

Regional Training of Trainers on Integrating Nutrition in Primary Education Curriculum

REPORT

30 August to 2 September 2016
Royal Princess Hotel , Bangkok, Thailand



Contents

| | |
|---|------|
| <u>Acknowledgements</u> | 3 |
| <u>List of Acronyms</u> | 4 |
| <u>Executive Summary</u> | 5 |
| <u>I. SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS</u> | 6 |
| <u>II. BACKGROUND</u> | 7 |
| <u>III. SUMMARY OF THE TRAINING WORKSHOP</u> | 8 |
| <u>A. OPENING SESSION</u> | 9 |
| <u>B. TECHNICAL SESSIONS</u> | 11 |
| <u>C. WORKSHOPS</u> | 16 |
| <u>D. VISIT TO WATSRINUANTHAMMAWIMOL SCHOOL</u> | 17 |
| <u>E. CLOSING SESSION</u> | 18 |
| <u>F. RESULTS OF PRE/POST TEST AND EVALUATION</u> | 1918 |
| <u>ANNEX 1 CONCEPT NOTE: REGIONAL TRAINING OF TRAINERS ON INTEGRATING NUTRITION IN PRIMARY CURRICULUM</u> | 20 |
| <u>ANNEX 2 AGENDA</u> | 23 |
| <u>ANNEX 3 LIST OF PARTICIPANTS</u> | 26 |
| <u>ANNEX 4 WORKSHOP MECHANICS</u> | 30 |
| <u>ANNEX 5 WORKSHOP OUTPUTS</u> | 32 |
| <u>ANNEX 6 RE-ECHO PLANS</u> | 48 |
| <u>ANNEX 7 EVALUATION</u> | 50 |

Acknowledgements

The Food and Agriculture Organization Regional Office for Asia Pacific (FAO-RAP) organized the Regional Training of Trainers on Integrating Nutrition in Primary Education Curriculum last August 30 to September 2, 2016 at Royal Princess Hotel, Bangkok, Thailand. This is one of the identified key activities for achieving the objectives of the regional TCP (TCP/RAS/3509) entitled Regional Initiative for Zero Hunger Challenge: Promoting an Integrated Home Garden and School Garden Approach for food and nutrition security in selected Asian countries.

The organizers would like to thank all the individuals who supported and enabled the successful implementation of this event. The realization of this four-day training-workshop with national mid to senior level representatives across 7 countries of the Asia-Pacific region was the result of a series of meetings and consultations conducted at the national level intended to pave the way for the development of Practical Guidelines on Integrating Nutrition in Primary Education Curriculum and Promoting School Gardens as a Platform for Learning in the Region.

The Asia-Pacific Rural and Agricultural Credit Association (APRACA) administratively managed this activity. A special recognition and appreciation to the Directors, Principal, Teachers and students of the Srinuanthammawimol School, Nongkheam District of Bangkok for providing the valuable insights and practical example of integrating nutrition and school gardens in the school curriculum and activities.

The success of this training workshop depended greatly on the active participation, insights and inputs from the participants whose energy and commitment to nutrition improvement in the schools we recognize and commend.

List of Acronyms

| | |
|---------|--|
| ADB | Asian Development Bank |
| APRACA | Asia-Pacific Rural and Agricultural Credit Association |
| ASEAN | Association of South East Asian Nations |
| FAO | Food and Agriculture Organization |
| FAO-RAP | Food and Agriculture Organization – Regional Office for Asia Pacific |
| MDG | Millennium Development Goals |
| PDR | People’s Democratic Republic |
| RI-ZHC | Regional Initiative for Zero Hunger Challenge |
| rTOT | Regional Training of Trainers |
| SDG | Sustainable Development Goals |
| TCP | Technical Cooperation Programme |
| WFP | World Food Programme |

“A positive learning climate in a school for young children is a composite of many things. It is an attitude that respects children. It is a place where children receive guidance and encouragement from the responsible adults around them. It is an environment where children can experiment and try out new ideas without fear in failure. It is an atmosphere that build children’s self-confidence so they dare take risks. It is an environment that nurtures a love of learning.” (Carol B. Hillman)

Executive Summary

The Regional Training of Trainers on Integrating Nutrition in Primary Education Curriculum was conducted primarily to develop regional capacity in general and national capacity in particular on how to integrate nutrition and related key concepts on nutrition. Moreover, it aims to promote the use of school garden-based learning toward a more sustainable strategy for promoting and acquiring lifelong skills and positive nutrition behaviors that translate to food and nutrition security. The specific objectives of the training of trainers are (1) to arrive at a consensus on a set of minimum knowledge, attitudes, and skills to be acquired by primary school children; (2) gain an appreciation for the need to integrate school garden based linked nutrition education; (3) take stock of ongoing initiatives on curriculum enhancement in the priority countries for Regional Initiative – Zero Hunger Challenge (RI-ZHC);(4) identify inroads toward developing nutrition sensitive basic education curriculum; and (5) recommend creative and innovative strategies for integrating nutrition in basic education school curriculum using school gardens as platform for learning.

The training was attended by 17 participants from six countries, i.e. Bangladesh, Cambodia, Lao People’s Democratic Republic (PDR), Myanmar, Nepal, and Timor Leste. The participants were representatives of education, health and agriculture ministries in their respective countries. The training was organized by FAO-RAP under the leadership of Ms. Nomindelger Bayasgalanbat, FAO-RAP Nutrition Officer and Dr. Maria Antonia Tuazon, International Nutrition Consultant.

Highlighted during the training were topics that dealt with concepts and methods for integrating nutrition in primary education, effective teaching and learning strategies as well as understanding better the student learner and how to be an effective teacher.

The training used a combination of learning strategies such as lecture-discussions, workshops, and study visit to a primary school showcasing the school agriculture and lunch program under the patronage of Her Royal Highness Princess Maha Chakri Sirindhorn. Country presentations were also made to take stock of current and forthcoming initiatives on curriculum development which were deemed important to mainstream this work with on-going educational reforms in primary education curriculum.

Towards the end of the regional ToT, each country prepared a re-echo plan which was intended to pave the way for creating awareness and recognition of the importance of integrating nutrition in primary education among policy makers and curriculum developers. Some countries also proposed to conduct capacity-building initiatives for school officials and

primary school teachers on establishing nutrition sensitive school gardens as well as using it as platform for learning.

I. SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

The Consultation achieved the following outputs namely:

Stock-taking on on-going initiatives on curriculum enhancement: Countries had different levels of integrating nutrition in primary education curriculum. For example, Myanmar and Lao PDR have already nutrition topics in their curriculum while Nepal has just started. Timor-Leste is quite advance as they have already integrated nutrition as well as developed materials on school gardens. However, there are still very weak links with nutrition as the two are taught separately. Also, the quality of teaching nutrition has been adjudged to be inadequate and definitely requires strengthening.

Identification of potential primary school subjects for incorporation of nutrition: Nutrition is integrated mostly in Science and Life Skills which are traditionally viewed as subjects to position nutrition. The training provided a space for discussing potential subjects where nutrition could be integrated through various ways as presented during the rToT. The participants recognized that subjects such as Mathematics, Language, Arts can be potential subjects for integrating nutrition which to date are areas that have not been explored in the countries represented in the rToT.

Identification of entry points for integrating nutrition and other relevant messages: Undoubtedly, there was consensus that primary education curriculum, overall or specific subjects, can serve as entry points for integrating nutrition as well as school garden-based learning. Annual events like World Food Day, Teachers' Day also offer opportunities for nutrition education which also promote sharing of nutrition information to communities.

Identification of appropriate teaching/learning aids for future development: All the participants recognized that there is a need to develop materials for trainers, teachers, and students. While some materials are available, they have to be reviewed in terms of correctness of information and age appropriateness. New and innovative teaching and learning materials envisioned to engage the school children for enhanced learning that need to be developed were proposed.

II. BACKGROUND

The lack of focus on nutrition of school children has been recognized as a major gap in a comprehensive and life cycle understanding of intergenerational cycle of malnutrition. In many countries in Asia and the Pacific, there is a dearth of information on the nutritional status of school children, an often neglected group. However, with the countries' commitments to achieve Millennium Development Goal (MDG) on universal education and now Sustainable Development Goal (SDG) 4 (quality education) as well as the introduction of school feeding programs, there has been an increasing focus on this age group. This effort was further reinforced with promotion of school garden linked nutrition education by the Food and Agriculture Organization of the United Nations (FAO-UN). Increasingly, evidences that demonstrate that school feeding can improve education performance indicators particularly of girls at the same time contribute to nutrition improvement of school children in general are being generated. There is a growing body of evidence showing the positive links between increased enrolment, lower dropout rates and improved nutrition with school feeding. Yet there is still concern on how to make this development initiative more sustainable and comprehensive. A comprehensive and sustainable approach should include sustained provision of locally produced, diverse and nutritious foods for school meal preparation coupled with a strong component of appropriate behaviour change communication strategies. In this regard, community/home food production linked to school garden as well as school garden-based learning for proper nutrition is now viewed as a viable, sustainable and replicable option. This represents a paradigm shift in institutional frameworks with increased community engagement in school activities but also explores changing the architecture of primary education to one that is promotive of acquiring proper nutrition behaviour. Healthy school feeding and nutrition sensitive school gardens can be used as platforms for learning at the same time lead to acquisition of lifelong skills that will prepare them to become more responsible and knowledgeable caregivers in the future.

It is also worth mentioning that within the ASEAN, there is an integration process taking place where different educational levels are being revisited and improved. This process has identified the need to integrate nutrition and use school gardens as a platform for acquiring lifelong skills and positive nutrition behaviors.

This Regional Training of Trainers (rToT) was therefore planned to develop regional capacity in general and national capacity in particular on how to integrate nutrition and related key concepts on nutrition in primary education curriculum. Moreover, the rToT was envisioned to promote the use of school garden based learning toward a more sustainable strategy for promoting and acquiring lifelong skills and positive nutrition behaviours that translate to improved food and nutrition security. Using 2 to 3 subjects that could serve as test cases/demonstration models, technical as well as practical aspects of the process for integrating nutrition were shared and discussed. This was intended to serve as a template for similar initiatives within the education sector like integration of nutrition in secondary and tertiary education. To support this initiative will be the development of appropriate innovative and creative teaching materials/aids to

reinforce the teaching-learning process. Hence, this ToT will also include as one of its objectives the development of user-friendly and appropriate teaching/learning materials. Recognizing that this capacity-building initiative will involve many stakeholders particularly from education, health and agriculture, participants from these key sectors were invited to ensure an inclusive and participatory process.

