, the consultation succeeded in engaging the participants in active discussions and fruitful sharing of experiences, strategies, constraints and innovations, which deepened their knowledge and appreciation of the role of school gardens and home gardens in improving nutritional status of children and members of rural poor households, food security and safety, among other issues.

The meeting discussed the key inhibiting issues and the corresponding key points for priority actions and recommendations, which include the following:

### **The key issues inhibiting the promotion, adoption and scaling up of home gardens and school gardens**

#### ***Policies, Institutions/Governance***

- Limited coordination between different sectors and stakeholders;
- Governance systems and structures causing ineffective implementation of relevant policies;
- Lack of multisectoral national policies and action plans that adequately promote home gardens and school gardens;
- Insufficient integration of school gardens and home gardens in relevant government policies, plans and programmes;
- Absence or lack of a comprehensive and substantive strategy in the promotion and implementation of home gardens and school gardens;
- Inadequate attention to and recognition of socio-economic and cultural value of home gardens and school gardens within existing agriculture policies and programmes;
- Inadequate attention to the nutritional value of home gardens and school gardens in contributing to better nutrition;
- Inadequate clear standards, guidelines and regulatory mechanism for promoting home gardens and school gardens;
- Limited knowledge and awareness within and across ministries leading to lack of political commitment to promote home gardens and school gardens;
- Poor monitoring and evaluation mechanisms for measuring impact of home gardens and school gardens for better food security, nutrition and income security;
- Lack of an internationally accepted set of recommendations to choose indicators and best instruments for measuring the success of both home gardens and school gardens;
- Poor communication and information sharing on country experiences for adoption of best fit models and mechanisms;
- Gaps in coverage and targeting - especially those in remote, hinterland and marginalized rural areas;

- Limited financing and other resources (i.e., coverage by agricultural extension personnel, available land and access to water) coupled with priorities on home gardens and school gardens.

### ***Knowledge/Skills***

- Inadequate capacity in translating policies into context -specific programmatic actions at all levels;
- Inadequate capacity for planning, designing, implementing and evaluating a comprehensive and integrated approach to home gardens and school gardens;
- Lack of capacity for identifying of appropriate indicators and measurements to monitor and evaluate the interventions and milestones achieved;
- Lack of a comprehensive scientific basis for promoting, implementing and scaling up value added approaches to home gardens and school gardens in Asia and the Pacific;
- Unclear understanding of roles and responsibilities of different sectors and stakeholders (such as government, local communities, civil societies, academic/research institutions, NGOs, private sector, UN agencies and financial institutions).

### **The key points for priority actions and recommendations**

#### ***National level:***

#### **School Gardens**

- Support the conduct of situation analyses as essential in for policy and programme formulation;
- Incorporate school gardens in national policies and strategies with aligned budgets;
- Link research/academic institutions and extension services to support school gardens;
- Raise awareness; commitment and good vision; monitor to identify weaknesses, followed by trainings -with proper training for community ownership and empowerment
- Incorporate garden-enhanced nutrition education in school curricula;
- Integrate academic objectives and nutrition education objectives into school gardening activities and factor as core activities for long-term administrative support;
- Develop simple recipe materials appropriate for school use, demonstrating the utilization aspect of garden produce (also for appreciation);
- Disseminate available school gardens and school nutrition materials, which can be adapted to the local context and provide due diligence checks;
- Identify potential sectors and partners, their mandates and key entry points for encouraging active commitment and actions into school gardens and home gardens activities;
- Create incentives for teachers and link teachers' performance evaluation to activities related to school gardens;
- Promote public private partnerships for the sustained provision of resources (agricultural input supplies, television stations, research/academic institutions, etc.);
- Integrate indigenous food resources as part of school gardens;
- Promote community participation in school gardens.

## **Home Gardens**

- Support research activities for enhancing the evidence base for policy and programme formulation;
- Recognize home gardens as sustainable strategy for food and nutrition and income security;
- Raise awareness and identify champions to advocate the importance of home gardens and school gardens for improving food and nutrition;
- Promote integrated food production system for dietary diversification (crops, livestock, aquaculture);
- Link research institutions and extension services to support development of home gardens;
- Scale up successful pilot/model home gardens;
- Ensure sustainability of home gardens through establishment of support groups that can provide technical and financial inputs (women groups, etc.);
- Capacity building of relevant stakeholders on home gardens;
- Promote and empower communities in terms of community based nurseries or seed banks and community participation and ownership to ensure the sustainability of school gardens and home gardens;
- Promote home gardens through inclusive engagement of stakeholders (non-state and state actors);
- Promote community gardens (where is feasible);
- Promote indigenous food resources as part of home gardens;
- Promote nutrition education as part of home gardens to ensure a better nutrition among household members.

## ***Regional level cooperation***

- Set up a coordinating team to guide development, implementation and monitoring system.
- Establish a regional network/knowledge management center on home gardens and school gardens to serve as multisectoral and multistakeholder platform for information sharing (sharing case studies/best practices, sharing technologies and resource materials, reviewing progress against priority actions/recommendations agreed and link to other relevant sectors);
- Undertake inventory of different models for home gardens and school gardens which are viable and sustainable;
- Organize forum and or expert meeting to develop a work plan and monitoring system, including the identification of relevant indicators, and elaborate guidelines for measuring impact of home gardens and school gardens;
- Create a comprehensive multisectoral and multistakeholder Training of Trainers (TOT) on school gardens (for programme planners and implementers from Agriculture, Health, Education, and other relevant sectors) with support of different development partners;
- Create regional network related to home gardens and school gardens and link with networks of other relevant sectors.

The key points for priority actions and recommendations at national level included the enhancement of research, evaluation and monitoring activities, stronger linkages among key project actors, training and capability building programmes, full integration of the project within the school curricula and systems as well as within the community and agricultural systems, appropriate dissemination and knowledge packaging, incentives and school-community participation and integration.

At the regional level, the Consultation agreed to establish a regional network/knowledge management center on home gardens and school gardens to serve as multisectoral and multistakeholder platform for information sharing, knowledge packaging, modelling, training and capability building as well as monitoring and evaluation of outcomes and impact.

The Consultation was closed by the FAO Assistant Director-General and Regional Representative for Asia and the Pacific, who gratefully acknowledged the contribution of all experts and country participants as well as the behind-the-scene support of the coordination and facilitation team.

## **I. Background**

Despite efforts, Asia and the Pacific countries continue to face serious malnutrition problems that have a severe economic and social impact on their development. Yet there are major differences among countries when it comes to hunger and malnutrition. Some countries are experiencing high rates of child malnutrition and nutritional anaemia in children and women of childbearing age. Other countries, although still unable to cope with all illnesses caused by nutrient deficiencies, have seen a rapid rise in the past 20 years in obesity and diet-related non-communicable diseases such as cardiovascular disease, diabetes and certain types of cancer. Addressing this “multiple burden of malnutrition” is a singular challenge for governments.

The Second International Conference on Nutrition (ICN2), which took place in Rome, Italy, on 19-21 November 2014, had acknowledged several recommended nutrition education and information interventions based on national dietary guidelines and coherent policies related to food and diets, through improved school curricula, nutrition education in the health, agriculture and social protection services, community interventions and point-of-sale information, including labelling.

In many countries school gardens have been promoted as part of the teaching-learning process but it was only in about the last two decades that their role in nutrition improvement has been highlighted. Improving school children’s nutrition, knowledge and dietary practices is a key area and requires further attention, especially with regard to the systematic integration of nutrition into national school curricula, pre- and in-service training of school teachers and school service staff in nutrition, as well as the establishment of better linkages with school lunch programmes and policies. School gardens can be used for promoting good diets, nutrition education and the development of livelihood skills, on top of the potential nutrition and education benefits with the latter being measured in terms of net enrolment rate, low dropout rates and better exam scores. School gardens can serve as a platform for providing basic agricultural knowledge and skills and can contribute to increasing the interest of pupils in engaging in agriculture and farming. School gardens can contribute to improving the children's and their parents' knowledge of food production techniques and nutrition, and to stimulating the development of home gardens.

One of the easiest ways of ensuring access to a healthy diet that contains adequate macro- and micronutrients is to produce many different kinds of foods in the home garden. This is especially important in rural areas where people have limited income-earning opportunities and poor access to markets. Most households have small arable land around or near their homes. They are frequently located close or adjacent to a permanent source of water. A well-developed home garden with its low-input technology and convenient access has the potential, when access to land and water is not a major limitation, to supply most of the non-staple foods that a family needs every day of the year, including roots and tubers, vegetables and fruits, legumes, herbs and spices, animals and fish. For mothers and young children in particular, more variety and more micronutrient rich vegetables, fruits and more animal foods (e.g. small livestock or fish) can make a huge difference in growth and health.

There are many success case studies that show great contribution of school gardens and home gardens in reducing hunger and improving nutrition. Yet, such practices are in limited scale

because of inadequate expansion and insufficient support by national policies and strategies. In view of this, the regional consultation has been organized to further promote school gardens and home gardens for improving nutrition. An initiative to promote small-scale, community-based project in support of school gardens and home gardens could have a great impact on food security and nutrition of these vulnerable populations. Local food production such as school gardens and home gardens can have immediate impact on food and nutrition security and the potential to contribute to long-term national goals.

## **II. Introduction to the consultation**

The main objective of the consultation, held in Bangkok, Thailand on 13-14 July 2015, was to contribute to the improvement of nutritional status of children and members of rural poor households by promoting school gardens and home gardens approach.

The meeting had the following outputs:

- The case studies/good practices for promoting school gardens and home gardens presented and shared with participants;
- Country experiences and lessons learnt in implementing school gardens and home gardens for sustainable food security and nutrition shared;
- The key policy and strategy options and recommendations for promoting school gardens and home gardens identified and agreed upon; and
- A Consultation report that would include policy options and priority actions and recommendations is expected to be prepared and subsequently published.

The two-day event brought together a total of 59 participants (See Annex 8 for the complete list of participants) from the Ministries of Education and Ministries of Agriculture, including allied and relevant sectors, of 18 countries in Asia and the Pacific (Afghanistan, Bangladesh, Cambodia, Indonesia, Lao PDR, Malaysia, Maldives, Mongolia, Myanmar, Nepal, Papua New Guinea, Pakistan, the Philippines, Japan, Sri Lanka, Thailand, Timor Leste and Viet Nam). The consultation was also attended by representatives of FAO, leading UN offices and international development partners as well as academic and research institutions.

The consultation proceedings included opening statements from the FAO Assistant Director-General and Regional Representative for Asia and the Pacific and the Permanent Secretary of the Thai Ministry of Education, technical presentations by experts in the various fields of endeavor pertaining to school and home gardening, country presentations, a panel discussion among key stakeholders and experts, four break-out sessions, a plenary presentation of the workshop groups, and a summation of the key challenges and issues as well as corresponding policy options and priority actions at country and regional levels for promoting school gardens and home gardens for better nutrition.

