

**ASIA-PACIFIC REGIONAL WORKSHOP ON THE
REDUCTION OF STUNTING THROUGH
IMPROVEMENT OF COMPLEMENTARY FEEDING
AND MATERNAL NUTRITION**

ORGANIZED BY



**GRAND MILLENNIUM HOTEL
BANGKOK, THAILAND
25-27 MARCH 2010**

ACKNOWLEDGEMENTS

This report is the product of a joint effort and we would especially like to thank the following people who have provided valuable inputs to the first drafts of this document: Mandana Arabi, France Bégin, Genevieve Begkoyian, Rita Bhatia, Tommaso Cavalli-Sforza, Michael Dibley, Edward A. Frongillo, Nancy Haselow, Edith Heines, Randa Jarudi Saadeh, Luc Laviolette, Nune Mangasaryan, Lan Ngoc Hoang, Akoto Osei, Shashi Sareen, and Tina Sanghvi. However more than anything, it is the product of three days of active participation from government representatives and partners. Special thanks to Jeanne Lennkh, UNICEF consultant, for writing the report and capturing the richness of the presentations and discussions which we hope will contribute to improve child and maternal nutrition in the region.

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Note on the structure of the report

The report does not strictly follow the order of presentations as they appear in the agenda of this workshop (which can be found in Annex 2). However, the key points presented in this report are along the lines of presentations made by various speakers. The questions and answers sessions which were built into the programme of the workshop are also highlighted in relevant “Discussion” sections of the report.

The report provides a few links to relevant websites. Additional resources can be found on the CD-Rom distributed during the workshop.

LIST OF ACRONYMS

ANC	Antenatal Care
A&T	Alive and Thrive
BCC	Behavior Change Communication
BMI	Body Mass Index
CF	Complementary Feeding
CHW	Community Health Worker
COMBI	Communication for Behavioral Impact
ENA	Essential Nutrition Actions
FAO	Food and Agriculture Organization
HFP	Homestead Food Production
IFA	Iron Folic Acid
IYCF	Infant and Young Child Feeding
LBW	Low Birth Weight
MMN	Multiple Micronutrients
MNP	Micronutrient Powders
ProPAN	Process for the Promotion of Child Feeding (from Spanish acronym)
REACH	Renewed Efforts Against Child Hunger
TIPS	Trial for Improved Feeding Practices
UNICEF	United Nations Children Fund
WFP	World Food Programme
WHO	World Health Organization

EXECUTIVE SUMMARY

Undernutrition jeopardizes children's survival, health, growth and development, and it slows national progress towards development goals. UNICEF's report on *Tracking Progress on Child and Maternal Nutrition* released in November 2009¹ indicates that stunting, compared to other forms of undernutrition, is a problem of larger proportions: among children under five years old of the developing world, an estimated one third – 195 million children – are stunted. In Asia, stunting rates are particularly high (36%). In South Asia, about half of the children are stunted, with 61 million in India alone. Tackling child undernutrition is crucial to achieving the Millennium Development Goals in this region.

Studies based on the new WHO growth standards, provide new evidence regarding the window of opportunity to address stunting. The major decline in height for age for children in the developing world takes place during the period of gestation to approximately 24 months post delivery. This highlights the need to identify interventions which will address stunting before birth, targeting pregnant women and during the first two years of the child.

It is in this context that UNICEF, WFP and WHO jointly organized the Asia-Pacific regional workshop on the reduction of stunting through improvement of complementary feeding and maternal nutrition. About 100 participants from FAO, UNICEF, WFP, WHO², Government health/nutrition departments³, NGOs and Academia gathered on 25-27 March 2010 at the Grand Millennium Hotel in Bangkok, Thailand⁴ in order to discuss the latest evidence on maternal and child nutrition, effective interventions and existing tools which can be used to improve maternal and child nutrition, and share good practices and lessons learnt from country experiences in that area. Group work sessions resulted in country-level gap analysis and priority setting for complementary feeding and maternal nutrition as well as initial country-level action plans⁵.

Key conclusions of the workshop

1. Prevention of stunting must focus on the **“window of opportunity” from minus 9 to 24 months** but also in the context of the life-cycle, considering the inter-generational aspects of the problem. The fact that most children living in less developed countries are born with a weight and length below the reference standard highlights the need to address maternal nutrition (before, during and after pregnancy) as part of stunting prevention strategies.
2. An urgent but neglected area of intervention is the **prevention of stunting during 6-24 months** since the largest percent decline in height-for-age occurs in this age group, and the high prevalence of stunting even in the upper income quintiles in underdeveloped countries shows this is mainly a behavioural problem. Food insecure communities will need additional interventions that have evidence of improved complementary feeding practices or prevention of stunting such as homestead food

¹ Access at http://www.unicef.org/nutrition/index_51688.html

² UN agencies were represented by staff from headquarters, regional offices and/or country offices.

³ Government staff from Afghanistan, Pakistan, China, and Thailand was unfortunately not able to participate.

⁴ The following countries were represented: Afghanistan, Bangladesh, India, Nepal, Pakistan, Sri Lanka, Cambodia, China, Indonesia, Lao PDR, Mongolia, Myanmar, Pacific Islands, Papua New Guinea, Philippines, Thailand, Timor Leste, and Vietnam. The list of participants can be found in Annex 1.

⁵ The agenda of the workshop can be found in Annex 2.

production especially for iron-rich food, supplementation with fortified complementary foods and social protection programmes such conditional cash transfers.

3. **Behaviour change interventions** can greatly contribute to prevent stunting by improving complementary feeding practices. Using approaches such as COMBI, Trials of Improved Feeding Practices (TIPS), and tools such as ProPAN and Linear Programming is useful to provide a comprehensive assessment of the situation on IYCF.

4. Since **anaemia** among pregnant women in the first trimester is one of the important factors contributing to low birth weight and anaemia in infants 0-5 months, and considering that pregnant women in developing countries most often start attendance to ANC clinics after the first trimester, the prevention of anaemia (and generally of maternal malnutrition) should start before pregnancy - the earlier, the better - to interrupt the inter-generational cycle of malnutrition. In this regard, anaemia control programmes for pregnant women need to be strengthened as well as the nutrition component of safe motherhood and family planning programmes.

5. Countries recognized the need to strengthen policy and programme guidelines to incorporate new evidence on **proven and cost-effective interventions and scale them up**. Countries also highlighted the importance of capacity building, leadership and better coordination among the current efforts.