What was the context of integration? Integration in this context referred to an act of bringing together small components (subjects) into a single system (*a particular grade curriculum*) that functioned as one (*specific knowledge domain + nutrition education*). It aimed to bring the learning of technical concepts by using examples/exercises/pictorials that subliminally promote acquisition of nutrition knowledge and practices to a more comprehensive understanding of both learning systems. At the end, it was expected that there would be a seamless integration of learning knowledge domains as specified in the school curricula and proper nutrition thus providing a valuable rubric for primary school education.

Several steps had been undertaken leading to this activity, namely, identification and review of subjects which offer opportunities for incorporating nutrition; integration of key nutrition concepts and nutrition learning objectives in the identified subjects; development of supplementary teaching materials to facilitate the teaching of nutrition enriched subjects; pre-testing, revision and finalization of the training design and materials of school teachers; and Training of Teacher Trainers for application in –country.

This activity has been identified as one of the imperatives for achieving the objectives of the regional TCP (TCP/RAS/3509) entitled Regional Initiative for Zero Hunger Challenge: Promoting an Integrated Home Garden and School Garden Approach for food and nutrition security in selected Asian countries.

III. SUMMARY OF THE TRAINING WORKSHOP

As noted above, the purpose of the training workshop held last August 30 to September 2, 2016 was to develop regional capacity in general and national capacity in particular on how to integrate nutrition and related key concepts on nutrition in primary education curriculum and to promote the use of school garden based learning toward a more sustainable strategy for promoting and acquiring lifelong skills and positive nutrition behaviours that translate to improved food and nutrition security.

The four-day event brought together approximately 17 participants from seven countries in Asia and the Pacific region. Ms. Nomindelger Bayasgalanbat and Dr. Ma. Antonia G. Tuazon handled the technical aspects of the training workshops and presented the technical concepts through lecture- discussions. The participants actively contributed to the workshop outputs by country and by break-out working groups.

The proceedings of the four-day training workshop succeeded in engaging the participants in active discussions and participation, fruitful exchange of strategies, information and ideas to integrate nutrition in primary school curriculum.

The training-workshop was designed along several sessions structured along a mix of lecture-discussions, workshop, team building, country presentations, break-out working groups, and output presentations, as outlined in the concept note (**Annex 1**) and agenda (**Annex 2**).

A total of 17 participants from 6 countries, namely, Bangladesh (3), Cambodia (1), Lao PDR (3), Timor Leste (3), Myanmar (3), and Nepal (3) attended the Regional Training of Trainers on Integrating Nutrition in Primary Education Curriculum. The 15 participants are from the target countries of the RI-ZHC, namely, Bangladesh, Lao PDR, Myanmar, Timor Leste and Nepal, one is a WFP sponsored participant from Lao PDR, and one from FAO Cambodia. Please refer to **Annex 3** for the complete list of participants.

A. OPENING SESSION

Welcome remarks

Ms. Nomindelger Bayasgalanbat
Nutrition Officer, FAO-RAP

Ms. Nomindelger Bayasgalanbat, Nutrition Officer of the Food and Agriculture Organization – Regional Office for Asia and the Pacific (FAO-RAP) welcomed the participants to the regional Training of Trainers on Integrating Nutrition in Primary Education Curriculum. She highlighted the importance of healthy growth and development in childhood, i.e. school children need a good diet in order to develop and grow well, be protected from disease, and have energy to study, and learn and be physically active. She also emphasized that nutrition can be promoted in schools as they reach most children at a critical age when eating habits and attitudes are being established.

On the part of FAO, the organization promotes and supports nutrition education as a part of a comprehensive school learning program and assists countries to develop school food and nutrition education that is culturally and developmentally appropriate, addresses local food and nutrition problems and provides a clear set of behavior outcomes that promote healthy eating by using locally available foods. FAO advocates for the systematic integration of nutrition into national school curricula, pre- and in-service trainings of school teachers and school service staff in nutrition and the establishment of school meals policies.

As for the four-day training, Ms. Bayasgalanbat hoped that through the training, regional and national capacity on how to integrate nutrition and related key concepts on nutrition can be strengthened and that the use of school garden-based learning toward a more sustainable strategy for promoting and acquiring lifelong skills and positive nutrition behaviors can ultimately redound to food and nutrition security.

Keynote address

Agriculture for School Lunch: A Holistic Model for Promoting Nutrition
Initiated by Her Royal Highness Princess Maha Chakri Sirindhorn
Col. Nantaporn Viravathana
Phramongkutklao College of Medicine
Office of HRH Princess Maha Chakri Sirindhorn's Projects

Col. Nantaporn presented the agriculture for school lunch project in Thailand, an initiative of the the Her Royal Highness (HRH) Princess Maha Chakri Sirindhorn. She started her presentation with the rationale for starting the program which is mainly based on high prevalence of undernutrition and food insecurity among rural areas in Thailand. HRH Princess Maha Chakri Sirindhorn noted that the Thai children had poor growth and performed poorly in class due to low cognitive functions, high morbidity and mortality rates, low productivity and low quality of life. To address the problem and prevent worsening of the situation, Her Royal Highness introduced Agriculture for School Lunch in 1980. The primary aim of the program when it started was to fight hunger as well as equip young children with knowledge and skills that are useful for earning their living in the future. By improving their nutrition and health status, the children can develop as productive members of their communities and the nation.

The programme also recognizes the need for a holistic development of children i.e. includes cognitive learning, morality and ethics, skills, and physical training. It is child-centered where learning by doing approach is promoted. While the teacher is key, community participation is also emphasized to ensure sustainability of the program. By implementing the program, children gained knowledge on academic, vocational skills, conserving natural resources, ethics and life skills, and local/culturally appropriate wisdom. Likewise, families and communities benefited from the program through knowledge and technology transfer.

As explained by Col. Nantaporn, the program has eight (8) main interventions as follows:

1. School agriculture component aims to instill knowledge and skills in sustainable agriculture and to provide nutritious lunch for school children throughout the school year. Agriculture inputs are provided to schools. The produce are either sold in the school cooperative shop or brought to the school kitchen to be cooked as part of the school meals. School children consume the school meals (breakfast and lunch) and their nutritional status is regularly monitored.
2. School cooperative aims to familiarize the students with cooperative principles such as recording of transactions and accounting for transparency and accountability as well as instilling cooperative spirit.
3. The school meals aim to alleviate hunger and malnutrition and to help develop proper food habits of children.
4. The nutrition monitoring system aims to monitor child growth and nutritional status and provide proper actions to improve nutritional status of both under- and overnutrition.
5. The personal hygiene practices aims to instill good practices in children for good health and prevent disease transmission.
6. The school health services aims to prevent or reduce illnesses among school children by monitoring or providing appropriate prevention and treatment services at school.

7. School sanitation aims to provide safe and healthy environmentt conducive to learning process and to improve sanitation practices.
8. Agriculture, nutrition and health education aims to instill knowledge and skills agriculture, nutrition, and good hygienic practices.

There are 8 learning areas in the primary education curriculum namely, Thai language, Mathematics, Science, Social Studies, Religion and Culture, Health and Physical Education, Arts, Occupations and Technology, and Foreign Languages. Specifically, food, nutrition and health can be taught in learning development activities (120 hours per year and additional courses provided by schools depending on their readiness and priorities (not more than 40 hours per year).

After 36 years since its inception, the program has expanded in other Thai primary schools as well as in other countries in Asia. Col. Nantaporn ended her presentation by presenting the four concepts for children to learn - *su* (listen and read well), *ji* (think and being observant), *pu* (ask questions to know more), and *li* (taking notes).

Leveling of expectations and house rules

Dr. Leila S. Africa facilitated the pre-testing, leveling of expectations as well as setting of house rules to ensure a most effective rToT. Overall, there was a matching of expectations between the participants and objectives set in terms of knowing more about school gardens and using it as a platform for learning as well as how to integrate nutrition concepts in the primary education curriculum. Expectations from the trainers and co-participants were mostly on how to make the sessions more participatory and interactive.

Overview of School Gardens as a Platform for Learning and Examples from the Region

Dr. Maria Antonia G. Tuazon, International Nutrition Consultant, presented an overview of the Training of Trainers (ToT) on Integrating in Primary Education Curriculum. Ther overview included the presentation on rTOT objectives, expected outputs as well as the methodologies to be used during the training. **Annex 1** presents the Concept Note for the meeting.

B. TECHNICAL SESSIONS

Fundamentals of Integrating Nutrition in Primary Education Curriculum

Dr. Maria Antonia G. Tuazon, International Nutrition Consultant, FAO-RAP

Dr. Maria Antonia G. Tuazon presented the fundamentals of integration of nutrition in primary education. The guiding principles for integrating nutrition education particularly school gardening are as follows: 1) children are the primary direct beneficiaries; 2) main purpose of school gardens is learning for children; 3) school gardens are not intended to provide commodities for school feeding; 4) school gardens are not an exit strategy for school feeding; 5) schools use locally adapted crops including indigenous crops, 6) poultry and other small animals can be raised in school gardens, 7) school gardens use organic

techniques, and 8) no dangerous chemicals should be used in schools. She also highlighted the importance of “actions backed by evidences” and shared the minimum data needed in integrating nutrition in primary education to ensure relevance.

It was also shared that there are four developmental areas in primary education namely, (1) physical development; (2) cognitive and language development; (3) affective and social development; and (4) aesthetic development. The objectives for the primary education curriculum were also shared as: *content* (to select curriculum content that will contribute to the objectives of nutrition education, i.e. healthy eating and nutrition literacy), *development* (to structure learning so that it is age group appropriate and develops systematically through the school years), *relevance* (to ensure that learning is relevant to local concerns practices, beliefs and attitudes and makes direct connections to children’s daily lives), and *framework* (to spread nutrition education through the primary school curriculum, while at the same time maintaining its coherence and impact).

A nutrition enhanced curriculum is characterized by having a better understanding and appreciation of basic nutrition and healthy lifestyle, importance of school gardens in promoting diverse diets, nutritious school meals, personal hygiene and environmental sanitation, food safety, core subjects for school garden, and integration of nutrition in other subjects. The possible learning areas include physical fitness and health, language, mathematics, self and society, and arts.

A number of ways for integration of nutrition in other subjects were cited. These include 1) nutrition education as a separate subject (most ideal, raises the profile of nutrition, easier to develop appropriate teaching materials); 2) cross subject infusion (teachers of other subjects will be made aware of the topic and further reinforce the cross cutting nature of nutrition); 3) themes and projects with a nutrition bias (celebrating events like Teachers’ Day, World Food Day); and 4) a mix of the first three methods (raises awareness inside and outside the schools). Decision parameters on whether to integrate or not nutrition and school gardening in the curriculum were also discussed.

Experiences in Integrating Nutrition in School Curriculum: Lao PDR
Mr. Thanongchit Phanthaba, Ministry of Education and Sports

Mr. Phanthaba in his presentation emphasized the policy context for the ongoing work on promoting school gardens, school meals as well as integrating nutrition in primary education curriculum in Lao PDR.