The proceedings of the two-day consultation succeeded in engaging the participants in active discussions and fruitful sharing of experiences, strategies, constraints and innovations, which deepened their knowledge and appreciation of the interrelated roles of school gardens and home gardens in improving nutritional status of children and other members of rural poor households as well as the connectivity of these roles to nutrition, hygiene, health, food security and food

safety, among others. (Please refer to Annexes 1 and 2 for the Consultation Concept Note and Agenda.)

### **III. Opening session**

#### **Welcome remarks**

In his welcome address to the consultation participants, Dr Hiroyuki Konuma, FAO Assistant Director-General and Regional Representative for Asia and the Pacific, provided a glimpse of the world's hunger and nutrition situation. FAO's most recent estimates indicate that 794.6 million people (10.9 percent of the global population) are undernourished. It is down by 10.7 million compared with 805.3 million from 2012-2014. He cited the Asia and the Pacific region's substantial progress in reducing the number of people suffering from chronic hunger. However, the region is still home to 490 million people still suffering from chronic hunger, accounting for 62 percent of similarly situated people in the world. Many developing countries have made significant progress in improving nutrition, but despite considerable improvements, stunting, underweight and micronutrient deficiencies remain persistently high.

Dr Konuma noted that globally, 161 million children under age of five are stunted due to chronic undernutrition, about half of all stunted children live in Asia. In Asia and the Pacific, stunting of children remains a serious problem, with the rate of prevalence over 40 percent in several countries. About 51 million under five year olds are wasted and two-thirds of all wasted children are in Asia. Nearly 99 million under five years olds are underweight, two-thirds of which lived in Asia. On the other hand, obesity rates have increased drastically in some countries over the last 30 years. Globally, 42 million children under five years of age are overweight, and obesity affects around 500 million adults, increasingly in low and middle income countries. As a consequence, there is increased risk of premature death, serious chronic health conditions and an increase in the prevalence of non-communicable diseases.

The priority of nutrition and improving the diets of all populations was emphasized by the Second International Conference on Nutrition (ICN2) and the Rome Declaration on Nutrition and Framework for Action adopted by the Conference, Dr Konuma stressed. Among the many goals identified in the ICN2, the meeting had acknowledged several recommended nutrition education and information interventions based on national dietary guidelines and coherent policies related to food and diets, through improved school curricula, nutrition education in the health, agriculture and social protection services, community interventions and point-of-sale information, including labelling. Improving child nutrition remains a priority in the post-2015 Sustainable Development Goals and the Zero Hunger Challenge.

FAO sustains its mandate, vision and strategy to reduce hunger and malnutrition and improve the nutritional status of the population. It recognizes the critical importance of focusing on comprehensive home garden and school garden approaches to promote good nutrition, healthy diets and to contribute to improved food and nutrition security. Dr Konuma noted that local food production such as integrated home gardens and school gardens can have immediate impact on food security and the potential to contribute to long-term national goals. It is also expected that school gardens can contribute to increasing interest of pupils in engaging in agriculture and

farming. Improving school children's nutrition, knowledge and dietary practices is a key area and requires further attention. These also include the systematic integration of nutrition into national school curricula, pre- and in-service nutrition training of school teachers and school service staff as well as the establishment of school meal policies with improved cooking methods and providing good and healthy meals for children.

Dr Konuma stressed further the need for a broad policy and programming approach to home gardens and school gardens that requires the collaboration and support of diverse stakeholders and sectors, particularly those who were present at the consultation. He conveyed his greetings and best wishes to all participants for a successful event.

### **Opening statement**

Associate Professor Kamjorn Tatiyakavee, Permanent Secretary of the Ministry of Education of Thailand, stated that many countries in Asia and the Pacific region still face malnutrition problems impacting on national socio-economic development and quality of education. Insufficient nutrition is a major obstacle to national development, obstructing the physical and mental development of children and also leading to illness. In Thailand, malnutrition is causing major diseases and problems and many Thai children have problems of obesity or shorter, slimmer bodies than the average standard, resulting in low-learning achievement.

Professor Kamjorn said that the Thai Ministry of Education, in cooperation with several partners such as the Thai Health Promotion Foundation, has implemented a project to promote and improve nutrition of school children in a project that aims to provide school children, parents and the wider community with a better understanding of nutrition and agriculture, and to increase their knowledge about consuming good quality healthy food. The Ministry has also launched a fund to subsidize agricultural activity in schools as part of the school lunch programme.

The Ministry of Education, Professor Kamjorn explained, has also implemented His Majesty the King's Sufficiency Economy Philosophy in schools so that executives, school administrators, teachers and educational personnel can apply this philosophy in providing education and teaching-learning activities. This move was intended to assist students in understanding the concept and philosophy of sufficiency economy and practice it in their daily lives. The Sufficiency Economy Philosophy and agricultural activity can be combined together and applied in schools in a sustainable manner and can also be expanded to a wider community.

Professor Kamjorn finally declared the Regional Consultation on Promoting School Gardens and Home Gardens for Better Nutrition in Asia and the Pacific officialy open.

### **IV. Technical session: concepts, approaches and aims**

**FAO's Approach to home gardens and school gardens for improving** *by Ms Shashi Sareen, Senior Food Safety and Nutrition Officer, FAO Regional Office for the Asia and the Pacific*

Ms Shashi Sareen presented an overview of nutrition scenario and highlights in Asia. She began with a note that while around 12 countries met the Millennium Development Goals (MDG), this

achievement was not sufficient to meet the target set by the World Food Summit (WFS) of halving the number of undernourished people by 2015. She stressed the large disparities among sub-regions and countries in the region in achieving the MDG target of halving the proportion of undernourished people in 2015. Overall, the bottom line is that there remain 490 million people in the region who are still chronically hungry.

Asia is home to 62 percent of the world's undernourished people, 40 percent stunted children under the age of five, two-thirds of all wasted children under age of five and underweight prevalence, which is still unacceptably high at 18 per cent. Undernutrition contributes to half of all deaths in children under age of five and nearly three-quarters of people with micronutrient-deficiencies.

Ms Sareen said that FAO's School Nutrition Approach is implemented through food and nutrition education, school meals, supporting environment and through school gardens. This approach implies three essential components: i) an awareness-raising component to focus attention on nutrition and increase motivation to improve diets, ii) an action component, where the goal is to facilitate people's ability to take action to improve their diets, and iii) an environmental component where nutrition educators work with policymakers at national and community levels to make healthy foods more accessible.

Ms Sareen highlighted that schools can be ideal settings to promote lifelong healthy eating, increase children's preference for and consumption of vegetables and fruits, and improving the nutritional quality of school meals. School gardens are excellent for learning and having nutritious food for healthy diets while appreciating the environment. They teach practical and life skills, help transfer practical knowledge from communities to and from schools and improve the environment and healthy living.

On the other hand, Ms Sareen emphasized that home gardens, with low-cost inputs and easy to manage, promoting nutrient-rich foods and garden-based diets can be effective in improving family and children's nutrition and in functioning as a safety net during the lean season and can have the potential to reinforce and sustain local food culture. She highlighted some key factors for success in gardening, including a coherent garden learning program and nutrition education linked to school garden and school feeding, gardening as integrated into the curriculum, involvement of key players from various sectors (agriculture, education, health and environment), existence of motivated facilitators and teachers, engagement of the community, provision of training and technical expertise and availability of resource materials.

**Importance of school gardens and home gardens for improving nutrition** *by Professor Visith Chavasit, Director, Institute of Nutrition, University of Mahidol*

Professor Visith shared Thailand's experiences in improving nutritional status of people through school and home gardenings. He outlined the history of nutrition in Thailand, beginning with the implementation of a school lunch in 1952, an analysis of Thai local food in 1972, the start of a nationwide agriculture for school lunch under Her Royal Highness Crown Princess' patronage in 1982 and its wider expansion in the following years into an integral programme on food, nutrition and health for children. In addition, school gardening began a cycle of self-reliance,

child health and nutrition, with the school as base for development, sanitation, community participation and knowledge transfer.

Professor Visith highlighted the role of home gardening as a creator of inclusive mechanisms into the agricultural economy, since Thailand is an agriculture-based country. Home gardening also vividly portrayed His Majesty King Bhumibol's Philosophy of Sufficiency Economy. He also explored the benefits of home gardening for optimized health, reduced risk of diet-related chronic diseases and increased enjoyment of food among community members, dietary change that complements the seasonal availability of foods produced and processed by the local food and agriculture system and improved access for all community members to an adequate, affordable and nutritious diet. The elements of home gardening also includes i) knowledge sharing among locals, migrants, academics and professionals, ii) instilling community food habits and health, and iii) preserving rural knowledge and culture. Home gardening in urban areas on the other hand reduces expense on food, ensures food source during disasters, provides income generation and employment, increases green areas and encourages social cohesion, if the activity is operated as a club, group or network.

Finally, Professor Visith identified some key success factors in gardening programme implementation: i) need for a coordinating body for various actors who will provide technical and training services, ii) funds for certain activities, iii) appropriate monitoring and evaluation system to capture and analyze information and data, iv) concrete policies and plans, v) building capacities of teachers and vi) understanding the mindset of people who are being invited to join the programme.

**Promoting home gardens for improving nutrition** by *Dr Ame Stormer, Regional Director for Programs-Asia Pacific, Hellen Keller International*

Dr Stormer's presentation aimed at positioning nutrition-sensitive agriculture programmes within the context of undernutrition in developing countries, reviewing the impact of Hellen Keller International's (HKI) Enhanced Homestead Food Production (EHFP) programmes on nutrition and food security and discussing lessons learned for adaptation and replication. She reviewed progress made to reduce hunger and malnutrition since the 1990s. She noted that too many people, particularly women and young children, are still suffering from hunger, malnutrition and household food insecurity.

She stressed that hidden hunger is also still highly prevalent in Asia and contributes to the burden of premature death among young children, poor birth outcomes among mothers and lower productivity among people overall. Approximately one-third of the developing world's children under the age of five suffer from vitamin A-deficiency, and therefore are ill-equipped for survival. Each year, about 670 000 children under the age of five die due to vitamin A deficiency and an estimated 350 000 children go blind as a result of this condition, representing 70 percent of all new cases of childhood blindness annually.

She mentioned that nutrient-specific and nutrition-sensitive programmes can be implemented to help solve the problems: nutrition specific through promotion of appropriate breastfeeding and complementary feeding, micronutrient supplementation, management of acute malnutrition and

balanced energy and protein supplements to women; and nutrition sensitive through agriculture and food security, social safety nets, women's empowerment, water, sanitation and hygiene, health and family planning services and early child development and child protection programmes.

Dr Stormer highlighted several findings from Helen Keller International's (HKI's) Enhanced Homestead Food Production (EHFP) programmes. For over 25 years, HKI has supported efforts to improve household nutrition and food security through the implementation of homestead food production (HFP) programmes that simultaneously promote optimal nutrition practices and increase year round availability and intake of diverse micronutrient-rich foods among poor households. The programme helped to increase dietary diversity, household income, improve child nutrition and health practices and improved child care and family welfare. HKI's HFP programs in Asia (Bangladesh, Nepal, Cambodia, Indonesia and the Philippines) have reached over one million families and have resulted in: i) improved home gardens and animal husbandry practices, ii) increased production and consumption of micronutrient-rich foods, iii) increased dietary diversification for children and women, iv) increased women's level of influence in household decision-making and v) increased household income, controlled by women. There is evidence of improving household food security and, in some cases, nutrition and other intermediary outcomes.