6. The support to IYCF and maternal nutrition interventions should use an **inter-sectoral approach in continuum of care** aimed at improving the status of women, hygiene and sanitation, particularly hand washing linked to infant feeding, incorporating clear messages within educational curricula of adolescents, in-service training of medical and paramedical personnel, strengthening of food safety regulations and poverty alleviation.

7. **Monitoring and evaluation** approaches and methods should take into account the breadth of the programme initiatives being developed and implemented. Improvements in the state of knowledge about HOW to implement successful stunting reduction will come only from well conducted, rigorous evaluations and documentation of processes that can explain the outcomes.

BACKGROUND

In the past two decades, marked improvements have been made in understanding effective interventions to improve infant and young child feeding in order to prevent child under-nutrition. Progress has been made in promoting effective interventions in particular to improve breastfeeding practices, and this has resulted in important increases in rates of exclusive breastfeeding in some countries. The same cannot be said for complementary feeding, which marks a period of great vulnerability for the onset and aggravation of undernutrition. The Guiding Principles for Complementary Feeding of the Breastfed Child and the Guiding Principles for Feeding Non-Breastfed Children developed by WHO, provide important guidance on the various dimensions of appropriate feeding to prevent undernutrition in children. Availability of new indicators for assessing infant and young child feeding practices is an important milestone for efforts to strengthen national programmes and generate better information about outcomes. However, urgent action is needed to translate the guiding principles into effective programmes to improve complementary feeding practices.

Several effective interventions are known to improve CF practices; however, efforts to improve CF should be context-specific and maximize the use of locally available foods and resources. In some cases, additional supplementation may be necessary to meet nutritional gaps, particularly in iron. Effective programming, therefore, should be based on sound information about the setting and follow a

systematic and segmented or targeted approach that includes a situation assessment; formative research to identify priority knowledge and behavior gaps, barriers and motivations and channels of communication to guide locally appropriate feeding recommendations and behavior change interventions; assessment of dietary and nutritional gaps and the need for special product options or additional supplementation in some communities if necessary; design of appropriate performance improvement measures for high quality and sustained community based counseling to support caregivers of children under 24 months; development and pretesting of a limited set of key messages and materials that promote doable actions and dissemination of these messages through multiple channels and contacts reaching key audiences or segments of the population to encourage caregivers and build an enabling environment.

Maternal nutrition is another area of programming which needs additional attention. Infant low birth weight, which is caused by pre-term birth or intrauterine growth restriction, is an underlying factor in 60-80 per cent of neonatal deaths and is closely related to maternal undernutrition. Low maternal body-mass index is associated with intrauterine growth restriction and low birthweight. There is an increasing recognition that it will be difficult to achieve significant progress in reducing child stunting without scaling up appropriate interventions to improve the nutrition of mothers, especially during pregnancy.

Several countries in Asia already have government-run large-scale programmes that can provide excellent opportunities for improving CF and maternal nutrition. Countries like Bangladesh, Indonesia, and India are good examples of this. The nutritional packages and targeting practices of these programmes, however, are not always in line with optimal practices and recommendations, and inputs are required to ensure they are appropriate and of good quality, reach those who need them most and are taken to scale. Interventions to address child stunting need to be integrated within such large-scale government programmes across various sectors including health, agriculture and education with solid monitoring and evaluation components to ensure progress.

MEETING GOAL, OBJECTIVES AND EXPECTED OUTCOMES

The **goal** of this workshop was to review current successful interventions and delivery models for improving complementary feeding and maternal nutrition, and by using available tools and methodologies, develop a work plan for priority actions to reduce stunting in target countries.

Specific objectives of the workshop were to:

1. Discuss recent advances in programming for complementary feeding and maternal nutrition;
2. Review implementation models for effective intervention options;
3. Assess information and programmatic gaps and plan for complementary feeding interventions as part of comprehensive IYCF programmes and address programmatic needs for improving maternal nutrition;
4. Define short-term and long-term action points, work planning and M&E framework to track progress.

Expected outcomes were:

- Countries are able to draw from recent advances, experiences and expertise on IYCF and maternal nutrition to adapt models to their context;

- Countries have been introduced to existing tools to support programming in complementary feeding;
- Countries have started developing action plans by identifying key actions, responsibilities and a timeline for complementary feeding interventions as part of IYCF and neonatal health programmes to address stunting;
- Countries have identified the steps to improve programming in maternal nutrition this includes attention to food based approaches and their effectiveness on maternal nutrition;
- Coordination between partners to tackle stunting in the Asia-Pacific region has been further strengthened.

OVERVIEW OF THE MATERNAL AND CHILD NUTRITION SITUATION IN ASIA-PACIFIC AND RECENT EVIDENCE OF WHAT WORKS

Using data from **UNICEF's report on Tracking Progress on Child and Maternal Nutrition (2009)** and from the **Lancet Nutrition Series 2008**, and recent advances in programming, an overview of the global nutrition situation was provided and the following conclusions were made with a focus on maternal and child nutrition in Asia:

- Importance of better addressing maternal nutrition (including maternal and adolescent/pre-pregnant women anaemia) in order to prevent low birth-weight (almost ¾ of the 20 million low birth-weight infants born in the developing world are in Asia);
- Need for a well functioning health system that is able to deliver high-quality care to pregnant women and their newborn infants in order to better prevent infant mortality in the first few months; and continuation of timed and targeted contacts at critical stages between minus 9 months and 24 months for interventions targeted to preventing malnutrition among pregnant women and undernutrition in the under two's including prevention of low birth weight;
- Need to improve the content and quality of counseling provided by health workers in the health system and community, in particular regarding early initiation of breastfeeding, exclusive breastfeeding up to 6 months, timely introduction of complementary feeding and continuation of age-appropriate complementary feeding which are very low in Asia;
- Importance of looking at continued barriers to maintaining exclusive breastfeeding for 6 months when onset of stunting is visible (Victora, 2010) and both undesirable characteristics of complementary feeding introduction (too early and too late introduction of foods) as counseling will differ in each case;
- Importance of addressing stunting which is a major cause of death among under five year old children in the developing world and particularly in Asia where the prevalence of stunting is extremely high in many countries;
- Importance of preventing stunting through improved complementary feeding practices;
- Importance of disease control interventions linked to complementary feeding as the two primary immediate causes of child undernutrition (UNICEF causal framework);
- Need to address the double burden of stunting/underweight and obesity/overweight in some countries, through the promotion of breastfeeding and appropriate complementary feeding

using locally available healthy foods which can in turn contribute to reduce obesity among young children and through adulthood;