Several laws and policies were issued in support of promoting nutrition and food security. These include the National School Meal Policy (2014), Education Ia (2015), Education Development Plan (2016-2020) as well as National Nutrition Policy (2008) and National Nutrition Strategy 2016 to 2025 and Plan of Action. All of these legislations are intended to promote school meals, school agriculture and nutrition education. He also shared to the group that there is an on-going reform of primary education led by BEQUAL in collaboration with the Ministry of Education and Sports.

He then shared the strategy adopted by regional TCP project of FAO in collaboration with MOES (TCP/RAS/3509) entitled “Promoting School Agriculture to Practice Nutrition in Daily

Life and Integration of Nutrition Concepts into the Primary Education Curriculum". He highlighted the importance of multisectoral and multistakeholder participation in the identification of key nutrition concepts, selection of subjects, revision/enhancement of teaching and student learning materials as well as capacity-building of primary school teachers.

There are three subjects undergoing pilot testing, namely Lao Language, World Around Us and Mathematics but only presented work on Lao language as taught from Grade 1 to 5 as an example. Several teaching materials have been developed such as School Agriculture Training Manual, Teacher Guide on Nutrition Integration into the Teaching and Learning process (Curriculum), and Lesson Plans. Lastly, he shared to the group the plans for the conduct of teachers' trainings.

Experiences in integrating nutrition in school curriculum: Cambodia

Ms. Thida Hun, National Consultant, FAO Cambodia

Ms. Thida Hun, National Consultant on Curriculum Development, shared the experiences in the implementation of the national TCP project "Promotion of School Gardens for Better Nutrition" which is being implemented jointly by the Council for Agriculture and Development and FAO Cambodia. The key project activities include: 1) development of a trainer's manual focused on school gardening and nutrition education, 2) creating a pool of master trainers and teachers who will be able to train teachers to plan and implement school gardening and nutrition education, 3) providing assistance to selected schools to run school gardens in order to provide diversity of vegetables to school children and to the school feeding programme, and 4) to document and disseminate lessons learnt and good practices to other schools and provinces for possible replication.

Her presentation focused on the process for developing the Trainers' Manual which contains topics on food system as the framework, planning, implementing, managing, and monitoring a school garden, nutrition and health messages, and how to conduct counselling.

She also shared the work on Garden Based Learning Curriculum and Lesson Plans which were guided by the following: 1) curriculum and sample lesson plans are part and parcel of the trainer's manual; 2) review by stakeholders in terms of technical correctness, adaptability, terminologies, and tone of the manual and lesson plans 3) use of more graphics/diagrams and less textual; and frameworks used were Food system, Cambodian Primary Education Curriculum Standards, School Health Policy. The subjects where school gardening and nutrition will be initially integrated in Life Skills and Science subjects.

In the development of the curriculum, it was ensured that the learning activities of children can be done in the garden, classroom, school kitchen, draft sample lesson plans were prepared following the format of MOEYS, and lesson plans of FAO and in other countries were adapted.

Principles for Designing Effective Teaching Materials

Dr. Maria Theresa M. Talavera, Associate Professor, UP Los Baños

Dr. Maria Theresa M. Talavera presented the strategies for designing effective teaching materials for primary school children. She started with the rationale for developing young people's lifelong healthy eating habits at an early age and why the school offers a unique opportunity for inculcating proper nutrition and healthy lifestyles. Also mentioned were the use of approaches that are simple, interesting, colorful and easily learned through demonstration, illustration, example and practical action. She also mentioned that there are four key elements in promoting healthy diet in the school which include: adequate time; focusing on behaviors and skill-building; attention to scope and sequence; and adequate teacher preparation.

She mentioned a number of teaching strategies such as 1) enhanced curriculum approaches (i.e. beyond existing health curricula delivered by teachers); 2) cross-curricular approaches (i.e. teaching nutrition across two or more traditional primary school subjects); 3) parental involvement (i.e. active participation or assistance from a parent within or outside the school environment); 4) experiential learning approaches (i.e. school garden, cooking and food preparation activities); 5) contingent reinforcement approaches (i.e. rewards or incentives given to students in response to desired behaviors); 6) literary abstraction approaches (i.e. literature read by/to children whereby a character promotes/exemplifies positive behaviors); 7) games-based approaches (i.e. board/card games played by students at school designed to promote positive behavior and learning of new knowledge); 8) web-based approaches (i.e. internet-based resources or feedback mechanisms that could be accessed by students at home or school); 9) use of social learning techniques which emphasizes raising the value on school gardening, good health and nutrition and identifying the benefits of adopting healthy eating patterns as well as physical appearance, sense of personal control and independence, and capacity for physical activities; 10) giving children repeated opportunities to taste healthy foods, including foods they have not yet tasted; and 11) working with parents, school personnel, community and others to overcome barriers to healthy eating.

These teaching strategies should be partnered with active learning and an emphasis on fun considering children's receptivity to nutrition messages. As much as possible the benefits of healthy eating behaviors are presented in the context of what is already important to the children; and the children have repeated opportunities to taste foods that are low in fat, sodium, and added sugars and high in vitamins, minerals, and fiber during their lessons. Sequencing and provision of adequate time are also important factors. This implied that curriculum should be sequential from preschool through secondary school with appropriate scope.

She ended her lecture by citing that to have colorful presentations (visual/pictures/illustrations), the principles of design: (balance, contrast, emphasis, movement, patterns, rhythm and unity) can be applied. Fun-filled activities for school children with simple, interesting, colorful and easily-learned demonstration, illustration, example or practical action would be best for learning.

Assessment of Students' Nutri-Intelligence

Dr. Maria Antonia G. Tuazon, International Nutrition Consultant, FAO-RAP

Dr. Tuazon started her presentation by emphasizing on the importance of assessing students' performance which is to determine whether children have indeed understood, learned and applied key concepts on proper nutrition and healthy lifestyles and its importance on their physical and mental development.

The principles of assessment include assessment for learning, regular and continuous assessment, observation, records and analysis, and multi-stakeholder engagement. The scope of assessment includes knowledge of learning areas, development of basic skills, and cultivation of values and attitudes. The modes of assessment can either be formative and summative assessments which can be done by institutions/teachers/parents including getting feedback from students.

School-parent-community linkages were also emphasized and she cited some suggested ways to promote partnerships between schools and parents such as: 1) establish clear and effective communication channels, 2) conduct parental education (which emphasizes the importance of proper nutrition and healthy lifestyles, home food production, diet diversity, personal hygiene and environmental sanitation and food safety), encourage parents in voluntary work such as school gardening activities, guiding children in their home study, involve parents in school administration, and involve the community through community organizations and provide continuous feedback to communicate on progress made and support needed.

How to be an Effective Teacher

Dr. Maria Antonia G. Tuazon, International Nutrition Consultant, FAO-RAP

Dr. Tuazon started her presentation by sharing the importance of the communication model with elements such as source, message, channel, and receiver and feedback loop. She continued with the presentation of the key factors in teaching and learning, i.e. importance of school teachers; teacher ownership (e.g. own and empathize with the problem of students and extend to teacher-learning experience to home); teachers are generators of knowledge but should also seek knowledge and keep with the times especially in nutrition; teachers must possess the spirit of collaboration among teachers and with others in a project or theme; teachers should be willing to question existing practice; support for risk taking with no fear of being reprimanded by higher school officials; and undertaking evolutionary not revolutionary change.

The child's learning environment should consider the safety and health aspects such as proper waste disposal, arrangement of environment to become a conducive place for learning, identification and maximization of available resource is an area where teachers have to be creative in tapping natural resources as teaching materials, and catering to special needs and learning differences like children with physical disabilities or children with malnutrition. Other factors to consider are teacher's capacity, access to teaching and learning resources, e.g. up to date books, the learning environment, and support from peers, school administrators and parents.

The characteristics of the child learner should be understood by teachers. Young children are learners who find security in rhythm, ritual and repetition; learn through play; want to belong to a community that is safe, beautiful and good; explore the world with wonder;

understand the world first through their bodies; seek independence and mastery; thrive in the natural world; use stories to construct meaning; seek patterns in the world around them; construct their identities and build cultural bridges.

Dr. Tuazon discussed the process of innovative teaching which starts from stimulating to incubating and ending with accelerating learning of school children.

C. WORKSHOPS

A series of workshops were conducted following the mechanics listed in **Annex 4**. For workshops 1 and 2, the participants were grouped by country. The first workshop focused on assessing whether nutrition, school gardening, and school meals are currently integrated in the current primary education curriculum. This required an examination of the overall learning objective of the primary education curriculum as well as subject based objectives for a more in-depth assessment of appropriateness of nutrition topics integrated for each subject identified.

The second workshop focused on determining the teaching materials available and used in teaching nutrition and gardening to school children.

Workshop 3 focused on preparing a student appraisal system including identification of indicators. For this workshop, the participants were divided into 3 groups with multicountry representation.

Workshop 4 focused on the preparation of the re-echo plans per country. Copies of all workshop outputs can be found in **Annex 5**.

Workshop 1: Integration of Nutrition Considerations in School Curriculum

The purpose of this workshop was to assess whether nutrition considerations such as nutrition education, school gardening, or school feeding program are integrated in the current primary education curriculum. This entailed an examination of different subjects at different grade levels taught per country. This is part of the stock taking exercise and gap analysis of the primary education curriculum for the countries represented.

Results of the workshop show that the elementary curriculum varies from country to country. It appears that the primary education in all countries have incorporated nutrition but mostly as part of science, health, physical education and life skills subjects. However, the content as well as quality of teaching nutrition in these subjects need to be addressed as often they are inadequate which can be traced to a number of factors such as lack of knowledge of school teachers and lack of teaching materials among others. On the other hand, school gardens are not widely promoted in a number of countries such as Myanmar and Cambodia. Lao PDR, Bangladesh and Timor Leste have had experiences on school gardens however, they expressed that link with nutrition has not been fully established yet.

School meals were also discussed. Except for Myanmar and Nepal, all other countries have school feeding programme though coverage and type of meals served varies from country

to country. For most countries, meeting nutrition standards for school meals was also expressed as an area that needs to be improved. This programme is usually supported by the World Food Programme.

Workshop 2: Set of Minimum Knowledge, Attitude, and Skills to be acquired by Primary School Children and Identification of Student Appraisal System

The task was to identify the overall as well as subject based learning objectives for integrating nutrition in the primary curriculum; the specific contents; the possible subjects where nutrition could be integrated; and the indicators to measure whether the school children have acquired the minimum knowledge, attitude, and skills on particular content areas for nutrition according to grade level. The minimum concepts that the participants felt should be taught to school children are basic nutrition concepts and agriculture (school gardening) which can be integrated in a number of subjects such as Science, Language, Mathematics and Local Life Skills.