Dr Stormer elaborated on some lessons learned from the programmes: i) design programmes to empower women in their important role as the gatekeepers of household food security, food production, hygiene and child nutrition in order to maximize positive nutritional impact; ii) design programmes based on evidence including local assessment and analysis of existing needs, resources and constraints that will address aspects of food, health and care, which are all necessary to improve nutritional outcomes; iii) instill a social equity perspective that provides an understanding of the social dimensions, including gender roles, community and intra-household dynamics, that must be addressed; iv) set up a communication strategy that includes advocacy and shares evidence-based information and knowledge, and promotes and seeks to transform behavior regarding agriculture, nutrition, marketing and improved livelihoods, and v) design of a training package (including inputs and practical application) on agriculture (horticulture and livestock production/fisheries) to increase availability and access to food for the purposes of improving nutritional status and child growth, among others.

**Linking community production with national school feeding programmes** by *Dr Katrien Ghoo*s, Senior Regional Nutrition Advisor, WFP

Dr Ghoo stated that of the 14 million WFP planned beneficiaries in the region, some 2.4 million are beneficiaries of school feeding, spread across 11 of the 14 countries where WFP has regular ongoing programmes. School Feeding (SF) thus remains an important tool in the WFP portfolio in the region, with 2.4 million reached with daily meals in ten countries and 4 387 farmers involved. WFP also includes nutrition sensitive and other activities such as the use of fortified commodities in the school basket in seven countries, fortified rice used in three countries and home-grown school feeding to support use of local fresh nutritious foods from local production and local farmers/traders.

The objectives of WFP supported SF programmes are to i) leverage school feeding as a mechanism to support education by improving enrollment rates, attendance, and retention in primary schools, with a special focus on girls, ii) enhance child nutrition by reducing micronutrient deficiencies and iii) ensure that school feeding is an integral part of national social protection mechanisms and acts as a critical safety net, especially in food-insecure areas. WFP further commits to systematically assessing progress in the transition to national ownership in all operations, using the Systems Assessment for Better Education Results (SABER) framework developed with the World Bank, and the tracking of the costs of its school feeding projects. In line with the global emphasis on improving the quality of education, WFP will help ensure that school feeding contributes to learning, and reinforced partnership with the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the United Nations Children's Fund (UNICEF) through the Nourishing Bodies, Nourishing Minds initiative, the World Bank, the Partnership for Child Development (PCD) and FAO.

Dr Ghooos said that WFP will assess the cost-effectiveness of school feeding, explore better ways of reaching beneficiaries – e.g. by using cash and vouchers to replace take-home rations – and enable local procurement to benefit the local economy and increase the sustainability of school feeding programmes. WFP will ensure that school feeding addresses micronutrient deficiencies among schoolchildren through multi-fortified foods and diversifying the food basket, including with fresh and locally produced foods. It will consider nutrition concerns – including emerging overweight and obesity issues – in the design and implementation of school feeding programmes and seize opportunities for reaching adolescent girls through school feeding programmes, including to deliver micronutrients and nutrition education.

Dr Ghoose explained that Home Grown School Feeding (HGSSF) is, first and foremost, a framework to link school feeding with local agricultural production through a school feeding programme that provides food produced and purchased within a country, with a special focus on small-scale farmers. There are three stages to implement HGSSF: Phase 1: strategic procurement, Phase 2: agricultural development and Phase 3: institutional development. In HGSSF programmes, donors and NGOs or technical support bodies are particularly important to assist in these areas. HGSSF can be a catalyst to address wider problems of property rights on agricultural land, legal system to enforce contracts, land policy reform, production systems and community-based farmer learning networks.

**From the garden to a whole school nutrition approach - by Dr Yenory Hernández-Garbanzo, Nutrition Officer, Nutrition Education and Consumer Awareness Group, Nutrition Division, FAO Headquarters, Rome Italy**

Dr Hernández discussed global malnutrition issues and opportunities and the nutrition challenges facing children including undernutrition, stunting and overweight/obesity. She indicated that these challenges are related to unhealthy eating patterns, or limited access to enough and nutritious foods such as fruits and vegetables. From a positive perspective, research has indicated that children who are introduced to fruits and vegetables at a young age are more likely to consume them on a regular basis. Therefore, within this context, schools represent a very good opportunity for investing in nutrition efforts and resources.

Dr Hernández explained that in order to improve the access, availability and quality of foods offered in school meals, mainstreaming nutrition into agriculture and food production systems can play a crucial role. Yet, in terms of actual food consumption, there is growing evidence that agriculture and food production alone make little impact on dietary practices unless it is backed by nutrition education. In other words, increased availability of healthier foods in the schools does not necessarily mean that students will eat them.

She noted that there are several factors affecting people's food choices i.e. taste, price, appearance, convenience, information, habit, social norms, culture, expectation, state of mind, media, which can be identified with a proper needs assessment for ensuring an appropriate design and implementation of school-based nutrition approaches. Overall, the school nutrition challenge therefore focuses on improving nutritional content of school meals, maintaining low cost (i.e. price, human and time resources), encouraging consumption and longer-term healthy food decisions.

Dr Hernandez explained that FAO, with its mandate, vision and strategy to reduce hunger and malnutrition, and improve the nutritional status of the population, recognizes the critical importance of focusing on schools to promote good nutrition, healthy diets and contributing to improved food and nutrition security. FAO's School Nutrition Work's primary goal is not to feed school children today, but promote children's lifelong healthy eating habits; environments that empower and inspire children, their families and school community to make good food choices all day long-in both school and at home; policies and programs that generate, facilitate and sustain change; and the purchase of nutrient-rich locally produced foods to provide balanced meals and to connect students to the environment and sources of food.

She highlighted the key features of the FAO's Support to School Nutrition which include a comprehensive and integrated actions in school food and nutrition; and a close coordination and collaboration among agriculture, education, health and social protection, as well as other sectors and partners. All of these to promote the following core components: 1) school meals linked with local foods; 2) nutrition and health supporting school environment; 3) school gardens; and 4) food and nutrition education and training. For implementing this integrated and cross-sectoral approach, it is important to have the active participation of students, their families, school staff and community; and advance education and promotion strategies aimed at behavioral and environmental changes.

**V. Experiences and lessons learned from sustainable models of home and school gardens in region** (Selected case studies) *by Dr Maria Antonia G. Tuazon, FAO International Nutrition Consultant*

Dr Maria Antonia Tuazon presented selected examples of sustainable models of home gardens and school gardens in Asia. These included one example each from Nepal and Philippines for home gardens and for school gardens, two examples from Thailand and two from the Philippines. The example from Bangladesh was based on an integrated programme that promoted both community and school gardens but the latter was the one highlighted in her presentation.

The presentation consisted of objectives of the programmes, programme design, demonstrated impact and proofs of sustainability. Towards the end of her presentation, she informed the participants of the lessons learned from the models in terms of key factors that contributed to success and sustainability.

In terms of programme components, she noted that all the programmes promoted a holistic and integrated approach. Nutrition education for home gardens promoted the life cycle approach, with special focus on children under 5 years (CU5) particularly the first 1 000 days, adolescents and women of reproductive age (WRA) while the nutrition education component for school gardens targeted nutritional needs and care of primary and secondary school children. Regardless of the type of gardens, the practice of integrated, biodiversity-based and sustainable food production system (with emphasis on local diversity) was promoted.

Carefully considered also were gender, local context, agro-ecological setting and ethnicity in the design of the programmes. Women empowerment was given attention to enable women in particular and small land holders to have control over the means and outputs of production. Capacity building based on needs assessment was an indispensable component of all the programmes which targeted key programme players like agriculture extension workers, small/subsistence farmers, agriculture and home economics teachers. Complimentary to these capacity-building initiatives were the development of relevant nutrition-sensitive training resource materials. Professional promotion and “messaging” of the programme/project (including use of catchy terms) contributed to awareness creation of the projects. Sustainable funding source from government or private sector or setting up sustainable source of resources, e.g. setting up of community nurseries, was also deemed important. Incentive schemes like income generation although not explicitly stated as objectives in some programmes came as offshoots which encouraged continued participation to the programmes.

In terms of implementation strategy, programme planning was based on a carefully conducted situational analysis in pilot areas. The programmes adopted a targeted approach starting with a few households in few villages before expanding and eventually going to scale. Somehow, all the programmes recognized the importance of generating evidences of what works and from the lessons learned gradually increased programme coverage. It was also striking to note that all the programmes have explicit nutrition objectives and goals. Participatory and consensus building were the hallmarks of all the programmes from target setting to monitoring and evaluation. Village group formation was also a common feature of all the programmes which facilitated community engagement and programme ownership. Nutrition surveillance in the form of growth monitoring was likewise included in the programme activities. The technologies promoted were also backed up by good science which contributed to the successful implementation of the selected gardening technology.

Finally, she stressed the importance of enabling micro and macroenvironments as shown by the examples presented. For the former, community mobilization approaches to promote program ownership and provision of local counterparts were employed as well as the identification and tapping of village animators. It was however also stressed that it is important that the design of the home and school gardens respect local/indigenous knowledge and practices. Evidence-based advocacy played a very important role in creating an enabling macroenvironment in particular,

sustaining and scaling up the programmes. It was found to be more effective in generating political will and support as well as in facilitating the formulation of relevant policies that can institutionalize nutrition-sensitive interventions.

## **VI. Session 2: Country experiences and lessons learnt**

- **South Asia countries**

### **Afghanistan**

Ms Nazira Rahman, Director of Home Economics Department, Ministry of Agriculture, Irrigation and Livestock (MAIL), explained that in Afghanistan hunger, poverty and malnutrition are associated with many combined factors. Malnutrition is widespread in Afghanistan and low dietary diversity is a key cause of malnutrition in the country, while only around one-third of population has access to diversified food. Supporting nutrition-sensitive agriculture activities, particularly the role of women in gardening, has direct impact on improving household nutrition. Gardening is particularly imperative in subsistence farmer communities. In this regard, homestead food production and gardening are means of producing fresh vegetables for household dietary diversity both in rural and urban settings. Many types of gardens have been introduced, including school gardens, home gardens, microgardens, clinic gardens and community gardens.

Through the partnership of MAIL and the Ministry of Education (MoE) in the country, with technical support of FAO, hundreds of school gardens were established during the last decade. The two key sectors of agriculture and education worked together both at national and community level to coordinate and set up gardens in schools. The main aims of school gardens have been to provide students with the unique opportunity to gain hands-on learning experiences in gardening and help teachers to integrate nutrition education into their teaching plans. The promotion of school gardens has helped increase the knowledge of children on various vegetables and nutrients as well as of school administrators and the classroom teachers on nutrition and encouraged them to adopt healthy dietary habits- at school and at home. Nutrition and food security lessons are passed on from school children to other family members when school garden practices are replicated at home or in community gardens.