- Need to pay particular attention to anaemia prevalence among under-two years old and to gather more information about availability of iron-rich foods in the communities and the severity of anaemia, in order to address this issue correctly: food based approaches, provision of iron/micronutrient supplements or iron-fortified food through the 2nd year of life when young children are at high risk of anaemia as it is difficult to meet iron needs from foods;
- Need to better address the issue of Moderate Acute Malnutrition (MAM) which, like Severe Acute Malnutrition (SAM), increases the risk of dying from diarrhoea, pneumonia, malaria or measles (even though in lesser proportions);
- Need to address large knowledge gaps in all economic segments and urban/rural populations through public education about when, what, how much to feed children 6-24 months of age;
- Need to better reflect and address disparities between urban and rural areas, national and sub-national levels, poorest and richest quintiles, as well as gender disparities;
- Need to include new indicators on frequency of feeding and diversity of diet in nutrition surveys to better assess complementary feeding practices, and conduct further work on assessing quantity and 'responsive feeding' that appear to be particularly critical in South Asia where undernutrition is most widespread and serious;
- Need for more research on the effectiveness of food based approaches and integrated programming improving nutrition including the contribution of food security and diversification of food production to better nutrition.

Update on the Global Consultation on Management of Moderate Acute Malnutrition

UNICEF provided an update on the Global consultation on the management of moderate acute malnutrition, hosted by WHO and which took place in Geneva on 24-26 February 2010. Evidence shows that there are more children suffering from Moderate Acute Malnutrition (MAM) than Severe Acute Malnutrition (SAM) and that the relative risk of death from various illnesses is still higher for children with moderate and mild underweight than for well-nourished children. However, MAM is not correctly addressed and more interventions focus on SAM.

This consultation examined the programmatic aspects of the Community-based Management of Acute Malnutrition (CMAM) which integrates services and programmes addressing MAM as well as outpatient and inpatient care for SAM. The report of this consultation will be published later this year and a joint WHO/UNICEF/WFP/UNHCR/FAO statement, covering both dietary and programmatic recommendations of the management of MAM will be released by the end of 2010.

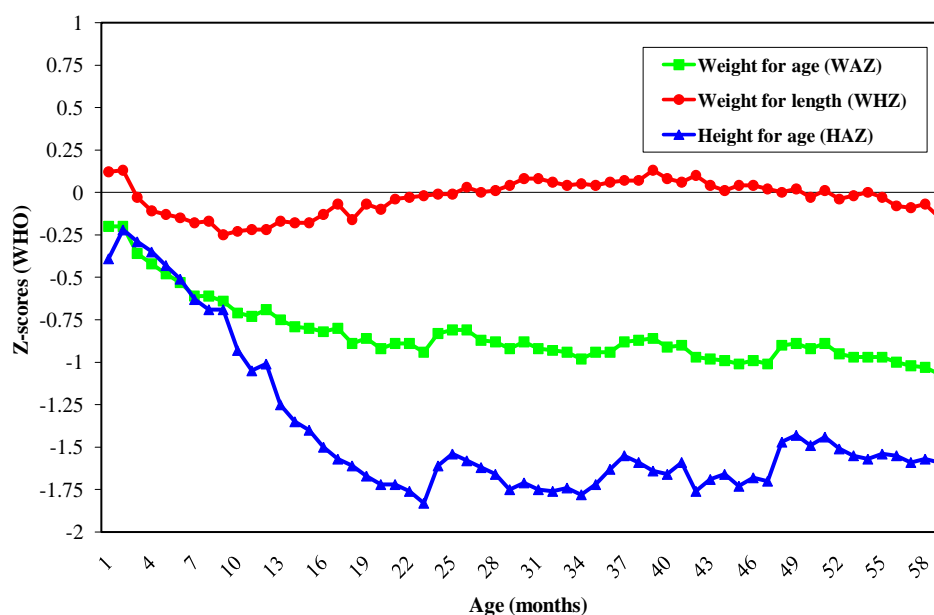
The window of opportunity to address stunting

Studies based on the new WHO growth standards, provide new evidence regarding the window of opportunity to address stunting. A majority of growth faltering in children happens early in life: children are born with growth retardation which points to the importance of maternal nutrition and intrauterine growth. The major decline in height for age for children in the developing world takes place during the period of gestation to approximately 24 months post delivery, after which there is a relative stability.

Nutritional deficits acquired in the early stages of life are difficult to reverse later, and at the same time, interventions delivered during this time can make the largest difference. Therefore, the period from pregnancy through the first 24 months of life (between minus 9 to +24 months) is recognized as a “window of opportunity” for improving child nutrition^{6,7}, emphasizing the need for interventions targeting pregnant women (maternal nutrition) and supporting appropriate infant and young child nutrition in the first two years of life in order to prevent stunting and its future deleterious outcomes. A comprehensive national strategy addressing nutritional problems during the “window of opportunity” (minus 9 to 24 months) is needed to make a significant impact at scale.

Most of the growth faltering happens in the first two years of life, and low birth weight contributes to early faltering. This picture clearly demonstrates the need for prenatal and early life interventions to prevent growth failure and support optimal growth in children.

Mean anthropometric z-scores by age for all 54 studies, relative to the WHO standard



Source: Victora CG et al., 2010 (*op. cit.*)

During the workshop, several conceptual frameworks related to stunting were presented; they all show that both maternal nutrition and infant and young child feeding are determinants of stunting.

⁶ Shrimpton R, Victora CG, de Onis M, Lima RC, Blössner M, Clugston G. Worldwide timing of growth faltering: implications for nutritional interventions. *Pediatrics*. 2001 May;107(5):E75.

⁷ Victora CG, de Onis M, Hallal PC, Blössner M, Shrimpton R. Worldwide timing of growth faltering: revisiting implications for interventions using the World Health Organization growth standards. *Pediatrics* (In press - February 2010)

MATERNAL NUTRITION

Before pregnancy, the mother's own fetal growth, her diet from birth to pregnancy, and her body composition at conception (body mass index) are factors which will affect the child's birth weight. Child birth spacing including delayed first pregnancy, especially at adolescence, are also important.

During pregnancy, the mother's diet, her lifestyle (alcohol use, smoking), illnesses (such as malaria, HIV, syphilis, etc) and complications (such as hypertension) will also affect fetal growth, development, and the duration of pregnancy.

Furthermore, there is an increased risk of low birth-weight infants among mothers in deprived socio-economic conditions due to the mother's chronic poor nutrition and health, the high prevalence of infections and physically demanding work during pregnancy.