Workshop 3: Preparing a Student Appraisal System

The participants were divided into three groups. Each group identified the possible procedures on assessing the performance of school children including the indicators to be used.

Workshop 4: Preparation of Re-Echo Plans

Each country was requested to prepare a re-echo plan which was intended to identify high impact follow-up activities to this regional ToT. The participants identified short activities and long term activities. For the short term activities, it involves the promotion of nutrition and school gardening and integration of nutrition in the primary education curriculum. For the detailed re-echo plans, refer to **Annex 6**.

D. VISIT TO WATSRINUANTHAMMAWIMOL SCHOOL

The participants visited Watsrinuanthammawimol School to learn about their school agriculture and lunch program under the patronage of Her Royal Highness Princess Maha Chakri Sirindhorn. The school provides education services from pre-primary to secondary level. It follows the Education Ministry's core curriculum which has eight learning areas such as Thai language, Mathematics, Science, Social Studies, Religion, and Culture, Health and Physical Education, Arts, Occupation and Technology, and Foreign Languages.

The group was welcomed by children and teachers led by Dr. Suwanna Ruthananurak, Director of Watsrinuanthammawimol School. A short briefing on the school's agriculture project, lunch project, physical project, and cooperative project was provided to the participants. This was followed by a visit to the various sites of the different projects with students explaining the steps in hydroponic vegetable production, mushroom growing, rice planting, and fish production. In the school kitchen, children also demonstrated how to bake cookies, prepare aloe vera and passion fruit juice, bake breads and cookies, and prepare "kuaw tiew lui san", a vegetable dish similar to vegetable spring roll.

During the closing program of the study visit, a group representative thanked the school teachers and children and expressed appreciation for the hospitality and the information generously shared with the participants. A small token of appreciation was also presented to the school.

After the visit, the participants were asked about the learnings they have gained from the visit including their observations and possible application of their learnings in their own countries. All participants expressed that they have learned a lot from the study visit however, with differing insights gained. For instance, some participants were impressed with the agriculture project while others with the school lunch project. The participants also noted the children's knowledge and skills in agriculture and food preparation. They also remarked on the level of funding support provided to the school by the government which they observed is not available in their countries presently.

E. CLOSING SESSION

Synthesis of the regional Training of Trainers

Dr. Leila Sacdalan-Africa, Associate Professor, UP Los Baños

Dr. Africa presented the synthesis of the four-day training from the objectives to the technical sessions to workshops and study visit. The objectives of the training were achieved, i.e. participants were able to have a consensus on a set of minimum knowledge, attitudes and skills to be acquired by primary school children; gained an appreciation for the need to integrate school garden based linked nutrition education; took stock of on-going initiatives on curriculum enhancement in the priority countries for RI-ZHC; and identified inroads toward developing nutrition sensitive basic education curriculum.

Dr. Africa also presented the highlights of the results of workshops 1 to 3. She emphasized the three concepts that need to be integrated and linked with each other, i.e. nutrition, school gardening, and school meals, to enhance the primary education curriculum. She also focused on the need to conduct assessment of the nutrition situation, capacity on curriculum development, the extent of integration of nutrition and school gardening in the primary education curriculum and to identify the indicators for assessing the performance of school children.

Dr. Africa ended her presentation with the presentation of the framework for curriculum development starting with the goals, development of children in terms of physical, affective, cognitive, and aesthetic, and application of the principles of curriculum development developed by Dr. Tuazon and which appears in the suggested guidelines being developed for use in the region. With the implementation of appropriate teaching and learning strategies, children can grow in holistic manner.

Closing remarks

Ms. Nomindelger Bayasgalanbat, Nutrition Officer, FAO-RAP

Ms. Bayasgalanbat thanked the participants, APRACA staff, and the resource persons and facilitators for the active participation in the training. She said that she looked forward to country level work with the participants in the near future.

F. RESULTS OF PRE/POST TEST AND EVALUATION

The pre- and post-tests aimed to assess if the participants gained the knowledge on the different aspects of the four-day training. Results showed that there was a considerable improvement in the participants' scores. More than half of the participants (65%) increased their scores. The pre-test score ranged from 1-6 while the post-test scores had range from 2 to 10.

The participants evaluated the training positively (**Annex 8**). Most of them strongly agreed that the trainers were knowledgeable about the topics and well prepared; participation and interaction were encouraged; the objective of the training was clearly defined and were met; and the meeting room and facilities were adequate and comfortable. Likewise, most of them agreed that the training experience was helpful in their work; the topics covered were relevant; the content was organized and easy to follow; the materials distributed were helpful; and the time allotted for the training was sufficient.

The visit to the school was also highly appreciated and gave them the opportunity to see the operationalization of the concepts discussed in the training.

In the future, the participants suggested to have training on school gardening and nutrition and related programs such as school feeding. More in-depth training on development and preparation of teaching materials was also mentioned.

Overall, the participants appreciated the training and claimed that overall it was well-organized.

ANNEX 1 CONCEPT NOTE: REGIONAL TRAINING OF TRAINERS ON INTEGRATING NUTRITION IN PRIMARY CURRICULUM

I. Background

The lack of focus on nutrition of school children has been recognized as a major gap in a comprehensive and life cycle understanding of intergenerational cycle of malnutrition. In many countries in Asia and the Pacific, there is a dearth of information on the nutritional status of school children, an often neglected group. However, with the countries' commitments to achieve Millennium Development Goal (MDG) on universal education and now Sustainable Development Goal (SDG) 4 (quality education) as well as the introduction of school feeding programs, there has been an increasing focus on this age group. This effort was further reinforced with promotion of school garden linked nutrition education by the Food and Agriculture Organization of the United Nations (FAO-UN). Increasingly, evidences that demonstrate that school feeding can improve education performance indicators particularly of girls at the same time contribute to nutrition improvement of school children in general are being generated. There is a growing body of evidence showing the positive links between increased enrolment, lower dropout rates and improved nutrition with school feeding. Yet there is still concern on how to make this development initiative more sustainable and comprehensive. A comprehensive and sustainable approach should include sustained provision of locally produced, diverse and nutritious foods for school meal preparation coupled with a strong component of appropriate behavior change communication strategies. In this regard, community/home food production linked to school garden as well as school garden-based learning for proper nutrition is now viewed as a viable, sustainable and replicable option. This represents a paradigm shift in institutional frameworks with increased community engagement in school activities but also explores changing the architecture of primary education to one that is promotive of acquiring proper nutrition behavior. Healthy school feeding and nutrition sensitive school gardens can be used as platforms for learning at the same time lead to acquisition of lifelong skills that will prepare them to become more responsible and knowledgeable caregivers in the future.

It is also worth mentioning that within the ASEAN, there is an integration process taking place where different educational levels are being revisited and improved. This process has identified the need to integrate nutrition and use school gardens as a platform for acquiring lifelong skills and positive nutrition behaviors.

This Regional Training of Trainers (rot) is therefore planned to develop regional capacity in general and national capacity in particular on how to integrate nutrition and related key concepts on nutrition. Moreover, the ToT will promote the use of school garden based learning toward a more sustainable strategy for promoting and acquiring lifelong skills and positive nutrition behaviors that translate to improved food and nutrition security. Using 2 to 3 subjects that could serve as test

cases/demonstration models, technical as well as practical aspects of the process for integrating nutrition will be shared and discussed. This is intended to serve as a template for similar initiatives within the education sector like integration of nutrition in secondary and tertiary education. To support this initiative will be the development of appropriate innovative and creative teaching materials/aids to reinforce the teaching-learning process. Hence, this ToT will also include as one of its objectives the development of user-friendly and appropriate teaching/learning materials. Recognizing that this work will involve many stakeholders and with education personnel intended participants in this activity, the proposed rToT is designed to be a capacity-building initiative built on an inclusive and participatory process where key stakeholders engaged in similar endeavors are involved.

What is the context of integration? Integration in this context refers to an act of bringing together small components (subjects) into a single system (*a particular grade curriculum*) that functions as one (*specific knowledge domain + nutrition education*). It aims to bring the learning of technical concepts by using examples/exercises/pictorials that subliminally promote acquisition of nutrition knowledge and practices to a more comprehensive understanding of both learning systems. At the end, it is expected that there would be a seamless integration of learning knowledge domains as specified in the school curricula and proper nutrition thus providing a valuable rubric for primary school education.

Several steps had been undertaken leading to this activity:

- A. Identification and review of subjects which offer opportunities for incorporating nutrition
- B. Integration of key nutrition concepts and nutrition learning objectives in the identified subjects
- C. Development of supplementary teaching materials to facilitate the teaching of nutrition enriched subjects
- D. Pre-testing, revision and finalization of the training design and materials of school teachers
- E. Training of Teacher Trainers for application in –country

This activity has been identified as one of the imperatives for achieving the objectives of the regional TCP (TCP/RAS/3509) entitled Regional Initiative for Zero Hunger Challenge: Promoting an Integrated Home Garden and School Garden Approach for food and nutrition security in selected Asian countries.

II. Objectives

At the end of the ToT, the participants should be able to:

1. Arrive at a consensus among participants on a set of minimum knowledge, attitudes and skills to be acquired by primary school children;
2. Gain an appreciation for the need to integrate school garden based linked nutrition education;
3. Take stock of on-going initiatives on curriculum enhancement in the priority countries for RI-ZHC;

4. Identify inroads toward developing nutrition sensitive basic education curriculum; and
5. Recommend creative and innovative strategies for integrating nutrition in basic education school curriculum using school gardens as platform learning

III. Expected Outputs

1. Stock-taking on on-going initiatives on curriculum enhancement
2. Potential primary school subjects for incorporation of nutrition identified
3. Entry points for integrating nutrition and other relevant messages
4. Appropriate teaching/learning aids identified for future development