Considering school as an important part of several factors influencing children's eating patterns and attitude, it is also a natural development zone for nutrition education and a place to initiate lifestyle changes. The MoE was supported to integrate key nutrition messages into the national school curricula from Grade 1 to Grade 6. However, due to constraints in school curricula, gardening and nutrition education sessions are not yet included in regular school lessons but as extra-curricular sessions, they are encouraged to be taught to students.

Good nutrition depends on the quality and quantity of food that is available and accessible. MAIL, with technical support of FAO for the establishment of home gardens for improving food intake while using household labor intensively on small land surfaces within the home, was supported. It allowed women to grow vegetables while fulfilling their domestic and child care responsibilities. Home garden foods typically include roots and tubers, green leafy vegetables,

and some fruits, which are rich in vitamins and minerals. It can supplement and contribute to household food security and nutrition and improve livelihoods.

In urban areas, space for the promotion of food production rich in micronutrients is limited. To improve the nutrition of poor vulnerable families, micro-gardens are promoted for urban families to produce high-value nutritious vegetables. A micro-garden is a very small garden that allows growing a vast range of horticulture crops. It is an innovative approach for communities living in urban areas, where access constraints and limited space demand home-based solutions. They require little space and little water to grow a broad range of vegetables that can be consumed by the family or sold to the neighbours.

## **Bangladesh**

Mr Subrata Bhowmik, Deputy Secretary of the Ministry of Agriculture, stressed that school nutrition activities in Bangladesh generally center on school feeding programs, food, agriculture or nutrition-based educational activities such as creating and tending school garden, conducting nutrition educational activities in the classroom, conducting nutrition educational activities sessions for parents, and community members, enhancing capacity of school teachers and staff on teaching nutrition and related topics, and creating supporting school nutrition policies and environments.

School gardens have been traditionally used for science education, agricultural training, or generating school income. Today, the purposes of school gardens are changing and aiming at eco-literacy, livelihoods, better eating, nutrition education and life skills. It prioritizes experiential education, integrates several subjects, and extends its influences to the whole school, family and community. There is no separate national policy for school gardens but the National Agriculture Extension Policy had conceived the plan and the Department of Agricultural Extension (DAE) had initiated school garden programmes in selected schools with the help of FAO. School gardens are supported and/or linked with activities undertaken by families and communities are caretakers for training and partial input support. School gardens are not yet linked with school feeding programme.

Mr Bhowmik added that the Government encourages school garden. The Government agencies like DAE, the Department of Primary Education and NGOs have been identified as an important players in coordinating school garden initiatives. The expected roles for undertaking training, motivation, demonstration and funding are played by the Development Project, donors and NGO source. School gardens are not yet linked with the curricula. Teachers and management committee of the school decide about the management of school gardening work. Helpers work in school gardens. Children are expected to do nutrition education, counting, measuring and experimentation in relation to the school gardens.

## **Bhutan**

Mr BB Rai, National Coordinator, School Agriculture Programme (SAP) of the Ministry of Agriculture and Forest (MoAF), highlighted the School Agriculture Programme as a joint programme of the Ministry of Agriculture and Forest and the Ministry of Education. MoAF

provides technical and financial support while the MoE provides policy and manpower support. The programme started in 2000 with a few selected schools and covered 45 percent of schools. Some 31.14 percent of population are in school and 33 percent of schools's feeding programme is by the World Food Programme. Currently 20 percent of students depend on feeding support in rural Bhutan.

The programme contributes to food production and supplement (20-30 percent supplement) in nutrition security, creates awareness on optional employment opportunities and encourages commercial farming as a means of livelihood. Project collaborators are the Central Government (40 percent), FAO for Farm to School (F2S) project (15 percent), WFP (10 percent), Asian Vegetable Research Development Center (AVRDC) for Vegetables Go to School Project (20 percent) and HRH Thai Princess project for (15 percent).

Major intervention strategies include the promotion of gardens in food insecure groups, adequate supply of seeds and seedlings, protected cultivation technologies, cost-effective and safe pest management technologies, establishment of pack house, storage and processing facilities, strengthening of research and development activities and strengthening of knowledge of researchers, extension personnel and farmers.

Thus, school gardens contribute around seven percent vegetables in feeding schools, increase the knowledge of students on nutrition and food security, provide better nutritional status of children of piloted schools through the consumption of vegetables, contribute food products in their hostel mess and support the continuity of feeding in schools.

## **Maldives**

Mr Ali Amir, Assistant Director, Ministry of Fisheries and Agriculture, informed that each inhabited island in Maldives has at least one school. There are 23 schools in capital Male and in the country a total of 222 Schools (Primary, Secondary and Higher Secondary) and around 200 pre –schools, with a total number of approximately 63 000 students.

There are national policies such as the Integrated National Nutrition Strategic Plan, School Health Policy, Health Promoting School Policy and Nutrition Guide for Teachers, Food Security Policy and Rural Farmers Empowerment Policy. Coordinating institutions for school gardening include the Ministry of Education, Ministry of Fisheries and Agriculture, Ministry of Health, Health Protection Agency, Society for Health Education (NGO) and Advocating the Rights of Children (NGO).

Mr Amir said that nutrition education is included in the school curriculum for Grades 1, 2 and 3. The Ministry of Education regulates the food available from school canteens and advice parents on children's diet. Except in Male, almost every household has a backyard garden. Home gardeners are eligible to be listed in the national farmers registry as subsistence farmers He noted the school gardening constraints as limitation of funding and imitation of suitable land for agriculture. The constraints likewise in home gardening are land limitation for gardening purpose, limited technical assistance at island level and transportation costs to obtain agriculture inputs.

## **Nepal**

Mr Sunil Kumar Singh, Senior Agricultural Economist, Ministry of Agricultural Development, and Mr. Ramesh Raj Paudel of the Ministry of Education, said that the Nutrition Projects are implemented by the Ministry of Agricultural Development as lead agency and the Ministry of Education, Ministry of Finance, Ministry of Health, and the Department of Agriculture, Department of Food Technology and Quality Control as co-implementing agencies.

The Ministry of Education is currently involved in school nutrition activities and initiatives such as integrating food and nutrition education concepts into school curriculum (math, science, home economics, etc.), conducting community nutrition education events, conducting families and parents' nutrition education events, creating supporting school nutrition policies, creating supporting school nutrition environment, training and technical assistance for schools and training and technical assistance for farmers. School gardens are linked with nutrition education and physical education.

For home gardens, Nepal has a national agriculture policy that enhances agricultural production and productivity, enhances competitiveness of agriculture in regional and world markets, makes legal provision for lease/contract farming, contracts out swamps, rivers, ponds, marginal and community land, enhances foreign and private investment in agriculture and develops specific production pockets.

The Regional Initiative for Zero Hunger Challenge: Promoting and Integrated Home Garden and School Garden Approach or Food and Nutrition Security in Selected Asian Countries (TCP/RAS/3509), where Nepal is included, aims at supporting the sustained provision of diverse nutrition and safe food for school-based nutrition programme. The outputs include the setting up of integrated school gardens, training, pilot testing and the development of a national implementation strategy and scale-up plan.

## **Pakistan**

Mr Mian Usman Ali Shah, Senior Officer, National Food Security and Research, Pakistan, presented the role of kitchen gardening in increasing vegetable production as already realized by the Government of Pakistan. There are very few people undertaking kitchen gardening. Vegetable consumption is very low in the country, only at 50 grams per day per person as compared to the international standard of 300- 350 grams/day/person. Thus a project titled, "Kitchen Gardening: A Way to Safe and Nutritious Vegetables" was launched in 2013. The short-term objective is the production of cheap and fresh vegetables through the involvement and capacity building of the male and female members of the communities in the urban and rural areas. The long-term objective is to introduce, demonstrate and make available safe and healthy production of vegetables at household level.

The tasks were to create awareness, improve skills, provide complete set of production technology and set up kitchen garden clubs. Pakistan's huge population, now 6th largest in the world, leads to a higher demand for food and agricultural products. Around 24 percent of the

population is undernourished and the percentage is increasing. Household gardening has vast potential for addressing the food needs and health of the urban and periurban population.

Besides the food benefits of roof planting, this also provides decorative benefits, temperature control, hydrological benefits, architectural enhancement, recreational opportunities as well as ecological benefits on a larger scale.

During the two-year period from 2013-15, 61 gardeners' club were established, 780 000 seedlings have been distributed, 74 field trainings have been conducted, 224 field demonstrations were carried out and a total of 1 700 families benefited from the project.

### **Sri Lanka**

The Government has undertaken a home garden promotion programme, mainly focused on home gardening. It provided seeds and planting materials to encourage Home gardening and technical landscaping for edible crops, and roof top home gardening for urban agriculture.

The country's Nutrition Programme in the school system in Sri Lanka includes a mid-day meal programme, a glass of milk and food for education. Out of the 10 119 schools, 8 692 have nutrition programmes and 5,650 have school gardens. A total of 4 600 have both school gardens and nutrition programs. The school garden programme is successful due to promotional activities such as regional and national competitions, quiz competitions, food fairs and exhibitions, and interactive media. The school gardens are used as resource centers for training other schools and teacher training.

The challenges include sustainability - during school vacations and drought periods, less priority /excess workload for the teachers and the students, lack of labour at school level , less facilities to protect the cultivation area (protective fence), water scarcity in some areas, lack of financial support, reluctance to accept new technologies and lack of support of the school community.

- **South East Asia countries**

### **Cambodia**

The main objectives of school feeding in Cambodia are improving access to primary education, increasing national ownership and developing capacities and providing safety nets to vulnerable households. The objectives are attained through the provision of school meals and scholarships. Complementary activities include nutrition sensitivity such as fortified rice in school meals, school gardens, hygiene and safe food preparation training and healthy dietary practices

The achievements include i) providing seeds (mainly morning glory seed) to all 1 010 schools, food safety and school meal cooking guidelines endorsed by Minister of Education Youth and Sports, ii) guidance on strengthening and encouraging school garden activities, including school garden as part of life skills in school curriculum, iii) integrating nutrition-related issues in science topic (such as biology), iv) national deworming, v) providing food safety and nutrition education to cooks, school directors/teachers, community, Provincial Offices of Education

(POEs) and District Offices of Education (DOEs) (600 schools in 3 provinces), vi) providing school garden training to teachers in 600 schools, vii) putting vegetable from school gardening in the school meal recipe, viii) the community providing vegetable for school meal, ix) home grown school feeding pilot, x) support by government to use fortified rice in school meal programmes and xi) pilot of fortified rice in school meal programmes.

The challenges that have to be met include the limited school capacity in supporting school garden (no land, fence, lack of water, budget), school gardening in some schools is seasonal and school garden topic is not specifically highlighted in local skill curriculum.