- *Intrauterine stunting begins in the first trimester: growth retardation in fetuses is evident by 8 weeks of gestation;*
- *Chronically malnourished mothers with low pre-pregnancy size and with low weight gain have smaller infants;*
- *Maternal weight gain during the second trimester has a greater effect on birth weight than the weight gain during the third trimester;*
- *Thinner women have a lower placenta-to-birth weight ratio demonstrating the importance of physiology.*

Interventions to improve maternal nutrition and birth outcomes

The Lancet Nutrition Series (2008) show that the following interventions are effective in improving maternal nutrition and birth outcomes in all countries:

- Iron folic acid (IFA) supplementation containing 60 mg iron;
- Maternal supplements of multiple micronutrient supplements (MMN);
- Maternal iodine through iodization of salt;
- Maternal calcium supplementation (for pre-eclampsia and eclampsia prevention);
- Reduce tobacco consumption or indoor air pollution.

The following interventions are useful in specific situational contexts:

- Maternal supplements of balanced energy and protein;
- Maternal iodine supplements;
- Maternal deworming in pregnancy;
- Intermittent preventative treatment for malaria;
- Insecticide-treated bed nets.

Action can be started to promote the early use of IFA or MMN during pregnancy, provided the supplement contains 60 mg of iron. The positive effects of taking any of these supplements during pregnancy as well as the benefits of early supplementation have been proven. However, studies are not conclusive regarding the benefits of MMN over IFA during pregnancy. For birth outcomes, a higher level

of iron seems better but additional nutrients provide an added value. A recent meta-analysis⁸ showed that infants whose mothers received MMN had significant higher birth weight compared to the IFA group. There was no significant difference in other birth outcomes but a trend of higher early neonatal death with MMN was noted. The composition of MMN should be revised to provide higher levels of iron. However, until there is an agreement at international level on the recommended amount of iron (30 mg/60 mg), countries need to make decisions based on their evidence and focus on strengthening existing supplementation programmes.

Whether IFA or MMN are promoted, all programme components need to be in place and effective, i.e. availability and quality of supplies, appropriate communication strategy and BCC, strengthened counseling (through appropriate training, refresher courses etc.), fixed health services supported by community-based workers, monitoring coverage and compliance.

Actions to improve the iron status of women of reproductive age are urgently needed (pre-pregnancy supplementation, food fortification or a combination of both). A good community level programme is needed to introduce supplementation as early as possible, ideally before pregnancy. There are examples of countries that have introduced a newly-wed couple package which includes among other things IFA for the future pregnant woman.

Urgent action is needed to better address maternal nutrition because of its intergenerational dimension:

- *The health of the adults of tomorrow is critically dependent on the health of the children of today: in order to improve birth weight of infants in future generations, intra-uterine growth of babies needs to be improved now.*
- *Many of the health problems faced by adult women have their origins in childhood, such as poor nutrition.*
- *The nutritional status of girls is of particular importance in part due to their future reproductive role and the intergenerational effects of poor female nutrition.*

Better ways of encouraging women to take iron tablets early need to be identified. The community needs to be better informed about the advantages of taking early supplementation and easy access should be provided to supplementation. There are ways of improving compliance and reducing side effects such as using film-coated tablets and instructing women to take the tablets before going to bed instead of early in the morning.

Women with low BMI do not benefit so much from IFA or MMN supplements, especially in food insecure areas: supplementation alone is not sufficient and specific food supplements may be necessary.

A comprehensive anaemia control strategy is needed including adequate treatment of infectious diseases, deworming, malaria prevention, increase consumption of iron-rich food, etc.

Actions should also be taken in view of improving overall the care of women and strengthening the nutrition component in maternal health programmes, safe motherhood, family planning, etc.

⁸ Food and Nutrition Bulletin 34(4), 2009.

COMPLEMENTARY FEEDING

A presentation of the technical meeting on "Strengthening actions to improve feeding of infants and young children 6-23 months of age in nutrition and child health programmes" organized by WHO and UNICEF in Geneva in October 2008, highlighted the following important action points with regard to complementary feeding:

- Need for IYCF programming in the context of the life cycle: raising awareness on the window of opportunity to address stunting and the intergenerational aspect;
- Importance of behavior change with an emphasis on careful assessment of feeding practices and influencing factors, use of appropriate channels, performance improvement strategies for high quality sustained counseling and problem-solving;
- Integration of micronutrient interventions with infant and young child feeding counseling;
- Maximize utilization of locally produced foods for enhanced acceptability and availability; additional products should be promoted only if they fill a critical gap;
- In food insecure populations, special focus on affordability of quality foods: social protection and poverty reduction schemes.

Interventions to improve child nutrition

The Lancet Nutrition Series 2008 show that the following essential nutrition interventions are effective in improving child nutrition:

- Breastfeeding promotion, protection and support through individual or group counseling: Early initiation of breastfeeding and Exclusive breastfeeding for 6 months;
- Complementary feeding promotion strategies through behavior change communication: Continued Breastfeeding with appropriate complementary feeding from 6 months to 2 years with or without provision of food supplements depending on the context;
- Micronutrient interventions (especially Zinc, Vitamin A): targeted fortification and supplementation;
- Universal salt iodization;
- Interventions for the treatment of severe acute malnutrition;
- Delayed umbilical cord clamping to improve the infant's iron status.

Availability, affordability and accessibility of food are not always the problem:

- *Education and counseling for behavior change are more often the main constraint and can be effective in improving child growth for a large proportion of children (Shi et al, 2009).*
- *Knowledge, culture and behavior need to be addressed in order to improve child feeding.*
- *General supportive strategies for improving family and community nutrition and disease burden reduction, such as the inclusion of nutrient-rich animal-source foods and increased dietary diversity, are important.*

Micronutrient interventions improve the micronutrient status of under five years old children: micronutrients are important for the survival of the child but the benefits to growth are small. Only comprehensive complementary feeding interventions (nutrition counselling in food secure settings and

counselling with provision of fortified foods or supplements in food-insecure settings) have shown to reduce stunting significantly.

Hygiene and sanitation interventions, even at 36 months, can also contribute to the reduction of the prevalence of stunting.

Although important, economic growth alone is not sufficient to reduce stunting; it is therefore suggested that more specific nutrition interventions need to be put in place to address stunting along with poverty alleviation measures.

Rising prices could limit the ability of caregivers to provide quality foods: linking nutrition intervention to social protection and livelihood schemes has proven to be effective⁹.

In this respect, community-based interventions and local community empowerment are crucial¹⁰. Because they all depend on best family practices and behavior changes, these community-based interventions should be delivered in an integrated approach through a community package including nutrition, hygiene and sanitation, prevention and management of childhood illnesses (pneumonia, diarrhea and malaria in particular).