ANNEX 2 AGENDA

| Day | Time | Activity/Topics | |
|-----------|-----------|---|---|
| August 29 | TBD | Arrival and billeting of participants and speakers | APRACA |
| August 30 | 0830-0900 | Registration | APRACA |
| | 0900-1020 | Opening ceremonies | |
| | | ➤ Welcome remarks | Ms. Nomindelger Bayasgalanbat, Nutrition Officer, FAO-RAP |
| | | ➤ Introduction of participants and guests | Dr. Maria Antonia G. Tuazon, Nutrition Consultant |
| | | ➤ Keynote Message and Presentation | Dr. Nantaporn Viravathana Associate Professor Colonel, Phramongkutklao College of Medicine |
| | | ➤ Overview of the Training | Dr. Maria Antonia Tuazon |
| | 1020-1035 | Group photo/Health Break | |
| | 1035-1115 | ➤ Pre-test | APRACA |
| | | ➤ Leveling of expectations | Dr. Maria Antonia G. Tuazon |
| | | ➤ House rules | |
| | 1115-1200 | An overview of School gardens as a platform for learning and examples from the Region | Ms. Nomindelger Bayasgalanbat |
| | 1200-1330 | Lunch break | |
| | 1330-1500 | Fundamentals of Integrating Nutrition in Primary Education Curriculum | Dr. Maria Antonia G. Tuazon |
| | | Presentation of Experiences on Integrating Nutrition in School Curriculum: | |
| | | Lao PDR | Mr. Thanongchit Panthaba, Staff, NSMP, IEC-DPPE, MoES |
| | | Cambodia | Ms. Thida Hun FAO-Cambodia Staff |
| | | Q and A | |
| | 1500-1520 | Health Break | |
| | 1520-1700 | Workshop 1. Integration of Nutrition Considerations in School Curriculum | Dr. Maria Antonia G. Tuazon |
| | | ➤ Part A. Subject identification by country | |

| Day | Time | Activity/Topics | |
|---------|------------------|--|--|
| | | ➤ Part B. Critiquing of outline for possible integration and review of existing materials/exercise | |
| | 1800-2000 | Welcome Dinner | PICCOLO Restaurant within Royal Princess Hotel |
| | 0800-0830 | Synthesis/Team Building exercise | Dr. Leila Sacdalan-Africa Associate Professor, IHNF-CHE, UP Los Baños |
| | 0830-0930 | Principles for Designing Effective Teaching Materials | Dr. Maria Teresa Talavera Assoc. Professor, IHNF-CHE, UP Los Baños |
| | 0930-1030 | Workshop continued Part C. Identification of creative and innovative strategies for teaching nutrition and promoting SGs | |
| | 1030-1050 | Coffee Break | |
| | 1050-1230 | Group presentations by country (20 mins per groups) and Q and A | |
| | 1230-1330 | Lunch break | |
| | 1330-1600 | Innovate, Create, Educate (ICE) Write-shop Session – Designing instructional materials | |
| | 1600-1700 | Plenary Session – Presentation of Workshop Outputs | |
| Sept. 1 | ETD 0800-1100 | Visit Watsrinualthammawimol School - Briefing and interviewing - Vote of thanks | APRACA Ms. Suwanna Ruthananuruk Director and Team Dr. Maria Antonia G. Tuazon |
| | ETA: 1100 | Proceed to Royal Princess Hotel. | |
| | 1200-1330 | Lunch Break | |
| | 1330-1430 | Feedback from Field Visit | |
| | 1430-1500 | Assessment of Students Nutri-intelligence | Dr. Maria Antonia G. Tuazon |
| | 1500-1600 | Workshop | |
| | 1600-1700 | Presentation of Workshop Outputs | |
| Sept. 2 | 0830-0900 | Synthesis / Team Building exercise | |
| | 0900-1030 | Workshop: Designing a re-echo plan for training of school teachers | |
| | 1030-1050 | Break | |
| | 1050-1120 | How to be an effective teacher | Dr. Maria Antonia G. Tuazon |
| | 1120-1200 | Presentation of Draft Guidelines for Critiquing | Dr. Maria Antonia G. Tuazon |
| | 1200-1330 | Lunch Break | |

| Day | Time | Activity/Topics | |
|------------|-------------|---|--|
| | 1330-1430 | Closing ceremonies | APRACA |
| | | ➤ Post-test and Evaluation | |
| | | ➤ Participants' impressions | |
| | | ➤ Awarding of certificates of attendance and group photos | Ms. Nomindelger Bayasgalanbat and Dr. |
| | | ➤ Closing remarks and Vote of Thanks | Maria Antonia G. Tuazon |
| | | Departure of Participants | |

ANNEX 3 LIST OF PARTICIPANTS

| Country | Name | Institution |
|------------|---|---|
| Bangladesh | 1. Mr.MD Sarwar Morshed Chowdhury Deputy Secretary | Ministry of Agriculture Bangladesh Secretariat Room 530, Building No. 4 Dhaka, Bangladesh Tel: (882) 9558853, (882) 9558853 Mb: (88 0171) 2185577 EM:sarwar.6896@yahoo.com |
| | 2. Mr. Paban Kumar Chakma Chief Instructor | Chief Instructor Agriculture Training Institute Rangamati Hill District Tel: (882) 0351 62946 Mb: (88 0155) 6511 231 EM paban_chakma@yahoo.com |
| | 3. Mr. Tapan Kumar Paul Additional Deputy Director (Crop) | Department of Agriculture Extension (DD,DAE Office) Rangmati Hill District Bangladesh Tel: (88 0351) 620 23 Mb: (88 01556) 508807 EM: tkpaul66m@yahoo.com |
| Lao PDR | 4. Ms. Phetsamone Sibounheuang Deputy Director | Research Institute for Education Sciences (RIES) Ministry of Education and Sports Mahosoth Rd., Vientiane, Lao PDR Tel: +856 21213161 Mb: +856 20 55629123 EM: Phetsamone_sbh@hotmail.com |
| | 5. Mr. Thanongchit Phanthaba Technical Staff | Inclusive Education Center Department of Pre-primary and primary Education Ministry of Education and Sports Lanexang ave, Vientiane, Lao PDR Tel:+856 21 251498 Mb:+856 20 2988 3839 EM: To_sabaidee@yahoo.com |
| | 6. Mr. Aloundeth Somsamouth Technical Staff | Teacher Development Center Department of Teacher Education Ministry of Education and Sports Lanexang Ave, Vientiane, Lao PDR |

| Country | Name | Institution |
|---------|--|---|
| | | Tel: 856 21 216615 Mb: 856 20 9593 3335 EM: Aloundeth.smth@hotmail.com |
| Myanmar | 7. Ms. Lwin Mar Hlaing Assistant Director | National Nutrition Centre (NNC) Department of Public Health Ministry of Health and Sports No. 23, Building 225 Mingalar Theidhi Ward Zabu Thiri Township Nay Pyi Taw Union Territory, Myanmar Tel: +95 67 431259 Mb:+95 94 48005700 EM: lmhlaing78@gmail.com |
| | 8. Ms. Win Win Aung Assistant Researcher (2) | Department of Myanmar Education Research Ministry of Education No. 1301, Zartigon Street Tarmwe Township Yangon, Myanmar Tel: (9501) 557 982 Mb: (9509)3187 2049 EM: winwinaung4259@gmail.com |
| | 9. Ms. Nilar Win Junior Teacher, B.E.M.S (1) | Department of Basic Education Ministry of Education No. 2/9 Thapyay Street Sangyount Township Yangon, Myanmar Tel: (9501) 577131 Mb: (0926) 4833 249 EM: thawdarwin77@gmail.com |
| Nepal | 10. Ms. Mina Regmi Poudel Section Office | Ministry of Education Singhadurbar Kathmandu, Nepal Tel: (9771) 420 0381 Mb: (977) 984 1268975 EM: minapoudel60@gmail.com |
| | 11. Ms. China Kumari Niraula Curriculum Officer | Curriculum Development Centre Sanothimi, Bhaktapur Nepal Tel: (9771) 663 4373 Mb: (977) 98416 26700 EM: China.niraula99@gmail.com |

| Country | Name | Institution |
|------------------------|---|---|
| | 12. Ms. Sunita Baral Section Officer | National Centre for Educational Development Sanothimi. Bhaktapur, Nepal Tel: (977) 985 11 42322 Mb: (977) 984 12 05849 EM: suni_baral@yahoo.com |
| Philippines | 13. Dr. Maria Teresa Talavera Associate Professor | Institute of Human Nutrition and Food College of Human Ecology University of the Philippines, Los Boños College, Laguna 4031, Philippines Tel: (6349) 536 2445 Mb: (63 917) 844 5301 EM: mmtalavera@up.edu.ph |
| | 14. Dr. Leila Sacdalan Africa Associate Professor | Institute of Human Nutrition and Food College of Human Ecology University of the Philippines, Los Boños College, Laguna 4031, Philippines Tel: (6349) 536 2445 Mb: (63 917) 504 4752 EM: Isafrica@up.edu.ph |
| Timor Leste | 15. Mr. Raimiro Pereira Chief Department | Health and School Garden Ministry of Education of Timore-Leste Rua de Tuana-laran, Dili, Timore-Leste Tel: 67 03339645 Mb: +67 077255792 |
| | 16. Mr. Eugenio F. Lemos National Adviser | Curriculum Development and School Garden Program Ministry of Education of Timor-Leste Rua de Tuana-Laran, Dili, Timor-Leste Tel: + 6703339645 Mb: +67077257883 EM: ego.lemos72@gmail.com |
| | 17. Mr. Afonso Araujo Lopes National Teacher Trainer | INFORDEPE Ministry of Education of Timor-Leste Rua de Balide, Dili, Timor-Leste Tel: +6703339645 Mb: +6707139443 EM: Afonsolopez49@yahoo.com |

| Country | Name | Institution |
|----------|--|--|
| Thailand | 18. Dr. Nantaporn Viravathana Associate Professor | Department of Biochemistry Phramongkutklao College of Medicine 315 Rajvithi Road, Rajthevi Mb: (66 081) 837 1500 Tel. & Fax. (662) 354-7797 Office of Her Royal Highness Princess Maha Chakri Sirindhorn's Projects Tel. (662) 282-6511, 280-5032 EM: ntporn@hotmail.com |

World Food Program

- | | | |
|-----|---|--|
| 19. | Mr. Outhai Sihalath Programme Policy Officer (School Meals) | World Food Program Don Nokhoum Rd. Sisattanak District P.O.Box 3150 Vientiane, Lao PDR Tel: (856 21) 330300 Ext. 2493 Mb: (856 20) 5550 5033 EM outhai.sihalath@wfp.org |
|-----|---|--|

FAO Cambodia

- | | | |
|-----|--|---|
| 20. | Ms. Thida Hun National Curriculum Development Consultant | Food and Agriculture Organization House#5, street 370, Boeung Kengkong1, Khan Cham Car Moon Phnom Penh, Cambodia Tel: (855) 2321 6556 Mb: (855) 9266 7470 EM: Thida.hun@fao.org |
|-----|--|---|

FAO RAP

- | | | |
|-----|--|---|
| 21. | Dr. Maria Antonia G. Tuazon International Nutrition Consultant | FAO Retional Office for Asia and the Pacific 39 Maliwan Mansion, Phra Atit Rd, Chanasongkram, Bangkok 10200 Thailand Tel: +662 6974000 EM: Maria.Tuazon@fao.org |
| 22. | Ms. Nomindelger Bayasgalanbat | FAO Nutrition Officer FAO Regional Office for Asia and the Pacific 39 Maliwan Mansion, Phra Atit Rd, Chanasongkram, Bangkok 10200 Thailand Tel: +662 6974000 EM: Nomindelger.Bayasgalanbat@fao.org |

ANNEX 4 WORKSHOP MECHANICS

The participants will be grouped by country. Each group will select a facilitator and rapporteur. At the end of each session, a power point presentation will be made highlighting the consensus arrived at during the discussion based on guide questions.