## **Indonesia**

The Indonesian Government has put a priority on agriculture, food and nutrition development by revising Food Law No 7/1996 to Food Law No 18/2012. This law is focused not only on strengthening national food security, but also in achieving food self-sufficiency and food sovereignty to achieve better food and nutrition security at national, community, household until individual levels. Food diversification, both on food supply and food consumption, has been recognized as a key factor in achieving food security. The Ministry of Agriculture has initiated its food diversification programme since 2009, based on Presidential Decree No.22 about “Policy of Food Diversification based on Local Resources”, and as the basic implementation of the activity, the Minister of Agriculture published the Regulation of the Agriculture Minister No. 43/2009. This regulation was followed at the local levels by the Governor and the Mayor/Regent Regulation about Food Diversification.

One of our efforts to increase availability and access to nutritious food at national and household level is Sustainable Food Reserve Garden (SFRG) Programme– Kawasan Rumah Pangan Lestari by optimizing home-yard garden (since 2010), and school garden (since 2011) for producing food crops, horticulture, livestock and fish. Home-yard has a tremendous potential.

The SFRG programme involves woman in the family as the main actor to use home-yard optimally for producing food crops, horticulture, livestock, and fish, not only to meet the need of foods and nutrition of the families, but also to increase the household’s income. SFRG has been implemented in more than 13 000 villages, involving over 240 000 households and has successfully improved food security at the household level.

One of the good practices is by the Melati Women’s Group in Wonogiri Village, Magelang, Central Java, which has implemented the programme since 2011. At the first time, the group consisted only of 20 households, but now it has expanded into almost the entire village. The main activities are home gardening and establishing village nurseries as a bank seed for the village to ensure sustainability of the homestead production. Through this programme, each of the households can save their daily expenditure for fruits and vegetables and they can get additional income from excess production. The group also builds good business relationship and networking with catering vendors as well as mobile vegetable sellers, which commonly serve people in the villages. In 2013, in a World Food Day ceremony this group also achieved an award from Ministry of Agriculture as a model for the food diversification groups.

The basic concept of national school gardens activity are women groups/village's programmes directed to develop school garden activity in one of the schools in their village. The main objective of school garden activity is to improve awareness and knowledge of balanced food and nutrition for students/children since early stage in school through eco-friendly vegetable cultivation. School gardens were implemented in 6 264 villages (497 regencies/towns in 33 provinces) under the food diversification programme until 2014.

## **Lao PDR**

Ms Yangxia Lee, DDG of Department and Director of Center, Inclusive Education Center, Department of Pre-primary and Primary Education, Ministry of Education and Sports, presented the School Nutrition programme in Lao PDR. School nutrition generally centers on school feeding programs, food, agriculture or nutrition-based educational activities such as creating and tending school gardens, conducting nutrition educational activities in the classroom, conducting nutrition educational sessions for parents, and community members, enhancing capacity of school teachers and staff on teaching nutrition and related topics and creating supporting school nutrition policies and environments.

There are different types of food provision in schools at the moment: (i) school snack (imported food and a little bit local rice), (ii) school lunch with 100 percent local and cultural food, and (iii) school lunch with half local food (fresh Food) and imported/grant main food (rice and cooking oil). A total of 486 out of 2 022 schools of the areas provide meals (snack and lunch) (broken down as government, 332 schools, CRS, 151 schools and Education for Development (EDF), 3 schools). The concept and practice of school gardens are clearly integrated in the Policy on Promoting School Lunch which was endorsed in May 2015. Moreover, the action plan on promoting school lunch (2016-2020) has been developed and will be endorsed by the end of 2015.

Culturally, every household in the provinces has its own home garden. The problems are shortage of qualified seeds or nurseries, technology support, water availability only based on season. Household gardening is just for family consumption and not for surplus for trading because of road access and market constraints. In the cities, some families also have their small gardens depending on the land size and family background. However, plants or vegetables are planted based on what they are familiar with. They have not yet considered the nutrition concept. Lao PDR does not yet have a specific national policy on home gardens.

Constraints in school garden include capacity building of all levels in terms of planting that are aligned with nutrition aspects, curricula revision, water non-availability during dry season, qualified seeds or nurseries, technology support and budget investment.

## **Malaysia**

Ms Beverlien Christine, Urban Agriculture Division Department of Agriculture Malaysia, introduced a history of the Green Book Project, launched on December 20, 1974 by late Prime Minister of Malaysia, Tun Abdul Razak Hussein. The objectives were to encourage people to

grow their own vegetables for their daily needs and to encourage people to produce their own food to curb the impact of inflation and the rising cost of food items.

The Minister of Agriculture Tan Sri Muhyiddin Yassin launched in 2006 a programme to encourage people to grow their own vegetables and livestock for their daily needs, to curb the impact of rising cost of living, to encourage edible landscape/kitchen garden and to focus on rural areas.

The Urban Agriculture Division Department of Agriculture, established in November 2013, focused on urban and suburban areas in order to promote agricultural activities to reduce the cost of living for urban poor, add extra income for the urban poor community with surplus agricultural production, promote awareness and interest on the importance of agriculture as a direct contributor to the reduction in the cost of living of urban poor communities and ensure quality and food safety of the country.

Technical assistance and advice are provided to encourage the establishment of vegetables, fruits and herbal community farms and gardens around premises and residential area, home gardening, family farming, rooftop gardening and integrated edible landscape garden apart from enhancing agro-based industry activities.

There was an increase in the number of participants as of June 2015: home: 7 874, schools: 6 215, institutions: 3 136, and other agencies, 2 555. People have become more interested in school and home gardens (as of August 2014 – May 2015); School Garden: 215, Home Garden: 393. NGOs, associations and clubs help in promoting the programme.

However, there are still some challenges: land availability, attitude of some participants, time factor, funding allocation and need for additional researches. Some strategies are being pushed through i) effective adoption of policies/legislation, ii) education and public awareness towards committed participation and readiness to adopt to new technology, iii) follow-up and continuous monitoring, iv) improving monitoring system, v) support from related local authorities, educational institution and mass media, vi) going for high value of vegetables, vii) active involvement of Community Committees in rural and urban Housing Estate Associations, and viii) the involvement of private sector and NGOs to support the programme through the sale of agricultural inputs.

## **Myanmar**

Ms N.N. San Director, Department of Myanmar Education Research, Ministry of Education and Ms W. Naing, Assistant Research Officer, Department of Agriculture Research, Ministry of Agriculture and Irrigation noted the constraints the country faces in relation to school gardens: lack of financial and policy for conducting school garden, lack of space, lack of facilities such as irrigation, labour cost, etc. and lack of coordination among parents, teachers, agriculturists and regional authorities.

The presenters highlighted the orphanage school garden, organized by Ministry of Agriculture and Irrigation (MOAI) and FAO. The project provides agricultural knowledge and skills and the venue for learning nutrition education through school gardens.

In home gardens, in general, there is lack of policy, lack of technical and material supports to the farmers and lack of the awareness of people about the benefits from the home gardens such as nutritious and safe food, saving money and income generation.

## **Philippines**

Mr Romeo P. Ayos, Senior Agriculturist of the Department of Agriculture, presented the Agri – Pinoy Gulayan sa Paaralan Programme (School Vegetable Gardening Programme), which promotes food security in schools through self-help food production activities; promotes vegetable production and consumption in public schools (elementary and high school levels), establishes and maintains school gardens as ready food basket source for supplementary feeding, serves as laboratory for students and showcases small-scale production models.

The programme targets 38 690 elementary schools and 7 881 high schools. It prioritizes the high prevalence of malnutrition and high poverty incidence among beneficiaries of 4Ps (Pantawid Pamilya Pilipino Programme) and the low academic performance (below 75 percent) of schools.

Programme partners include the Department of Agriculture as lead implementing agency in planning, implementing, monitoring and evaluation of the programme and the Department of Education as co-implementing agency in formulating and recommending policies.

Among the programmes' achievements were i) signing of Memorandum of Understanding between the Department of Agriculture (DA) and the Department of Education (DepEd), ii) signing of Joint Administrative Guidelines between DA and DepEd on the implementation of the programme; iii) signing of Joint Memorandum Circular between DA and DepEd creating a National Technical Working Group on Agri – Pinoy Gulayan sa Paaralan, iv) establishment of 41 992 school gardens from 2011 to April 2015, v) maintained about 31 494 (75 percent) school gardens, vi) armonization of training module on School Gardens, vii) harmonization of criteria for the search for the best school garden, viii) school Gardens are replicated in the homes and communities, ix) enrolment of severely wasted malnourished students in the feeding programme using vegetable produce in the garden, ix) harmonization of training manual on school-based vegetable gardening, and x) partnered with Nestle Philippines Inc. (a multi-national corporation) in developing a training manual that will be used by DepEd in teaching school-aged children on vegetable production.

The challenges and opportunities include the rehabilitation of school gardens affected by typhoons, inclusion of private schools in the programme, more focused advocacy programme to promote consumption of vegetables among school children, introduction of more vegetables to the list of preferred vegetables particularly the indigenous vegetables and more communities and organizations involved themselves in the programme.

## **Timor Leste**

The country, being new, is concentrating on bigger agricultural production and shall move toward the direction of school gardening in the near future. The Government's support for schools meals and school gardens are somehow encouraged. However, currently there is no National Policy or Legislation on school garden, neither government resources to keep the continuation of school garden programs. The government through the Ministry of Education encourages partners (i.e. UN agencies, NGOs, Embassies) to implement school gardens initiatives by allowing teachers and school children to be involved on these activities. FAO has been an important source for providing technical support on how to establish school gardens. Funds come primarily from donors and UN agencies (AECID through FAO).

The school gardens were not properly linked with nutrition education but more on educating school children on how to produce their own food – mainly to supply for the school meal program at that time of implementation. Usually when the school garden project is running, school principals and teachers with intensive technical support from FAO and partner NGOs field staff play a important role for managing school garden activities. However, this did not continue when project ends. A school garden manual was produced and distributed to all the schools and relevant ministries.

The key issue is that there is lack of a national policy on school garden thus no resources are available to sustain school gardens and the following factors are major constraints to run school gardens: 1) no designated staff from the relevant ministries that provide oversight the program; 2) water scarcity; 3) unreliable seed supply; 4) some children have to travel very long distance to their schools – restrict them to participate properly outside school hours; 5) security issues (thieves, free grazing); and 6) limited space of school area.

## **Vietnam**

The country has a movement to transform schools along the slogan, "Green - Clean - Beautiful", by planting shade trees and a variety of flowers landscape and constructing medicine garden. The movement also focus on "Building friendly school, active students". It implements a pilot school educational programme associated with local production, sales and service.

For rural areas, horticulture and livestock raising are compulsory subjects in Grade 7. Teachers follow the prescribed programme delivery. For urban areas, they teach planting, bonsai care, pet raising, clean hydroponic vegetables, biological solutions that protect the environment to replace a portion of the subjects on horticulture and livestock raising and replacing some or all parts of forestry and fisheries.

In Grade 9, the modules are planting flowers, growing rice and planting fruit trees. Students plant orchids on the school corridor, medicinal plant gardens are cared for by caring students. Students and parents are planting and taking care of vegetable gardens.

- **Pacific countries**

### **Papua New Guinea (PNG)**

Mr Mawe Bacchi Gonapa, National Advisor, Department of Agriculture and University of Goroka, PNG, said that PNG has a National Food Security Policy that addresses food insecurity situation and sets up an institutional food security programme which addresses school gardens in the country. The policy caters to every school, motivating particularly primary and secondary schools to have farms and gardens to feed students and generate revenue.