Behavior change approaches for improved complementary feeding

The importance of behavior change approaches for improved complementary feeding, including counseling and behavior change communication, was particularly highlighted.

- Programmes should be carefully designed based on formative research, focusing on a limited set of do-able actions with pre-tested educational messages delivered through multiple channels;
- Timed and targeted contacts when IYCF practices are most at risk need to be introduced. For example, 2-3 months to prevent premature introduction of foods; 6 months for introduction of CF; 9 months to increase quantities and transition to self-feeding and new consistency/textures; and 12, 18 and 24 months to complete transition to family foods and maintain quantities needed to meet nutritional requirements;
- Focused behaviour change for hand washing should be linked to food preparation and feeding of children during 6-24 months;
- The creation of demand for improved feeding practices should be addressed by identifying benefits to the target population;
- Interventions should be integrated into existing primary health care platforms (Antenatal care, Maternal care, newborn care, Community IMNCI, immunization, effective growth monitoring promotion targeting children under 2 years) that coincide with the most vulnerable ages when feeding practices deteriorate giving rise to undernutrition, and that offer a cost-effective opportunity to provide nutrition support to young children and their mothers;

⁹ Osberg L, Shao J, Xu K. The growth of poor children in China 1991-2000: Why food subsidies may matter. Health Economics, 2009

¹⁰ Yang, C et al. Effect of village income and household income on sanitation facilities, hygiene behaviors, and child undernutrition during rapid economic growth in a rural cross-border area, Yunnan, China. J Epidemiol Community Health 2009; 63: 403-407.

- Addressing equity and reaching the unreachable through community approaches with a key package of essential interventions focusing on family practices;
- Delivery platforms provided by sectors other than health should also be used such as agriculture, education, women/gender equity, water and sanitation, local government, social welfare, and poverty alleviation.

Behavior Change and the COMBI Approach

WHO presented the Communication for Behavioral Impact (COMBI) approach used for strategic social mobilization and communication. It is a process which uses various communication interventions to engage individuals and families in considering recommended healthy behaviors, and to encourage them to adopt and maintain these behaviors. It recognizes that in health the ultimate goal is behavioral impact, i.e. someone doing something. More information about COMBI can be found on the WHO website¹¹.

The COMBI approach has been used effectively by WHO, UNICEF, UNFPA and UNDP in different areas of health and social development where behavioral change was needed. It has been used successfully for breastfeeding promotion but it has not yet been used in the area of complementary feeding. However, through its focused behavior change approach, COMBI can address stunting by improving certain complementary feeding behaviors (such as the age of introduction of food).

COMBI is useful when expected behavioral results are not achieved otherwise. However, it requires careful management and substantial investment. The cost of developing COMBI is approximately 4.5 million \$ over 3 years and varies by country. So far, the cost-effectiveness of this approach has not really been assessed but COMBI has been successful in many areas.

Lipid-based supplements and fortified complementary foods in the context of IYCF programmes

Depending on the access to appropriate age-specific food, WFP will opt between one of the following action in order to ensure adequate complementary food intake in terms of quantity and quality:

- Improve local diet (available foods, production, counselling);
- Add complementary food supplements (LNS, MNP etc.) – especially when local foods cannot meet the required levels of certain micronutrients (iron in particular);
- Provide specific foods that replace some or all of the home diet (special complementary foods, e.g. fortified blended foods).

WFP presented recent developments regarding existing supplementary food commodities. There is a wide range of food commodities among which a choice needs to be made based on the specific context. A framework has been developed by WFP to help make the right choice among various food commodities when designing and implementing a nutrition intervention (blanket or targeted supplementary feeding). The framework links the various food commodities to the context, the type and the purpose of the intervention, the target group, etc. It highlights the nutrient profile of each specific food product on a daily basis as well as the conditions for its use. The choice between one or the other food commodity will depend on the context such as storage, access to appropriate age-

¹¹ <http://www.emro.who.int/RBM/publications/combi-background.pdf>

specific food, upcoming food crisis/shortage etc. Overlap of products should be avoided in order to provide not more than the Recommended Nutrient Intake (RNI).

The cost per metric ton is no longer the key indicator but rather the cost per daily dose (there is a great variety in the dosage per day). Eventually, cost-effectiveness will be determining as the cost of these products is high. There is ongoing research to collect evidence which would allow assessing the effectiveness of these products, i.e. their impact on growth, on the recovery rate of children with MAM, on anaemia, the nutrition status and the body composition. WFP is involved in several studies from which programmatic outcomes at household level are also expected.

DISCUSSION

The relevance of using these food commodities before the publication of the results of ongoing research was discussed. Participants mentioned that some Governments question the introduction of products by the UN which might be considered as inadequate later on. Evidence on the effectiveness of these products would facilitate their acceptance by Governments.

Furthermore, participants mentioned certain sensitivity around fortified commercially-produced foods and MNPs in some countries. This is a complex issue which needs to be addressed in a context perspective.

Update on Codex Alimentarius for Complementary Foods

FAO presented the various standards developed by the Codex Alimentarius Commission. The implementation at country level of Codex Standards for complementary foods was discussed and the following recommendations were made in that respect:

1. Governments need to become aware of the Codex Standards/guidelines on “Complementary foods for infants and young children” and should provide reference to them in their country legislation.
2. Once these standards have been adopted, there needs to be a focus on technical assistance and training to government, industry, NGOs and other stakeholders on the use of and compliance to the Codex Standards/ guidelines on “Complementary foods for infants and young children” and other related standards on hygiene and labelling.
3. Donors need to support technical assistance in terms of funding for trainings and technical assistance in relation to 2) above¹².
4. At the same time, awareness programmes need to be developed in order to create a demand for complementary foods for infants and young children that comply with existing international standards.
5. Guidelines on appropriate marketing of complementary foods need to be developed for reference for countries in the region¹³.
6. A guidance document compiling texts from Codex in the area of complementary foods for infants and young children to include relevant areas may be useful to assist countries in the

¹² This is prompted by the fact that the implementation of such standards requires important resources.

¹³ It was suggested that guidelines on the marketing of complementary foods could be developed by a Codex Committee if there is some consensus or a workshop could be organized on this topic to prepare some guidance for the future work of a Codex Committee. However, countries should not wait for the release of these formal guidelines but rather look at standards and move ahead on the issue of marketing. If needed, countries can ask for further information and support.

implementation. Currently, a number of texts are applicable regarding labelling, hygiene practices, standards for processed cereal-based foods for infants and young children and the Guidelines on formulated supplementary foods for older infants and young children.