Workshop 1. Each group is tasked to examine the primary education curriculum and identify which subjects lend themselves for incorporation of nutrition. Preferably, the subjects are those taught from Grade 1 to Grade 5 (or 6). This will facilitate the matching of progression of learning objectives with developmental stages of the school child.

Specific questions to be addressed (but not limited to):

Parts A and B Assessment of the Potential for integrating Nutrition and using school gardens as a platform for learning

1. Are there specific learning objectives related to nutrition in the primary education curriculum? Kindly enumerate.
2. Which subjects presently incorporate nutrition topics? What are the topics included?
3. For these subjects which presently include nutrition, do you think that nutrition information are adequately covered? If not, what other information do you think should be included?
4. What do you think are the basic nutrition messages that need to be taught to primary school children? Do you think that these basic nutrition information are taught adequately? If yes, please cite some of the effective teaching materials/activities used?
If no, how can the teaching be improved to ensure that the students become nutri-intelligent?
5. Which subjects could also potentially incorporate nutrition topics?
6. Do your schools also promote other nutrition related activities such as school meals/snacks provision? Is this linked to teaching of any subject? Which subject and how are they linked?
7. Do your schools also promote school gardens? Are they linked to any subject? If yes, what subjects and please describe how they are linked? What are the topics usually included in promoting school gardens? Do you think they are adequate? If not, what other topics do you think should be included?

Part C. Identification of effective teaching strategies

8. What are the strategies used in teaching? Are there specific teaching strategies used for nutrition? Describe and please rank these strategies in terms of effectiveness.
9. What are the resource materials used by the teachers?
10. Are they sufficient?
11. What additional materials/information would your primary school teachers require to effectively teach nutrition? Are they available locally?
12. Are there other institutions in your country that can provide technical support for incorporating nutrition in primary education curriculum as well as promoting school gardens?

Part D. Development of materials for teaching nutrition

13. What are the usual methods used for teaching?
14. Do you have age appropriate teaching resource materials for nutrition? If yes, give examples
15. If none, which agency would be responsible for material development?
16. What would be the likely constraints in developing these materials?
17. What types of assistance would be required to develop these materials?

Part E. Student Appraisal System

18. Do you have a student appraisal system in place?
19. What are the usual indicators used to assess extent of learning or student performance?
20. Who is usually responsible for the assessment?
21. How is the assessment usually carried out?
22. How are the results utilized e.g. feedback to parents, improve teaching strategies etc.?

Part F. Development of Re-echo Plan

This session is intended to be a follow-up activity in-country to pave the way for piloting and eventually institutionalization of nutrition friendly primary education curriculum. Using the suggested format below, develop a plan for conducting a re-echo of this ToT.

Re-echo Plan

- I. Suggested Activity:
- II. Title of Activity:
- III. Rationale:
- IV. Objectives:
- V. Expected Outputs:
- VI. Duration/Tentative Date and Venue:
- VII. Prospective Participants:
- VIII. Tentative budget required
- IX. Proponents:

ANNEX 5 WORKSHOP OUTPUTS

WORKSHOP 1 OUTPUTS: Integration of Nutrition Considerations in School Curriculum

1. Are there specific learning objectives related to nutrition in the primary education curriculum? Kindly enumerate.

| Country | Objectives |
|----------------|---|
| Bangladesh | Create awareness of students on their food habit and education process |
| Cambodia | Have the knowledge, skills and attitudes necessary to improve and maintain their own physical and mental health and to contribute to the improvement and maintenance of the health of their families and wider society (Overall Learning objectives indicated in primary education curriculum do not convey directly about nutrition, but it can be inferred to as health and physical development) |
| Lao PDR | Students have basic understanding of nutrition education and be able to practice at household level which could be able to influence the change of behaviors of family members-i.e. eating habit, etc... |
| Myanmar | To improve physical health by having healthy habits such as personal hygiene, nutrition and disease prevention |
| Nepal | Develop the physical, mental, emotional and educational status of school children |
| Timor Leste | To ensure teachers and students to understand nutrition and healthy diet. |

1a. Is nutrition integrated in primary school curriculum? If YES choose the type of integration and describe how nutrition is integrated in the school

| Country | Type of Integration |
|----------------|--|
| Bangladesh | <ul style="list-style-type: none"> • Cross subject infusion: Teacher discuss nutrition in relevant topics like physical education, causes and preventive measures of diseases ; sanitation and hygienic issues etc. |
| Cambodia | <ul style="list-style-type: none"> • Cross subject infusion: : Teacher discuss nutrition in Science, Health and Physical Education and Sport and Local Lifeskill (Agriculture: crop planting) |
| Lao PDR | <ul style="list-style-type: none"> • Cross subject infusion: Additional nutrition information maybe added into key subjects-Science and Environment, Math, Lao Language. Teachers are expected to explain more details of those information related to nutrition |
| Myanmar | <ul style="list-style-type: none"> • Cross subject infusion: Not yet (only in Life Skill) • Themes and projects with a nutrition bias: World Food Day (some schools); Nutrition Promotion Month (Aug) |
| Nepal | <ul style="list-style-type: none"> • Cross subject infusion: in Science, Health and Physical Education • Mathematics: Different kinds of food, fruits and vegetables are used for counting, addition, subtraction etc. • Social Studies: Civic sense- Sanitation of public places • Language: Different stories related with balanced diet, cleanliness, daily habits etc. |

| | |
|-------------|---|
| Timor Leste | <ul style="list-style-type: none"> • Cross subject infusion: Nutrition are combined with health; school garden are combined with discipline of art and culture and called Permaculture garden. |
|-------------|---|

1b. If nutrition is not yet integrated in the school curriculum, what assistance do you need from FAO?

| Country | Assistance needed from FAO |
|-------------|---|
| Bangladesh | <ul style="list-style-type: none"> • Assist in advocating to the Government to include integrating nutrition in curriculum development as part of national policies. • Prepare a documentary film on nutrition & school gardening like MEENA CARTOON. • Facilitate the integration of nutrition in curriculum development, awareness building, and nutrition campaign etc. |
| Cambodia | <ul style="list-style-type: none"> • Disseminate the importance of nutrition to all primary school teachers and directors • Disseminate to all teachers (if possible) about how to effectively mainstream nutrition into every subject in primary school • Advocate with Education Department to set up nutrition program in learning session |
| Lao PDR | <ul style="list-style-type: none"> • Technical support since the country is in the process of revising school curriculum |
| Myanmar | <ul style="list-style-type: none"> • Technical support in establishing school garden and using it as a platform for learning • Reference materials (Nutrition curriculum suitable to be integrated in primary education) • Financial assistance to start implement the programs |
| Nepal | <ul style="list-style-type: none"> • Capacity-building of primary school teachers and material development |
| Timor Leste | <ul style="list-style-type: none"> • Age-appropriate teaching resource materials in nutrition. • Human development training. |

2. Which subjects presently incorporate nutrition topics? What are the topics included? (Specify the nutrition topic and on what aspect of the subject matter it is integrated according to subject grade level)

Table 1. Assessment of nutrition and related areas as part of primary education curriculum

| Country | Elementary Curriculum | Nutrition in Curriculum | School Garden | School Feeding |
|------------|--|-------------------------|---|--|
| Bangladesh | Grade 1-5; science is taught starting from Grade | Science Level 3, 4, 5 | 288 schools in 29 out of 64 districts (288 schools – demonstration areas) | School mid-day meal; not regular only 10-15% of schools is covered |

| Country | Elementary Curriculum | Nutrition in Curriculum | School Garden | School Feeding |
|-------------|--|---|--|--|
| Cambodia | Grade 1-6 | Science, Health and Physical Education and Sport | Only in FAO and WFP supported school in 2 out of 25 | Lunch for School Children in WFP areas |
| Lao PDR | Grade 1-5 | Grade 5 – Science and environment Language – Q and A | Life skills – focus on production; recent initiation on integration | Has policy on school meals (20% of schools) |
| Myanmar | Grade 1-5 (Language, English, Mathematics, Science, Life skill as general subject) | Life skill (cross subject infusion) World Food Day (some schools) Nutrition Promotion Month (Aug) | School gardening and its benefits → not covered yet | School milk program in WFP areas |
| Nepal | Primary: Grade 1-5 | Science, Health and Physical Education | no school garden yet | School Meal Program (29 out of 75 districts; 10 - WFP) |
| Timor Leste | Grade 1-6 | combine with discipline of health | discipline of art and culture (Permaculture garden) School garden topics (grade 1 to 6) | All children throughout the school duration (9 months) |

BANGLADESH

| Grade Level | Science | BDs and Global Studies | Mathematics | Language |
|-------------|------------------------------------|---|--|--|
| Grade 1 | Not taught in this grade | Not taught in this grade | Counting fruits, vegetables, seeds, saplings | No nutrition topic |
| Grade 2 | Not taught in this grade | Not taught in this grade | Calculating fruits, vegetables, seeds etc. | No nutrition topic |
| Grade 3 | Chapter 7: Food; Chapter 8: Health | No nutrition topic | No nutrition topic | No nutrition topic |
| Grade 4 | Chapter 4: Food; chapter 5: Health | Information of different countries on fruits vegetables | No nutrition topic | Conversation; story may include nutrition messages |

| | | | | |
|---------|---|---|--------------------|---|
| | | production and nutrition situation | | |
| Grade 5 | Food for better Health; Chart of Balance diet chapter 7: Health | Information of different countries on fruits vegetables production, nutrition situation | No nutrition topic | Conversation; story May include nutrition messages |

CAMBODIA

| Grade | Math | Science |
|---------|---|--|
| Grade 1 | <ul style="list-style-type: none"> • Sorting: classifying; comparing using different type of fruits for students to classify and compare • Measurement of weight: Using scale to measure children weight | <ul style="list-style-type: none"> • Good behavior at home: eating time • Plant we know: • Animal we know |
| Grade 2 | <ul style="list-style-type: none"> • Money: Use currency to buy fruit, vegetables and other safe food for eating • Plus, minus: using demonstration/ hand on experience/ problem | <ul style="list-style-type: none"> • Safe water • Food for growth • Using senses |
| Grade 3 | <ul style="list-style-type: none"> • Comparing: big/ small using fruit to compare fruits/ vegetable/ meat in terms of shape and weight • Fraction: using fruit as materials: Papaya (cut papaya in 4 pieces) | <ul style="list-style-type: none"> • Safe storage: food • Healthy living • Caring for body |
| Grade 4 | <ul style="list-style-type: none"> • Money: food recipe (total cost) • Fraction: using vegetable as teaching materials | <ul style="list-style-type: none"> • Growing plants • Growing animal • Drawing map • Plants around |
| Grade 5 | <ul style="list-style-type: none"> • Money: create problem for students: going to market • Time: Students allocate time per day of their activities: eating sleeping. • Studying. lines: using line to make picture of fruit and vegetable | <ul style="list-style-type: none"> • Weather • Benefit of plants • Good environment • Tree and Forest |
| Grade 6 | <ul style="list-style-type: none"> • Percentage: read new paper about plantation in Cambodia • Statistic: graph (using vegetable for demonstration) • Algebra: creating problem (e.g. $3 + b = ?$; $8 - b = ?$ where b is 4). | <ul style="list-style-type: none"> • Plant production • Animal production • Food health • Growing common crops |