In ensuring that every school has its own garden, the Education Department aligns its strategies and programmes with the National Food Security Policy to implement programmes that deal with school gardens and farms to ensure that every school in PNG is self-sufficient in food.

However, given the policy framework, not every school has school food security as it depends on the Provincial Education Board which determines the establishment of food security programme in schools. Without this arrangement, the national food security policy will not be implemented. The three-tier policy levels include the national government, provincial administration and local level (district) administration. A major setback to implementing the three-tier policy systems of PNG is that the priority of provincial and local level governments may not be on agriculture or food security for that matter so when this is the case, schools may not likely have own school gardens or farms. In addition the service delivery mechanism is considered inefficient in addressing the implementation aspects of the national policy.

Some schools in the four (4) regions of the country have piloted school farms and gardens to promote food security, income security and food nutrition. Based on this initiative, the Department of Agriculture and Livestock provided training to teachers and students on best husbandry practices and also with planting materials and raising livestock as well as providing necessary logistical support to improve production and productivity. Some schools were successful whilst others were not, primarily due to lack of consistent funding support to sustain and expand the school farms. The success stories came from the mission or faith-based schools where the school administrators made sufficient commitment to ensure that farms are productive to grow sufficient food and quality food for better nourishment and nutrition.

Since its formulation, the PNG Food Security Policy is focused on food sufficiency programme, with little consideration for nutrition programme. Hence, with the revised National Food Security and Nutrition Policy, the focus has shifted to producing highly nutritious food to guarantee the health of students, which in the long term will sustain their learning. Now that the National Food Security is revised, the Education Department will realign itself to develop programmes for schools throughout the country.

The issue being faced by the PNG Government is the promotion of the concept of food security and nutrition so that all educational institutions adopt and adapt the school policy to the programmes of running agriculture farms. This would require each school to factor the budget for this programme to promote food and nutrition policy focused on the selection of crops, livestock and husbandry skills to produce food that not only meet the food needs but also nutritional needs.

Given that more than 80 percent of country's population is agriculture based, generally every family would have home gardens. The home gardens provide food as well as income to meet

their social traditional and cultural needs. This has been the trend of home gardens in PNG for families in rural communities. The challenge for the Government now is to promote home gardens in towns and urban areas where families are encouraged to undertake backyard gardening, also known as peri-urban and urban gardening. Given the prevailing high costs of living in terms of food, working families in towns and cities have resorted to backyard gardening.

The way forward is that the Department of Agriculture and Livestock need to carry out awareness program on National Home Gardens with the primary objective of enlisting private sector organizations to partner with communities in establishing such models in strategic locations in the four regions of the country. This will be done to pave way for a long-term arrangement for families to adopt the idea of home gardening that support the food and nutritional food requirements of the country. Malnutrition is evident in less developed provinces of PNG so this policy will develop interventions for those provinces.

The country plans to further revise national food and nutrition policy to incorporate home and school gardens for improved nutrition (policy framework with FAO inputs), conduct surveys and situational analysis to establish best fit models, institutionalize some models in government system (provincial and local level governments), promote public-private partnerships and engage communities in planning and implementation stage.

- **East Asia countries**

### **Mongolia**

In 2006, all elementary school children can participate in the school snack program. The school snack programme for every school includes daily milk and hot drink for children. However, the school lunch program has not started at a larger scale.

The Ministry of Education, Culture and Science of Mongolia, with financial aid from Her Royal Highness Princess Maha Chakri Sirindhorn of the Kingdom of Thailand, has collaborated on the implementation of the project “Secondary school auxiliary facilities development to supply primary school students and dormitory students with high quality, nutritious, healthy and safe food products” since 2009 in the secondary school. The main goal of this project is to teach life-skills to students at a young age, to use safe healthy and nutritious food products that students themselves have planted without the effect of rising market prices. School meals are directly tied to guaranteeing the well-being of society, healthy living, economic and population development and of any country. The implementation of the project has played an important role in ensuring children’s health and well-being of low-income families with many children.

The Ministry of Food and Agriculture (MoFA) promotes home gardens as sustainable solution to poverty, food insecurity and malnutrition. Thus, it has set up community gardens, allocated government land, provided greenhouses and agriculture inputs (agriculture tools, vegetables seeds), trained ex-herders on vegetable cultivation, introduced food processing, improved storage and introduced nutrition education, with the support of the Ministry of Health.

Some lessons learned include knowing the situation, working with existing systems, e.g. health and agriculture and education, identifying community advocates, defining clearly the responsibilities of various stakeholders/sectors, and encouraging strong community involvement.

Some key issues include i) lack of national policies or legislations that promote the wider adoption of nutrition-sensitive agricultural interventions, specifically home gardens and school gardens, ii) lack of integration of nutrition considerations in agricultural and other sectoral (i.e. education) policies/plans/programmes, iii) lack of convergence of nutrition-sensitive and nutrition-specific interventions to promote a holistic approach for ensuring food and nutrition, iv) poor monitoring and evaluation mechanism particularly the limited use of indicators for measuring impact of home gardens and school gardens, v) gaps in coverage and targeting - especially those in remote, rural areas, vi) limited south-south collaboration and coordination for sharing of best practices, and vii) limited budget allocation for material inputs to support home gardens and school gardens and viii) limited engagement of private sector.

## **VII. Panel discussion**

During the last day of the Regional Consultation on “Promoting School Gardens and Home Gardens for Better Nutrition in Asia and the Pacific”, an expert panel discussion was held with representatives from the Ministry of Agriculture, the Ministry of Education, donor, NGOs, and inter-governmental organization. The panel was consisted of Dr Robert Holmer, Senior Advisor, School Feeding and Sanitation, Fit for School Programme, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH; Dr Ame Stormer, Regional Director, Hellen Keller International; Dr Drupadi HS Dillon, Director, Southeast Asian Ministers of Education Organization (SEAMEO) Regional Center for Food and Nutrition; Mr Desang Dorji, Deputy Chief Programme Officer, School Agriculture, Feeding and Environment Division, Bhutan; and Mr Mawe Gonapa, National Advisor, Department of Agriculture and Universty, Papua New Guinea.

The panel discussion was facilitated by Ms Bayasgalanbat, FAORAP Regional Nutrition Officer, and Dr Hernandez, FAO Nutrition Officer; and guiding questions were prepared with the purpose of discussing national and regional issues, challenges and opportunities for the establishment of school gardens and home gardens.

During the discussions, the panelists agreed that there are many challenges in promoting home gardens and school gardens. In particular, the coordination and collaboration of different sectors and stakeholders was underscored as one of the key challenges. Given that school gardens fall mainly under the Ministry of Education and home gardens are part of interventions supported by the Ministry of Agriculture in a given country, this situation makes it difficult for these interventions to be integrated. In addition, there are many other sectors involved such as health, social welfare, and infrastructure. Therefore, defining clear role and contribution of each sector and pursuing multi-sectoral coordination would be essential for the initiation, implementation and sustainability of these types of initiatives. Bringing other stakeholders such as academia researchers and the private sector was encouraged, especially to improve efforts related to monitoring and evaluation (M&E).

There is need of having enabling environment to support policy/programmes coordination and integration. The need of political will and commitment for promoting home gardens and school gardens was discussed. The home gardens are not often highlighted in national agriculture policies and are not prioritized by the Ministry of Agriculture. Therefore, advocacy and awareness raising to policy makers and creating champions for home gardens and school gardens were underlined.

The panelists agreed that multi-sectoral food security policies would be required, it may not necessarily be new policies but rather improving/amending the existing government policies to integrate home gardens and school gardens for better nutrition.

The importance of establishing good monitoring and evaluation (M&E) system was discussed. M&E was highlighted as a crucial tool to demonstrate the evidence and effectiveness towards having school gardens and home gardens; as well as the development of indicators and measurement tools, which can help countries to adequately know how to conduct the M&E of programmes/policies.

The importance of linking research with the national decision making and having evidence based policy was highlighted. In order to have such evidence made available, there is need of having clear indicators for measuring impact of school gardens and home gardens on nutrition, specially the consumption related indicators. Measuring the impact of pilot programmes and scaling up would also provide basis with evidence on the interventions that made an impact.

The better targeting was mentioned, in particular reaching to most vulnerable and rural remote schools and communities. The challenge of disconnect between communities and central level planning was stressed.

The need of having an integrated model for home gardens and school gardens was expressed, which can be easily adapted into local context and localized based on the need of each country. The importance of having local underutilized/indigenous foods as part of school garden interventions was also underlined. Food safety aspects are not strongly emphasized in school garden interventions. Therefore, the panelists also expressed the need to have food safety as part of the programmes.

The sustainability of interventions was discussed by the panelists. Adequate financial resources to home gardens and school gardens as part of government national budget were one of key factor for sustainability. Discussions were focused on the importance of community engagement to support school gardens and how school gardens also support in promoting home gardens. The private-public sectors partnership could also support in expanding and scaling up home gardens and school gardens, specially bringing microfinance institutions.

Strengthening capacity of stakeholders to design, implement, monitor and evaluate home garden and school garden programmes was underscored. Improving capacity of agriculture extensions services, teachers and communities to support school gardens and home gardens accentuated. It was also stressed the importance of involving researchers in capacity building efforts.

The panel discussants acknowledged the importance of sharing knowledge, best practices and lessons learned, including taking stock of existing experience and creating synergies between and among different programmes of different partners. It was also agreed that piloting integrated models of school gardens and home gardens and scaling up and integrating such models as part of national strategies would sustain the interventions.

### **VIII. Working group session**

Dr Tuazon introduced the mechanics of the group workshop. The workshop sessions were being organized to address the following objectives: i) identify the main purpose/aims for which home and school gardens should be established; ii) take stock of best practices or key factors for success in designing, implementation, monitoring and evaluation and scale up; iii) identify the emerging themes and priority areas in promoting, implementing and scaling up home as well as school gardens; and iv) come up with doable recommendations for addressing the challenges identified.

The plenary was sub-divided into four groups- two groups on home gardens and two groups on school gardens. A facilitator was assigned to each group. The group selected from among themselves one rapporteur and one note taker. The workshop discussions focused on goal and objectives, best practices and key factors for sustainability, key emerging challenges and recommendations, collaborations and partnerships. The results of working group discussions were summarized and presented at the plenary.