7. There are some guidelines on some of the anti-nutrients factors. This topic could be considered by a Codex Committee.

PROGRAMME PLANNING PROCESS IN THE CONTEXT OF IYCF

In order to ensure the continuum of care in time and place, interventions have to be comprehensive, i.e. they have to take into account target groups at all levels (individual, household, community and health facilities, national and sub-national) and at all times of the care-giving cycle for mothers and children (adolescence, pre-pregnancy, pregnancy, birth, postpartum/neonatal, postnatal, infancy, childhood)¹⁴.

A comprehensive IYCF programme includes strategies which address upstream work on advocacy and policy, capacity-building, systems strengthening, communication, monitoring and evaluation, as well as specific IYCF strategies in exceptionally difficult circumstances, such as HIV/AIDS and emergencies.

Efforts should be context/country-specific and supported by appropriate national policies and Government commitment. Success is predicated on both favorable structures (i.e. health and other systems) and an effective agency (i.e. motivation, capacity, and behavior) of all parties involved (i.e. stakeholders and decision-makers, programme providers, programme recipients including mothers/caregivers, infants and young children).

¹⁴ Counselling and education of mothers about optimal feeding and care practices and use of locally available foods is an essential component of an IYCF program. A decision tree was presented to help prioritizing “additional” components depending on the situational context.

Priority action areas and available tools

1. **Comprehensive assessment of the situation on IYCF:** collect and analyse data on nutrition and feeding practices among infants and young children 6-23 months old. Different tools can be used for this assessment such as Planning guide, Updated indicators on IYCF, ProPAN, Linear programming, TIPS, Assessment matrix, KAP etc. Raise awareness on IYCF among policy-makers & partners; advocate for program development. Need to listen to caregivers and identify their constraints and motivations.
2. **Analysis** of causes and factors behind sub-optimal IYCF practices and programs **leading to the development or revision of a comprehensive national infant and young child feeding policy**, including the feeding of 6-23 month-olds. Consider global documents such as Comprehensive approach to IYCF (GSIYCF), Convention on the Rights of the Child, International Code of Marketing of Breast-milk Substitutes, Codex Standards as well as tools such as ProPAN, Designing by Dialogue.
3. **Intensify efforts to protect, promote and support appropriate IYCF practices** of 6-23 month-olds. The majority of families need to be reached with a comprehensive multi-channel communication strategy combining interpersonal support to caregivers with mass media and social mobilization to influence family and community decision-makers. Frontline workers will need a cohesive performance improvement plan to sustain high quality counselling. The program should include those living in exceptionally difficult circumstances (Guiding principles for complementary feeding of the breastfed child, Guiding principles for feeding non-breastfed children 6-24 months of age, IYCF in emergencies, IYCF and HIV, IYCF and LBW, IYCF and malnutrition).
4. **Assess food access** and provide orientation on how to ensure appropriate feeding of children 6-23 months old when there is food insecurity. Identify households needing support, support therapeutic feeding, promote and support food fortification, improve hygiene, sanitation and access to water.
5. **Work with various stakeholders** to review ways to ensure appropriate intake of micronutrients by children 6-23 months old. Consider assessment results in relation to Iron (anaemia), Iodine, Vitamin A, Zinc, and other micronutrients; discuss feasible alternatives to ensure appropriate micronutrient intake.
6. **Support operations research, monitoring and evaluation** of infant and young child feeding activities, with emphasis on the 6-23 months old group and disseminate findings: support operational research, coordinate with various stakeholders, use updated definitions, monitor and evaluate using updated operational guidance, integrate monitoring and evaluation with use of data for decision-making, disseminate results of operations research, monitoring and evaluation.
7. Develop a comprehensive strategy and **plan of action**, including M&E, for IYCF at scale through different channels and mobilize resources and partners; Implement IYCF interventions; Conduct monitoring of IYCF interventions; Evaluate actions, outcomes & impact and adjust strategies and action plans accordingly.

Presented by WHO, based on the technical meeting on "Strengthening actions to improve feeding of infants and young children 6-23 months of age in nutrition and child health programs" organized by WHO and UNICEF in Geneva in October 2008

Tools supporting appropriate feeding of 6-23 months old children

ProPAN, Linear Programming and Trials of Improved Feeding Practices (TIPS) were presented and basic training was provided on ProPAN and Linear Programming at the end of the workshop through a brief demonstration of the various steps involved in using each software.

ProPAN and Linear Programming (NutriSurvey/Optifood) are tools which help develop appropriate feeding recommendations. A&T's experience in Bangladesh illustrated this. Both approaches appear to be complementary as ProPAN is useful for collecting information on food and dietary intake, while Linear Programming is useful to test the extent to which food-based recommendations are likely to ensure nutritional adequacy.

ProPAN

ProPAN (Process for promotion of child feeding) is a manual and software package that describes a step-by-step process, beginning with the quantitative identification of nutritional and dietary problems, and the collection of qualitative information on why these problems occur, and ends with the design of and evaluation plan for an intervention to address the problems identified.

The ProPAN module and software¹⁵ have been used in countries in Latin America but will be updated by the end of 2010 to become more user-friendly and flexible, adapted to the Asian and African context.

DISCUSSION

ProPAN can be used by nutrition or health officers at sub-national level; training is needed but ProPAN is easy to use. Implementing ProPAN is supposed to be a fast process: the timeline between the initiation of the process and the presentation of results is approximately 4 months, including training, data collection, data analysis and recipe creation. Results can be replicated in other localities. However, if there is a big variation in feeding patterns among the population within a country, then the whole process needs to be repeated in each locality. In some countries, two feeding patterns were examined (rural and urban) but in other countries it was done for each district. However, large sample sizes are not needed.

Linear Programming

The Linear Programming module of Optifood was made to design diets compatible with local food habits and fulfilling different sets of nutritional recommendations at the lowest possible cost. This software was developed to formulate complementary feeding recommendations, to test and compare the recommendations (examine cost & nutrient adequacy), to identify likely key problem nutrients in a diet based on local foods and to help make nutrition programme planning decisions at local, regional or national levels.