LAO PDR

| Subject | Topic by grade level | | | | |
|---|---|--|---|--|-----------------------------------|
| | 1 | 2 | 3 | 4 | 5 |
| Science and Environment (revised version) | List of healthy foods (egg, fruit, meat) | Daily food preparation and how to keep foods safe | Relation between food consumption and people's growth | Food groups | Food classifications by nutrients |
| Math | Counting fruit and animals instead of other objects | Appropriate serving portion of food for body | nutrition related to weight and height | Key food group for different people | Nutrient content of food |
| Lao Language | Picture of animal/fruits for lao Alphabet Nutrition messages to be explained by teachers | importance of fruits and vegetables good hygiene and sanitation | School garden, importance of fruits and vegetables, good hygiene and sanitation | value of food for body Food groups good hygiene and sanitation | Food group and nutrient contents |

NEPAL

| Subjects | Grade 1 -3 | Grade 4-5 |
|-------------------------------|---|---|
| Science | Ways to keep the environment clean in school or in community | Impact of human activities on environment and its effects |
| Health and Physical Education | Nutrition is one of the 7 learning areas <ul style="list-style-type: none"> identify food, way of eating identify locally available food, need of sufficient water use of green vegetables and fruits and ways to keep food safely | <ul style="list-style-type: none"> Functions of food (energy giving, body building, and protecting from diseases) Classification of food on the basis of their function (for example, energy giving foods grains, potato, sweet potato etc.) Body building foods: pulses, fish, meat, curd, milk etc.) Body protecting foods: fruits, green vegetables etc. Collection of sample of foods and classification of them on the basis of their functions Importance of nutritious food Importance of balanced diet and effects of its absence: Malnutrition |

| Subjects | Grade 1 -3 | Grade 4-5 |
|----------------|--|--|
| | | <ul style="list-style-type: none"> • Effects of malnutrition (Night blindness, marasmus , anaemia) • Methods of keeping nutrition in the food safe • Importance of water for body |
| Mathematics | <ul style="list-style-type: none"> • Different kinds of food, fruits and vegetables are used for counting, addition, subtraction etc. | |
| Social Studies | <ul style="list-style-type: none"> • Civic sense- Sanitation of public places | |
| Language | <ul style="list-style-type: none"> • Different stories related with balanced diet, cleanliness, daily habits etc. | |

MYANMAR

| Subject | Topic by Grade Level | | | | |
|-------------------------------|-------------------------|-------------------------------|-------------------|--|---|
| | 1 | 2 | 3 | 4 | 5 |
| Life Skill as general subject | Eating variety of foods | Classifying foods into groups | Three Food Groups | Eating variety of foods and Iodized salt | Eating variety of foods in a balanced way |

TIMOR LESTE

| Grade | Health | Art and Culture |
|---------|--|---|
| Grade 1 | Daily food consumption | Nature observation, multifunction, beauty and function |
| Grade 2 | Healthy from food | Individual responsibility, cooperation, see solution not problem and recycling. |
| Grade 3 | <i>none</i> | Garden bed design, natural pest management and microorganism. |
| Grade 4 | Improve family nutrition with home garden and what is food pyramid | Tree Nursery, organic material and cuisine. |
| Grade 5 | None | Living fences, local seeds bank and cuisine |
| Grade 6 | None | Horticulture and cuisine |

3. For these subjects, which presently include nutrition, do you think that nutrition information are adequately covered? If not, what other information do you think should be included?

| Country | Is nutrition information adequately covered? | Information to be included |
|-------------|--|---|
| Bangladesh | No | Nutrition, hygiene, sanitation, safe food, homestead gardening, year round vegetables production in homestead areas, school gardening, cooking process, and preservation |
| Cambodia | Science and Local lifeskill are adequate Khmer and Maths are not adequate and they do not directly integrate | <ul style="list-style-type: none"> • Common perceptive on safe food (fruit and vegetable) • Function of food for healthy life style • Different food group and their function in growth • Principles of heathy eating • Food portion |
| Lao PDR | General concept of nutrition is included but it is quite general (no details). | For curriculum revision, the team suggested to include information of the important of first 1000 days of life for G4-G5. <ul style="list-style-type: none"> • teachers have insufficient teaching materials and limited teaching technic and nutrition knowledge. |
| Myanmar | Adequately covered for eating variety of foods only | <ul style="list-style-type: none"> • School gardening • Strategy/techniques to implement school gardens using available resources (space, water supply, etc) |
| Nepal | Yes, as part of National School Health and Nutrition (NSHN) Strategy | Nutrition as integrated in the curriculum has been launched but in implementation phase now for grade 1-3 only |
| Timor Leste | | For Grade 1 – 2 <ul style="list-style-type: none"> • What do I eat and drink? • What do other people eat and drink? • How do I feel about eating and drinking? • Why do I need food? • Where does my food and water come from? • How do we grow plants for food? Can I do it? • How can can I keep food and water clean and fresh? |

SUMMARY OF WORKSHOP 2. Identification of Creative and Innovative Strategies for Teaching Nutrition and Promoting School Gardens

Assessment result of integrating nutrition considerations in school curriculum

| | Group 1 | Group 2 | Group 3 |
|---|---------------------------------|------------------------------------|--|
| Learning objectives of primary education | Basic nutrition and agriculture | Basic nutrition and agriculture | Safe food for healthy lifestyle Varieties of food Unsafe food Sensory perception of food Food production (school gardening) Eating habits |
| Subjects where the topics can be integrated | Science | Language Science Mathematics | Local Life Skills Social Studies Health Mathematics Science |

By grade

| Grade | Learning objective | Contents | Materials Needed |
|-------|---|---|--|
| 1 | <ul style="list-style-type: none"> - To know the name of food - To know the classification of food according to taste | <ul style="list-style-type: none"> - Introduction of food - Eating variety of safe food; - Hand washing | Food chart (Classification of food) |
| 2 | <ul style="list-style-type: none"> - To know the concept of healthy food - Food which we can cook and cannot cook - To know the necessity of food | <ul style="list-style-type: none"> - Healthy food - Food groups and eating habit. - Hand washing - Garden mapping | Healthy food for human body |
| 3 | <ul style="list-style-type: none"> - Meaning of Nutrition - Classifications of food according to nutritional value - What is a balanced diet - To know the idea of seasonal fruits and vegetables - To know about the idea about different foods according to food value | <ul style="list-style-type: none"> - Balance diet - Food portion - Seed selection | Types of balance diets |
| 4 | <ul style="list-style-type: none"> - Sources of vitamins and its importance - To know about the necessity of balance diet - Selection of cheap and local food in terms of balance diet | <ul style="list-style-type: none"> - Source of nutrients and balance diet - Planting seed for food and eating | Importance of nutrients |

| Grade | Learning objective | Contents | Materials Needed |
|-------|--|---|---------------------------------|
| | - To know the different sources of food | - Food preparation - Food storage - Waste management | |
| 5 | - To know the scientific ways of food preservation - To know the dangerous effects of artificial colors and chemicals on human body which are used in the food - To know the demerits of junk food - To understand the importance of taking adequate foods according to age | - Preservation of food - Micronutrient Deficiencies - Processing Food - Health Risk - Dissemination of nutrition messages to family / community | Unsafe Food color and chemicals |

By country

| Information | Bangladesh | Cambodia | Lao PDR | Myanmar | Timor Leste |
|--|---|---|--|---|---|
| Teaching strategies used for nutrition | Lecture by using text book, chart, pictures, and visual materials, practical session in terms of nutrition teaching | Student centre | Cross-curricular approaches, Experiential learning approaches, game-based approaches | Games Story telling Poem Dramatization Personalization questions Follow up activities Drawing | Teachers tend to write on the board and student copy it and memorise. |
| Resources used by teachers | Text book Lesson plan, Chart Pictures Visual material Chalk, board Computer | Teacher guide, student guide, poster, flash cards, drawings | Textbook, teacher guide and blue box (CD, card, posters) | Teachers' Guide Teaching aids Text books | |
| Sufficiency | In context of curriculum these are sufficient with few limitation | Yes, they are | Need to be reviewed | Not really | |
| Additional materials/ | Documentary film on | Story books, variety | Story books, variety | Pamphlets Posters | |

| Information | Bangladesh | Cambodia | Lao PDR | Myanmar | Timor Leste |
|---|--|---|--|--|--|
| information for teachers | <p>nutrition, sanitation, hygiene etc.</p> <p>Materials related to language, food habit, culture, available resources, heritage for different ethnic children</p> | posters, (these are not available in schools yet) | posters, (these are not available in schools yet) | Visual and auditory aids School garden and food production | |
| Institutions that can provide technical support | <p>Ministry of Primary and Mass Education</p> <p>Institute of Food and Nutrition Science, University of Dhaka</p> <p>Bangladesh Institute of Research and Training on Applied Nutrition (BIRTAN)</p> <p>Department of Agriculture Extension</p> <p>Research Institution like: BARI</p> | <p>FAO; WFP, other local and international NGOs</p> <p>Agri-Companies</p> | <p>Research institute for Educational science (RIES), IEC, MOH, MAF, BEQUAL, FAO, WFP, JICA, UNICEF, UNFPA</p> | <p>Nutrition subject → Health sector (Nutrition Department)</p> <p>School garden → Ministry of Agriculture, also need technical support from external (e.g. FAO, UNICEF)</p> | |
| Usual methods used for teaching | Lecture Visual aid Pictures | Lecture, practice, game, brainstorming, | Lecture, practice, game, brainstorming, Q&A | Lecture Demonstration Role play Group | More lecture then facilitate students to do activity |

| Information | Bangladesh | Cambodia | Lao PDR | Myanmar | Timor Leste |
|--------------------|-------------------|-----------------|----------------|---|--------------------|
| | | Q&A | | Discussion Look and say Questions and answers Displaying materials | |

| | | | | | |
|---|---|--|---|--|---------------------------------|
| Age-appropriate teaching resource materials | Picture & Visual aid (1 & 2) Flip chart & Poster (3 & 4) Flip chart, Model, Computer, Learning by doing (5) | Blue box for hygiene and sanitation education | Blue box for hygiene and sanitation education | Yes | None |
| Responsible for material development | | Ministry of Education and Ministry of health | MoES, MoH and relevant Development Partners | MOE in coordination with related departments/ ministries (MOHS, MOA) | National curriculum unit |
| Constraints | Fund Technical knowhow Resource persons | Resources Fund Commitment of relevant agencies | Technical skill of Government Officials Funding | Technical challenge due to lack of experience Conflict of interest among stakeholders | Need human development training |