### **IX. Plenary discussions**

The plenary, led by Dr Konuma, was convened to review the key issues inhibiting the promotion, adoption and scaling up of home gardens and school gardens. The set of policy options and priority actions at country and regional levels were identified and agreed upon by the Consultation. These include the following:

#### **The key issues inhibiting the promotion, adoption and scaling up of home gardens and school gardens**

##### ***Policies, Institutions/Governance***

- Limited coordination between different sectors and stakeholders;
- Governance systems and structures causing ineffective implementation of relevant policies;
- Lack of multisectoral national policies and action plans that adequately promote home gardens and school gardens;
- Insufficient integration of school gardens and home gardens in relevant government policies, plans and programmes;
- Absence or lack of a comprehensive and substantive strategy in the promotion and implementation of home gardens and school gardens;
- Inadequate attention to and recognition of socio-economic and cultural value of home gardens and school gardens within existing agriculture policies and programmes;

- Inadequate attention to the nutritional value of home gardens and school gardens in contributing to better nutrition;
- Inadequate clear standards, guidelines and regulatory mechanism for promoting home gardens and school gardens;
- Limited knowledge and awareness within and across ministries leading to lack of political commitment to promote home gardens and school gardens;
- Poor monitoring and evaluation mechanisms for measuring impact of home gardens and school gardens for better food security, nutrition and income security;
- Lack of an internationally accepted set of recommendations to choose indicators and best instruments for measuring the success of both home gardens and school gardens;
- Poor communication and information sharing on country experiences for adoption of best fit models and mechanisms;
- Gaps in coverage and targeting - especially those in remote, hinterland and marginalized rural areas; and
- Limited financing and other resources (i.e., coverage by agricultural extension personnel, available land and access to water) coupled with priorities on home gardens and school gardens.

### ***Knowledge/Skills***

- Inadequate capacity in translating policies into context -specific programmatic actions at all levels;
- Inadequate capacity for planning, designing, implementing and evaluating a comprehensive and integrated approach to home gardens and school gardens;
- Lack of capacity for identifying of appropriate indicators and measurements to monitor and evaluate the interventions and milestones achieved;
- Lack of a comprehensive scientific basis for promoting, implementing and scaling up value added approaches to home gardens and school gardens in Asia and the Pacific; and
- Unclear understanding of roles and responsibilities of different sectors and stakeholders (such as government, local communities, civil societies, academic/research institutions, NGOs, private sector, UN agencies and financial institutions).

### **The key points for priority actions and recommendations**

#### ***National level:***

#### **School Gardens**

- Support the conduct of situation analyses as essential in for policy and programme formulation;
- Incorporate school gardens in national policies and strategies with aligned budgets;
- Link research institutions and extension services to support school gardens;
- Raise awareness; commitment and good vision; monitor to identify weaknesses, followed by trainings -with proper training for community ownership and empowerment
- Incorporate garden-enhanced nutrition education in school curricula;

- Integrate academic objectives and nutrition education objectives into school gardening activities and factor as core activities for long-term administrative support;
- Develop simple recipe materials appropriate for school use, demonstrating the utilization aspect of garden produce (also for appreciation);
- Disseminate available school gardens and school nutrition materials, which can be adapted to the local context and provide due diligence checks;
- Identify potential sectors and partners, their mandates and key entry points for encouraging active commitment and actions into school gardens and home gardens activities;
- Create incentives for teachers and link teachers' performance evaluation to activities related to school gardens;
- Promote public private partnerships for the sustained provision of resources (agricultural input supplies, television stations, research/academic institutions, etc.);
- Integrate indigenous food resources as part of school gardens;
- Promote community participation in school gardens.

### **Home Gardens**

- Support research activities for enhancing the evidence base for policy and programme formulation;
- Recognize home gardens as sustainable strategy for food and nutrition and income security;
- Raise awareness and identify champions to advocate the importance of home gardens and school gardens for improving food and nutrition;
- Promote integrated food production system for dietary diversification (crops, livestock, aquaculture);
- Link research institutions and extension services to support development of home gardens;
- Scale up successful pilot/model home gardens;
- Ensure sustainability of home gardens through establishment of support groups that can provide technical and financial inputs (women groups, etc.);
- Capacity building of relevant stakeholders on home gardens;
- Promote and empower communities in terms of community based nurseries or seed banks and community participation and ownership to ensure the sustainability of school gardens and home gardens;
- Promote home gardens through inclusive engagement of stakeholders (non-state and state actors);
- Promote community gardens (where is feasible);
- Promote indigenous food resources as part of home gardens;
- Promote nutrition education as part of home gardens to ensure a better nutrition among household members

### ***Regional level cooperation***

- Set up a coordinating team to guide development, implementation and monitoring system.
- Establish a regional network/knowledge management center on home gardens and school gardens to serve as multisectoral and multistakeholder platform for information sharing

(sharing case studies/best practices, sharing technologies and resource materials, reviewing progress against priority actions/recommendations agreed and link to other relevant sectors);

- Undertake inventory of different models for home gardens and school gardens which are viable and sustainable;
- Organize forum and or expert meeting to develop a work plan and monitoring system, including the identification of relevant indicators, and elaborate guidelines for measuring impact of home gardens and school gardens;
- Create a comprehensive multisectoral and multistakeholder Training of Trainers (TOT) on school gardens (for programme planners and implementers from Agriculture, Health, Education, and other relevant sectors) with support of different development partners; and
- Create regional network related to home gardens and school gardens and link with networks of other relevant sectors.

#### **X. Closing remarks**

Dr Konuma conveyed his appreciation for a job well done. He especially thanked the Associate Professor Kamjorn Tatiyakavee, M.D., Permanent Secretary of the Thai Ministry of Education for gracing the occasion and for officially declaring the consultation open. He expressed his gratitude to the experts from the different partner institutions, his FAO colleagues and the country representatives for their fruitful sharing of their expertise and experiences. He thanked APRACA for its logistical and administrative support. Finally, he extended his gratitude to FAORAP staff for effective facilitation of the consultation.

**CONCEPT NOTE**  
**Regional Consultation on “Promoting School Gardens**  
**and Home Gardens for Better Nutrition in Asia and the Pacific”**  
**13-14 July 2015**  
**Bangkok, Thailand**

## **Background**

Despite efforts, Asia and the Pacific countries continue to face serious malnutrition problems that have a severe economic and social impact on their development. Yet there are major differences among countries when it comes to hunger and malnutrition. Some countries are experiencing high rates of child malnutrition and nutritional anaemia in children and women of childbearing age. Other countries, although still unable to cope with all illnesses caused by nutrient deficiencies, have seen a rapid rise in the past 20 years in obesity and diet-related non-communicable diseases such as cardiovascular disease, diabetes and certain types of cancer. Addressing this “multiple burden of malnutrition” is a singular challenge for governments.

The Second International Conference on Nutrition (ICN2), which took place in Rome, Italy on 19-21 November 2014, had acknowledged the recommended nutrition education and information interventions based on national dietary guidelines and coherent policies related to food and diets, through improved school curricula, nutrition education in the health, agriculture and social protection services, community interventions and point-of-sale information, including labelling.

In many countries school gardens have been promoted as part of the teaching-learning process but it is only in about the last two decades that their role in nutrition improvement has been highlighted. Improving school children’s nutrition, knowledge and dietary practices is a key area and requires further attention, especially with regard to the systematic integration of nutrition into national school curricula, pre- and in-service training of school teachers and school service staff in nutrition, as well as the establishment of better linkages with school lunch programmes and policies. School gardens can be used for promoting good diets, nutrition education, and the development of livelihood skills. On top of the potential nutrition and education benefits with the latter being measured in terms of net enrolment rate, low dropout rates, better exam scores. The school gardens can serve as a platform for providing basic agricultural knowledge and skills and can contribute to increasing the interest of pupils in engaging in agriculture and farming. School gardens can contribute to improving the children's and their parents' knowledge of food production techniques and nutrition, and stimulate the development of home gardens.

One of the easiest ways of ensuring access to a healthy diet that contains adequate macro- and micronutrients is to produce many different kinds of foods in the home garden. This is especially important in rural areas where people have limited income-earning opportunities and poor access to markets. Most households have small arable land around or near their homes. They are frequently located close or adjacent to a permanent source of water. A well-developed home garden with their low-input technology and convenient access has the potential, when access to land and water is not a major limitation, to supply most of the non-staple foods that a family needs every day of the year, including roots and tubers, vegetables and fruits, legumes, herbs and

spices, animals and fish. For mothers and young children in particular, more variety, more micronutrient rich vegetables and fruit, and more animal foods (e.g., small livestock or fish) can make a huge difference in growth and health.

There are many success case studies that show great contribution of school gardens and home gardens in reducing hunger and improving nutrition. Yet, such practices are in limited scale with inadequate expansion and insufficiently supported by national policies and strategies. In view of this, the regional consultation has been organized to further promoting school gardens and home gardens for improving nutrition. An initiative to promote small-scale, community-based project in support of school gardens and home gardens could have a great impact on food security and nutrition of these vulnerable populations. Local food production, such as school gardens and home gardens, can have immediate impact on food and nutrition security and the potential to contribute to long term national goals.

### **Objective**

The main objective of the meeting is to contribute to the improvement of nutritional status of children and members of rural poor households by promoting the school gardens and home gardens approach.

### **Outputs**

The meeting will have the following outputs:

- The case studies/good practices for promoting school gardens and home gardens presented and shared with participants.
- Country experiences and lessons learnt in implementing school gardens and home gardens for sustainable food security and nutrition shared.
- The key policy and strategy options and recommendations for promoting school gardens and home gardens identified and agreed upon.
- Meeting report, including conclusions and recommendations, prepared.

### **Date and Venue**

13-14 July 2015 in Bangkok, Thailand

### **Participants**

All countries in Asia and the Pacific (Papua New Guinea, Samoa, Fiji, Vanuatu, the Pacific Island Forum representing small island countries) will be invited to the meeting. The meeting is expected to bring around 70 stakeholders, two from each country (one from agriculture and one from education). Research and the academic institutions, civil society organizations (CSOs) and development partners, United Nations (UN) Agencies, donors will also be invited.