DISCUSSION

Currently, only NutriSurvey exists and a step by step explanation on how to use the software is available¹⁶. It may be replaced in a year or so by Optifood for which a user-friendly interface to set up and run models is currently being developed and will be tested in the next 6 months. Optifood is at the developmental stage so it is not clear where it is going to be used but it is expected that it could be used

¹⁵ They can be found on: <http://www.paho.org/English/AD/FCH/NU/ProPAN-index.htm>

¹⁶ Available on <http://www.nutrisurvey.de/lp/lp.htm>.

at local level. Technical expertise (nutritionist in Ministry, NGO, universities) is required to use NutriSurvey/Optifood. The “Cost of Diet” model and Optifood are complementary.

Trials of improved feeding practices (TIPS)

TIPS is a formative research tool that aims to promote behavior change¹⁷. Within the context of FAO’s nutrition projects, TIPS is applied to assess local complementary feeding practices, identify most acceptable and feasible practices, and promote improved recipes. The TIPS field phase consists of an interactive dialogue between researcher, community workers, mothers or caregivers. The mother/caregiver is given the opportunity to select her own complementary feeding practice and the time to test simple recommendations at home. Menus of possible improved recipes can be modified and adopted consequently. The TIPS community based approach also incorporates nutrition counseling for better practices. Information on the acceptability and feasibility is used for the development of guidelines at country level.

Examples of use of the TIPS tool in Afghanistan (FAO) and Bangladesh (A&T) were presented. TIPS is proven to be effective for:

- Testing the acceptability and feasibility of improved child feeding techniques;
- Promoting local food resources as part of a strategy for improving child feeding, preventing and addressing moderate malnutrition (experiences show that the promotion of local foods for CF must be part of comprehensive strategy);
- Increasing the dietary diversity of children;
- Building on local resources, supporting the empowerment of caregivers (it is neither de-skilling nor creating dependency on industrialized or commercial products);
- In resource poor environments, dietary counselling is more effective if closely linked with household food security, home gardening, food processing.

APPROACHES SUPPORTING THE PROGRAMME PLANNING PROCESS FROM ASSESSMENT TO ACTION

The REACH¹⁸ approach and Landscape Analysis¹⁹ were introduced with practical applications at country level. The two approaches assess the country situation in view of implementing a programme at scale. Landscape Analysis provides recommendations at the higher level with no detailed action plan; it helps a country map the problem and develop a strategy accordingly. With REACH, all stakeholders are involved in developing a plan of action; it provides a more in-depth analysis.

REACH

REACH is a multi-stakeholder partnership among UN, civil society and private sectors to support Government-led efforts to deliver at scale an integrated multi-intervention approach. In-country activities build upon existing programmes and infrastructure. The REACH approach puts the child at the center and integrates food security, health and care for good nutrition. It assists countries in scaling up

¹⁷ It was developed by the Manoff Group and more information can be found on the following website: http://www.manoffgroup.com/approach_developing.html

¹⁸ The REACH partnership was established by FAO, WHO, UNICEF and WFP to address the challenges of under-nutrition and to support countries in achieving MDG 1, Target 3. www.reach-partnership.org

¹⁹ <http://www.who.int/nutrition/nlis>

a comprehensive package of interventions that have been successful in protecting and improving child nutrition.

In Laos, there was already a policy on nutrition but through the REACH approach, the Government developed a comprehensive National Nutrition Strategy and Plan of Action (NNS/NPAN). REACH's stocktaking analysis achieved common understanding on the nutrition situation in Lao PDR and highlighted the urgent need for action, motivating stakeholders to join forces to achieve a common goal.

DISCUSSION

The process took 1 year in Laos but was shorter and rougher in Mauritania. With this experience, the process should become faster next time. REACH provides a process but the ultimate objective is to empower the Government.

Landscape Analysis

The Landscape Analysis was developed as part of WHO-led interagency efforts in strengthening the contribution to the achievement of the Millennium Development Goals (MDGs), in particular MDG 1, 4 and 5. The Landscape Analysis is a "Readiness Analysis" which assesses a country's needs in child stunting and maternal anaemia, including gaps/constraints, and its readiness to scale up action in nutrition by looking at its ability (capacity) and willingness (commitment) to act. It allows a country to see where it is and what needs to be done (for example greater focus on preventive activities and on advocacy). As part of the Landscape Analysis, cross-cutting issues are identified through the country assessment. This will lead to a set of recommendations as part of a framework for guiding consolidated / harmonized action at the country level for international investment: it looks at where to invest and how to invest.

A Landscape Analysis was conducted in Timor-Leste and very recently in Indonesia. Findings and recommendations are similar although the two countries are quite different. In Timor-Leste, in the absence of nutritionists in the country, capacity building was identified as one of the greatest challenges. In Indonesia, the Landscape Analysis created a momentum and strengthened partnerships on nutrition.

DISCUSSION

In Timor-Leste, the team spent one week in the field but it took much longer to compile the report. As part of the discussion on the experience in Timor Leste, there were several questions on growth monitoring and how to prioritize weighing activities combined with counseling. UNICEF has prepared a Q&A paper on this issue. Participants stressed the importance of making weighing meaningful to the caregivers through systematic orientation on how to interpret the weighing results.

PROGRAMME MONITORING AND EVALUATION

The key elements of developing a framework for monitoring and evaluating IYCF programmes were presented. These include:

1. The concept and design of the programme need to take into account biological/epidemiological considerations (to identify critical interventions which need to be delivered during the lifecycle); sociopolitical aspects (with a focus on the perception of the problem, interests of those who will need to take action), and operational issues (such as the integration of nutrition interventions with

other programmes, key actors, costs etc). The importance of influencing the perspective of the various actors involved and of developing commitment, consensus and legitimacy for moving the nutrition agenda forward was highlighted.

2. Monitoring of programme implementation examines whether the target population is reached, how services are delivered, and what resources are being expended.
3. The effectiveness and efficiency of the programme can be examined by assessing the impact (what has happened?), the efficiency (what did it cost?), the process (how did it happen?) and the causality (why did it happen?). Depending on what needs and what can be assessed, different evaluation designs can be used.

Constraints identified are the reluctance of donors to properly fund M&E activities and the need to streamline data in monitoring frameworks. Often too much data is identified for monitoring but it is not available or if even where available, some are not analyzed; evaluators need to look at how to best use available resources and not request for data they do not really need.

During the workshop, country delegations were invited to work in groups in order to undertake gap analysis and priority setting for complementary feeding and maternal nutrition as well as to develop initial country-level action plans for an IYCF strategy. The gap analysis in IYCF highlighted the commonalities between countries in the region: while many countries report having an IYCF policy/strategy, its implementation is often problematic. Many countries also reported the need to improve capacity at the community-level, within the health system and in the area of M&E. The results of these group works can be found in Annexes 3 and 4.