WORKSHOP 3 OUTPUTS: SET OF MINIMUM KNOWLEDGE, ATTITUDE, AND SKILLS TO BE ACQUIRED BY PRIMARY SCHOOL CHILDREN AND IDENTIFICATION OF STUDENT APPRAISAL SYSTEM

Group 1

| Grade | Learning objective | Contents | Measures on which indicators will be built |
|--------------|---|---------------------------------------|--|
| Grade 1 | <ul style="list-style-type: none"> To know the names of food To know the classification of food according to taste | Introduction of food | Assessment of knowledge of food classification |
| Grade 2 | <ul style="list-style-type: none"> To know what is a healthy food Food which we can cook and cannot cook To know the necessary of food | Healthy food | Knowledge of Healthy food for human body |
| Grade 3 | <ul style="list-style-type: none"> Idea of nutrition Classifications of food according to nutritional value What is a balanced diet To know seasonal fruits and vegetables To know about different foods according to nutritional value | Balance diet | Knowledge on types of balance diet |
| Grade 4 | <ul style="list-style-type: none"> Sources of vitamins and its importance To know about the necessity of balanced diet Selection of cheap and local food in terms of balanced diet To know the different sources of food | Source of nutrients and balanced diet | Knowledge on importance of nutrients |
| Grade 5 | <ul style="list-style-type: none"> To know food preservation according to scientific method To know the dangerous effects of artificial colors and chemicals on human body which are used in the food To know the demerits of junk food To understand the importance of taking limited foods according to age | Food Preservation | Knowledge of effects of Food color and chemicals on health |

Group 2

| Grade | Learning objective | Contents | Subject | Indicator |
|--|--|---|--|---|
| General Objective: To have basic knowledge in Nutrition and Agriculture | | | | |
| Grade 1 | <ul style="list-style-type: none"> • To have good eating habit • To eat variety of foods • To observe where the foods come from • To have healthy habit | <ul style="list-style-type: none"> • Timely eating Habit • Types of foods • Variety of foods • Washing hands • Brushing teeth | <ul style="list-style-type: none"> • Language • Science • Mathematics | <ul style="list-style-type: none"> • Time of eating • Knowledge on variety of foods • Cleanliness of hands and teeth |
| Grade 2 | <ul style="list-style-type: none"> • To have good eating habit • To understand about basic diet • To eat diverse foods • To understand process of feeding plants | <ul style="list-style-type: none"> • Timely eating Habit • Types of foods • Variety of foods • Washing hands • Brushing teeth • Planting, Watering plants | <ul style="list-style-type: none"> • Language • Science • Mathematics | <ul style="list-style-type: none"> • Time of eating • Knowledge on variety of foods • Cleanliness of hands and teeth • Involvement in watering/ feeding plants • Helping in fertilizers preparation |
| Grade 3 | <ul style="list-style-type: none"> • To understand diverse food groups • To have knowledge about Effective Micro-organisms (EM) • To understand harvesting • To understand food preservation | <ul style="list-style-type: none"> • Timely and healthy eating Habit • Variety of foods • Multiplying Effective Micro-organisms (EM) and their roles • How do we preserve foods and keep them fresh • Washing hands • Brushing teeth • Planting, Watering plants | <ul style="list-style-type: none"> • Language • Science • Mathematics | <ul style="list-style-type: none"> • Variety of foods in lunch box • Number of students involved in planting/harvesting plants • knowledge about Effective Micro-organisms • Knowledge on harvesting, food preservation |

| Grade | Learning objective | Contents | Subject | Indicator |
|--------------|--|---|--|---|
| Grade 4 | <ul style="list-style-type: none"> • To understand balanced diet • To have knowledge of growing various crops • To involve in harvesting process | <ul style="list-style-type: none"> • Balanced diet • Various crops • Growing process • Harvesting process • Preparation of organic fertilizers | <ul style="list-style-type: none"> • Language • Science • Mathematics | <ul style="list-style-type: none"> • Knowledge on food portion size, food groups • Knowledge on growing various crops • Number of students involved in harvesting process |
| Grade 5 | <ul style="list-style-type: none"> • To understand balanced diet • To have knowledge of growing various crops • To involve in harvesting process • To understand about crop calendar | <ul style="list-style-type: none"> • Balanced diet • Various crops • Growing process • Harvesting process • Preparation of organic fertilizers • Data collection on seasonal availability of various crops • Seeds preservation • Demonstration of seasonal crops | <ul style="list-style-type: none"> • Language • Science • Mathematics | <ul style="list-style-type: none"> • Knowledge on food portion size, food groups • Knowledge on growing various crops • Number of students involved in harvesting process • Knowledge on seasonal variation of foods • Number of food calendars produced |

Group 3

| Grade | Learning Objectives | Contents | Subject |
|---|---|--|---|
| Safe food for healthy life style, varieties of food, unsafe food, sensory participation of food, food production (school gardening), eating habit | | | |
| Grade 5/ Grade 6 | <ul style="list-style-type: none"> • Vegetables • Food groups • Personal hygiene • School gardening | <ul style="list-style-type: none"> • Micronutrient Deficiencies • Processing Food • Health Risk • Dissemination of nutritional messages to family /community | <ul style="list-style-type: none"> • Local life skill • Social study • Health |
| Grade 4 | <ul style="list-style-type: none"> • Vegetables • Food groups • Personal hygiene • School gardening | <ul style="list-style-type: none"> • Planting seed for food & eating • Food preparation • Food storage • Waste management | <ul style="list-style-type: none"> • Local life skills • Social study • Health |
| Grade 3 | <ul style="list-style-type: none"> • Vegetables • Food groups • Personal hygiene • School gardening | <ul style="list-style-type: none"> • Food portion • Balanced Diet • Seed selection | <ul style="list-style-type: none"> • Local life skills • Social study • Health |
| Grade 2 | <ul style="list-style-type: none"> • Vegetables • Food groups • Personal hygiene • School gardening | <ul style="list-style-type: none"> • Food groups and eating habits • Hand washing • Garden mapping | <ul style="list-style-type: none"> • Local life skills • Social study • Health |
| Grade 1 | <ul style="list-style-type: none"> • Variety of foods • Personal hygiene | <ul style="list-style-type: none"> • Eating variety of safe foods; • Hand washing | <ul style="list-style-type: none"> • Math • Science • Language |

Members: Mr. Afonso Araujo Lopes – TimorLeste, Mr. Paban Kumar Chakma –Bangladesh, Mrs. Thida Hun -FAO, Cambodia, Ms. Win Win Aung- Myanmar, Ms. Mina Regmi Poudel- Nepal

ANNEX 6 RE-ECHO PLANS

Summary of suggested follow-up actions per country

| Bangla-desh | Cambodia | Lao PDR | Myanmar | Nepal | Timor-Leste |
|--|---|---|---|--|--|
| Sharing workshop on importance of school gardening for supplement nutrition | Development of teacher's manual on Integrating nutrition and school garden in Math and Language studies in primary school curriculum. Training to teachers on Integrating nutrition and school garden in Math and Language studies in primary school curriculum. | Identify objectives of Integrated nutrition into school curriculum Capacity building for curriculum developers and teachers Revised school curriculum (BEQUAL) Development teaching-learning materials | To include school garden in primary education curriculum | A pilot program in school gardening in 3 schools representing three geographical regions (Mountain, Hill, Terai) for grade 1-5 | National workshop on integrating nutrition and Permaculture school garden Installation of 10 permaculture school gardens |
| Importance of nutrition and food for school student. Familiar with agriculture production technology Create awareness about safe food and nutrition. | Develop Teacher's manual as a guide for teachers to be able to create nutrition and school garden integrated lesson plan in Maths and Language Studies. | Increasing nutrition knowledge for students Sustainability | To raise awareness of decision makers and key person on school gardens. To explore ideas/potential ways to start the school gardens. | To enhance the learning capacity of students by introducing the school gardening program. To support for the quality education. (ultimate goal) | To bring together representative of teachers, parents and students from 10 schools for the workshop on integrating nutrition and permaculture school garden. |

| Bangla-desh | Cambodia | Lao PDR | Myanmar | Nepal | Timor-Leste |
|--|--|------------------------------|---|---|--|
| <p>Awareness builds up on environment issues.</p> <p>Promote locally available existing vegetables and their production.</p> | <p>Train teachers of nutrition and school garden integrated in primary school curriculum</p> | | | | <p>To set up 10 perma-culture school gardens.</p> |
| <p>One year (Start from: 1st January-31st December 2017)</p> <p>Venue: District Council Auditorium</p> | <p>October 2016-March 2016</p> | <p>2 Years From May 2017</p> | <p>Two-day workshop Tentative date: Dec 2016/ early 2017 Nay Phi Taw (MOE/ Hotel)</p> | <p>Planning Phase: 2 years</p> <p>Implementation Phase: 5 years</p> <p>Three schools from three regions Different venues for planning</p> | <p>Workshop 5 days, from 23 to 27 January 2017</p> <p>Setting up school gardens from February to December 2017</p> |

ANNEX 7 EVALUATION

| Statements | Strongly agree | Agree | Neutral | Disagree | Strongly Disagree | Mean |
|--|----------------|-------|---------|----------|-------------------|------|
| 1. The objective of the training is clearly defined. | 11 | 6 | | | | 4.65 |
| 2. Participation and interaction were encouraged. | 10 | 7 | | | | 4.59 |
| 3. The topics covered were relevant. | 7 | 9 | | | | 4.44 |
| 4. The content was organized and easy to follow. | 6 | 9 | 1 | | | 4.31 |
| 5. The materials distributed were helpful. | 6 | 9 | 2 | | | 4.24 |
| 6. This training experience is helpful in my work. | 8 | 9 | | | | 4.47 |
| 7. The trainers were knowledgeable about the training topics. | 13 | 4 | | | | 4.76 |
| 8. The trainers were well-prepared. | 13 | 4 | | | | 4.76 |
| 9. The training objectives were met. | 8 | 7 | | | | 4.53 |
| 10. The time allotted for the training was sufficient. | 3 | 8 | 5 | 1 | | 3.76 |
| 11. The meeting room and facilities were adequate and comfortable. | 9 | 8 | | | | 4.53 |