## Provisional Agenda

Day 1	
08.30-09.00	Registration
09.00-09.20	Opening session
	<ul style="list-style-type: none"> <li>- Welcome remarks by Dr Hiroyuki Konuma, FAO ADG/RR (10 minutes)</li> <li>- Opening statement by Prof. Kamjorn Tatiyakavee, Permanent Secretary for Education, Ministry of Education of Thailand – (10 minutes)</li> </ul>
09.20-09.40	Technical session: Concepts, approaches and aims
	<ul style="list-style-type: none"> <li>- FAO's approach to school sardens and some gardens for better education and nutrition' – by Ms Shashi Sareen, Senior Food Safety and Nutrition Officer, FAORAP (20 minutes)</li> </ul>
09.40-10.00	Coffee break/Group photo
10.00-11.40	Technical session: Concepts, approaches and aims - continue
	<p><i>Chair: Dr Konuma, ADG/RR</i></p> <ul style="list-style-type: none"> <li>- Importance of school gardens and home gardens for improving nutrition - <i>Professor Visith Chavasit, Director, Institute of Nutrition, University of Mahidol (20 minutes)</i></li> <li>- Promoting home gardens for improving nutrition - by <i>Dr Ame Stormer, Regional Director for Programs-Asia Pacific, Hellen Keller International (20 minutes)</i></li> <li>- Linking community production with national school feeding programmes –<i>Dr Katrien Ghooos, Senior Nutrition Advisor, WFP – (20 minutes)</i></li> <li>- From the garden to a whole school nutrition approach- <i>Dr Yenory Hernández-Garbanzo, PhD, Nutrition Officer, Nutrition Education and Consumer Awareness Group, Nutrition Division, FAO Headquarters, Rome Italy</i></li> </ul> <p><i>Discussions (20 minutes)</i></p>
11.40-12.00	Experiences and lessons learned from sustainable home gardens and school gardens in the Region (Selected Case Studies) – by <i>Dr Maria Antonia G. Tuazon, FAO International Nutrition Consultant</i>
12.00-13.00	Lunch
13.00-15.00	<p>Session 2: Country experiences and lessons learnt</p> <ul style="list-style-type: none"> <li>- Country presentations by South Asia countries</li> <li>- Country presentations by Pacific countries</li> </ul> <p><i>Chair: Afghanistan and Papua New Guinea</i></p>
15.00-15.30	Coffee break
15.30-16.45	<ul style="list-style-type: none"> <li>- Country presentations by East Asia countries</li> <li>- Country presentations by South East Asia countries</li> </ul> <p><i>Chair: Lao PDR and Mongolia</i></p>

16.45-17.00	Wrap up of Day 1 <ul style="list-style-type: none"> <li>- Short summary of discussions – <i>by Dr Tuazon, FAO</i></li> <li>- Housekeeping announcement</li> </ul>
18.30-20.00	Welcome cocktail reception

Day 2	
09.00-09.20	Setting the Scene: “From the garden to a whole school nutrition approach” – <i>by Dr Hernández, Nutrition Officer, FAO HQ</i>
09.20-10.20	Panel Discussion: Promoting home gardens and school gardens (issues/challenges and recommendations) <ul style="list-style-type: none"> <li>- Dr Robert Holmer, Senior Advisor, School Feeding and Sanitation, Fit for School Programme, GIZ</li> <li>- Dr Ame Stormer, Regional Director, Hellen Keller International</li> <li>- Dr Drupadi HS Dillon, Director, SEAMEO Regional Center for Food and Nutrition</li> <li>- Mr Desang Dorji, Deputy Chief Programme Officer, School Agriculture, Feeding and Environment Division, Government of Bhutan</li> <li>- Mr Mawe Gonapa, National Advisor, Department of Agriculture, Government of Papua New Guinea</li> </ul> <p><i>Moderators: Ms Bayasgalanbat and Dr Hernández</i></p>
10.20-10.30	Introduction to Working Group Session – <i>Dr Tuazon</i>
10.30-12.30	Working Group Session (four groups) <ul style="list-style-type: none"> <li>- Policy and Strategy Options for Promotion of Home Gardens (2 groups)</li> <li>- Policy and Strategy Options for Promotion of School Gardens (2 groups)</li> </ul>
10.30-11.00	Coffee break during the working groups
12.30-13.30	Lunch
13.30-15.00	Presentations of working group sessions <p><i>Chaired by Government of Bangladesh</i></p>
15.00-15.30	Coffee break
15.30-16.30	Closing session (Plenary discussion) <p><i>Chaired by Dr Hiroyuki Konuma, FAO ADG/RR</i></p>

## Country Brief Format

### Section I. Background and Purpose

In preparation for the Regional Consultation on “Promoting School Gardens and Home Gardens for Better Nutrition in Asia and the Pacific”, we would like to request you to kindly spend some time on completing the following questionnaire. Your assistance in completing this questionnaire is vital for us in order to identify countries’ experiences related to implementing home gardens and school nutrition approaches such as school gardens.

### Section II. Response to the Questionnaire

It will not take you more than 15 minutes to complete this questionnaire. Please return the questionnaire to \_\_\_\_\_ no later than \_\_\_\_\_ 2015, by facsimile (fax: \_\_\_\_\_), E-mail (\_\_\_\_\_), or mail (\_\_\_\_\_).

### Section III. Respondent Details

Questions	Questions	Answers
1. Name	a) First Name	
	b) Family Name	
2. Title and Institutions	a) Job Title	
	b) Institution	
	c) Email	

### Section IV. School Nutrition

**School Nutrition activities** generally center on school feeding programs, food, agriculture or nutrition-based educational activities such as but not limited to:

- Creating and tending school gardens
- Conducting nutrition educational activities in the classroom
- Conducting nutrition educational sessions for parents, and community members
- Enhancing capacity of school teachers and staff on teaching nutrition and related topics.
- Creating supporting school nutrition policies and environments.

3. Based on the definition above of school nutrition, is your organization/institution currently involved in school nutrition activities or initiatives, please check all that apply:

- Conducting edible school gardening
- Serving products from school-based gardens or school-based farms in the cafeteria
- Holding taste tests/demos of products from school-based gardens or school-based farms in the classroom or other school-related setting
- Integrating food and nutrition education concepts into school curriculum (math, science, home economics, etc.)
- Serving locally produced foods in school meals (i.e. from home gardens, local farmers)

- Conducting community nutrition education events
- Conducting families and parents' nutrition education events
- Creating supporting school nutrition policies
- Creating supporting school nutrition environment
- Training and technical assistance for schools
- Training and technical assistance for farmers
- Other activities: (Please describe.)

4. Please rate the degree of positive impact you think the following efforts would have on increasing the participation in school nutrition activities.

Questions	High	Medium High	Medium	Medium Low	Low
Training and technical assistance for teachers					
Training and technical assistance for farmers					
Training and technical assistance for school staff					
Nutrition education resources/curriculum connections					
<b>School gardens</b>					
National policies related to school gardens					
<b>Provision of necessary inputs for school gardens</b>					

#### Section IV. School Gardens and Home Gardens

**School gardens** have been traditionally used for science education, agricultural training, or generating school income. Today, given the urgent need for increased food security and better nutrition, the role of school gardens is changing and aiming at: 1) eco-literacy, 2) livelihoods, 3) better eating, 4) nutrition education and 5) life skills. It prioritizes experiential education, integrates several subjects, and extends its influences to the whole school, family and community.

4. Based on the definition above of school gardens, did your country or any schools in your district participate in **school garden activities** during the last 2 years? (Please check one.)
- Yes
  - No, why not?
  - No, but plan to start activities in the future
  - No activities currently and no plans

**Home gardens** can be defined as a farming system that combines different physical, social and economic functions on the area of land around the family home. A well-developed home garden is a complete farming system and is the most direct means of supplying families with non-staple foods they need year round.

- No, why not?
  - No, but plan to start activities in the future
  - No activities currently and no plans
6. Please provide a brief description for each of the following items regarding school gardens initiatives in your country.

School Garden Questions	Answers
<b>Policy framework and institutional linkages:</b>	
a. Is there is a National Policy (s) on School Gardens? If, yes please briefly describe the policy (s). Or are there national legislations that advocate for setting up school gardens?	
b. Are school gardens encouraged by the government, local education authority, non-governmental organizations (NGOs), and/or civil society? If, yes please explain how are they involved?	
c. Which government or non government entity (s) has been identified as an important sector to coordinate school garden initiatives? What are the expected roles of this government or non-government entities?	
d. Where does funding for starting/maintaining school gardens usually come from?	
<b>National school gardens and their linkages:</b>	
e. Are school gardens linked with nutrition education and/ or school curricula? If, yes please explain your answer.	
f. Are school gardens linked with school feeding programs? If, yes please explain your answer.	
Are school gardens supported and/or linked with activities undertaken by families, communities, caretakers, others? Please enumerate type of support provided?	
<b>Garden work:</b>	
g. Who decides about the management of school gardening work?	
h. Who works in the school gardens during class time and during vacations? (i.e. students, teachers, helpers, gardeners, parents)	
<b>Classwork</b>	
i. What kinds of studies are children expected to do in relation to the school garden? (i.e. nutrition education, counting, measuring, market research, experiments)	

j. Are there any good school garden-related teaching materials/visual aids that can be produced in your country or adapted from other sources? (If possible, please bring some samples to the regional consultation)	
<b>Publications</b>	
k. Is the school garden work publicized in any way in the school or outside? How is it publicized? (examples, community newspaper, local or national forums, etc.)	
<b>Other issues/constraints (institutional, integration, sustainability)</b>	
l. What are three key issues or constraints that your country faced in relation to school gardens?	

Please provide a brief description for each of the following items regarding **home gardens** initiatives in your country.

<b>Home Garden Questions</b>	<b>Answers</b>
<b>Policy framework and institutional linkages:</b>	
m. Is there is a National Policy (ies) on home gardens? If, yes please briefly describe the policy (ies).	
n. Are home gardens encouraged by the government, local education authority, NGOs, and/or civil society? If, yes please explain how they are involved.	
o. Which government or non-governmental entity (ies) has been identified as an important sector to coordinate home garden initiatives?	
p. Where does funding for starting/maintaining home gardens usually come from?	
<b>Publications</b>	
q. Is the home garden work publicized in any way your country or outside?	
<b>Other issues/constraints (institutional, integration, sustainability)</b>	
r. What are three key issues or constraints that your country faced in relation to home gardens?	

## Group Workshop: Instructions for working groups

The workshop sessions are being organized to address the following objectives:

1. Identify the main purpose/aims for which home and school gardens should be established;
2. Take stock of best practices or key factors for success in designing, implementation, monitoring and evaluation and scale up;
3. Identify the emerging themes and priority areas in promoting, implementing and scaling up home as well as school gardens; and
4. Come up with doable recommendations for addressing the challenges identified.

A facilitator will be assigned to your group. However, from among the participants one rapporteur and one note taker need to be selected. The highlights of the discussion will be presented by the rapporteur during the plenary session using a power point presentation. A short narrative written summary of the group discussion also need to be submitted by note taker and rapporteur. Please be sure that your ppt is downloaded to the main computer and summary note is submitted to the Secretariat.

### I. Goal and Objectives

- A. Group on Home Gardens
- B. Group on School Gardens

- What do you think should be the main objectives of home gardens and school gardens?
- Are there other objectives that home gardens and school gardens can contribute?

### II. Best practices and key factors for sustainability

- A. Group on Home Gardens
- B. Group on School Gardens

- Based on the presentations and your country experiences, what are the key factors for sustainable home gardens and school gardens?
  - ✓ Institutional
  - ✓ Capacity building
  - ✓ Resources (e.g., human resources, funding for agriculture inputs and etc.)
  - ✓ Engagement and commitment of different sectors and stakeholders (multisectoral and integrated approach)

### III. Key emerging challenges and recommendations

- A. Group on Home Gardens
- B. Group on School Gardens

- What are the emerging priority themes/areas in terms of program design, implementation strategy and scaling up?
- What are the key recommendations to address these emerging challenges?
- At which level these challenges can be addressed (national, regional, global)?

#### **IV. Collaborations and partnerships**

C. Group on Home Gardens

D. Group on School Gardens

- What can we do to strengthen coordination between different sectors and partnerships?
  - Identify key partners (consider non-traditional partners) involved in management of home gardens and school gardens and specify their present and/or their potential roles
- **Note:** If the time allows, please suggest at least three next steps, for example, in terms of: enhancing advocacy, resource mobilization, sharing best practices, and disseminating workshop findings, supporting policy dialogue, identifying institutional coordination mechanisms, identifying capacity gaps, developing a regional network, etc.

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