IYCF Indicators

The document *“Indicators for assessing infant and young child feeding practices Part I Definitions”* published in 2008 identifies and defines eight core indicators, four of which are new (underlined in the textbox), and seven optional ones²⁰.

The new indicators are more inclusive than the previous ones; they look at all children both breastfed and non-breastfed. They also take into account the milk feeds for non-breastfed children.

A second document *“Part II Measurement”* will be published soon and will provide information on how to operationalize these indicators.

Eight Core Indicators

1. *Early initiation of breastfeeding*
2. *Exclusive breastfeeding under 6 months*
3. *Continued breastfeeding at 1 year*
4. *Introduction of solid, semi-solid or soft foods*
5. *Minimum dietary diversity*
6. *Minimum meal frequency*
7. *Minimum acceptable diet*
8. *Consumption of iron-rich or iron-fortified food*

There are no indicators on **quantity** (portion size) and **consistency** of food. There is a debate whether there should be specific questions on the amount of food consumed by the child. It seems that frequency can be used as a proxy for quantity; studies show that this is a reasonable surrogate but it has not been validated in all regions. The idea of consistency is reflected by density: the new operationalization guide excludes very thin porridge.

²⁰ Optional indicators: *Children ever breastfed; Continued breastfeeding at 2 years; Age-appropriate breastfeeding; Predominant breastfeeding under 6 months; Duration of breastfeeding; Bottle feeding; Milk feeding frequency for non-breastfed children*

National surveys such as DHS are best to assess dietary diversity as countries can locally adapt the food type questions to take into account the country's specificity. However, experts need to be involved in that.

Additional data specific to complementary feeding might be needed and could be obtained through small scale studies, both qualitative and quantitative to assess the following:

- Nutrient quality of complementary foods and caregiver characteristics (using rapid assessment procedures/ focus groups);
- Quantification of amounts through 24-hour dietary recall;
- Typical energy density, food diversity in complementary foods, meal frequency, food consistency, time and fuel available for preparation of complementary foods;
- Availability and affordability of animal source foods, fruits and vegetables, essential fatty acid sources;
- Market availability and cost of micronutrient-dense or fortified foods.

Several questions require well trained data collectors and different methods for getting to accurate information and these are difficult in large national surveys.

Study undertaken by the South Asia Infant Feeding Research Network (SAIFRN)²¹

Some of these new indicators were examined using existing nationally representative data from 5 countries in South Asia and the following limitations were identified:

- The minimum acceptable diet cannot be calculated for the whole group (6-23 months) as there is no information about milk frequency for the non-breastfed group.
- The suggested food groupings are difficult to implement with mixed groups.
- There is no information on iron rich foods.
- Current or recent childhood illnesses are not taken into account when assessing food intake.
- The indicators may not be comparable across countries because of difference in food cultures

Other issues identified are:

- Regarding the introduction of complementary foods (6-8 months), figures are much lower when there is only one question on complementary feeding than when multiple questions are asked on CF.
- Factors associated with not meeting the 'Minimum Acceptable Diet' are no/lower maternal education and poor wealth. This level of disaggregation should be taken into account.
- Regarding usual feeding practices, the question is based on a single 24hr recall. This results in more optimistic figures for breastfeeding and more pessimistic one for complementary feeding.

Many of these limitations will be avoided once surveys are designed using the recommended questions for implementing these indicators.

²¹ SAIFRN has a site under the Office for Global Health at Sydney Medical school. <http://www.usyd.edu.au/global-health/international-networks/saifrn.php>

They will have a special supplement in the June 2010 edition of the Food and Nutrition Bulletin.

DISCUSSION

Some of these new indicators will be included in the DHS questionnaire. Participants highlighted the need to reflect in the final survey reports the modifications applied to the questionnaire. International surveys such as DHS and MICS, often do not reflect in the report the changes in the question asked for a specific indicator; caution is therefore needed when interpreting trends for data provided by these surveys.

Participants also discussed the issue of discrepancies between global figures published by the various agencies (WHO, UNICEF). It was said that this is due to the use of different sources, different reporting channels at country level and different methodologies to compile data at HQ level. Participants agreed that there should be an effort to synchronize reporting of data from country level.

RESOURCE PLANNING AND MOBILIZATION FOR NUTRITION

A recent World Bank publication “Scaling-Up Nutrition; What Will it Cost?”²² was prepared with the aim of offering a preliminary answer to the question “What resources are needed to fight under-nutrition?”.

This report estimates the cost of scaling-up 13 proven interventions (in the areas of behavior change, micronutrients and de-worming, and complementary/therapeutic feeding) from current coverage levels to full coverage of target populations. It then provides a health economic impact analysis (with cost-effectiveness and benefit-cost ratios) which shows that all nutrition interventions are cost beneficial but there is a significant variation between them. The report also shows that several non-nutrition interventions which have much lower benefit-cost ratios than those for the nutrition interventions receive significant amounts of funding. This can be useful for advocacy purposes and funding (with some donors).

Conclusions/Recommendations on costing:

- The World Bank “Scaling-Up Nutrition” report does not provide a step-by-step guide on how to do costing at country level but it can be useful for country-level costing, especially when no other information is available. The costs provided for key nutrition interventions can be used for initial planning and resource mobilization at country-level but they need to be adjusted as programme delivery experience is accumulated²³.
- Countries need to adjust the estimated costs, based on costing information that may be available within their country. It is crucial to contextualize the figures outlined in the report by taking into account rural settings and other criteria. It might also be useful to take into account volunteer work.
- When estimating costs, different calculations can be used, depending on the purpose (estimation of resource requirements; trade-offs, decisions on allocations/prioritization; making an investment case/advocacy) and the audience. It is therefore important to be clear on the

²² The report can be viewed and downloaded from:

<http://siteresources.worldbank.org/HEALTHNUTRITIONANDPOPULATION/Resources/Peer-Reviewed-Publications/ScalingUpNutrition.pdf>

²³ The model focuses on key interventions. A limitation of the methodology is the focus on the evidence provided by the Lancet series; food based and integrated community programs are more difficult to assess, hence, are not adequately considered in the cost calculation model.

purpose and the audience and to adjust the costing work accordingly (looking at cost-benefit, cost-effectiveness or cost per unit etc.).

- When estimating resource requirements, countries need to consider current levels of coverage and gaps. Cost calculations need to take into consideration existing coverage and additional coverage targets (which may not always be 100%).
- Sequence scaling up to maximize impact: In order to deal with the likelihood that not all resources would be available at the start, the report recommends a two steps approach to scale-up, with an initial focus on the less expensive (per child) interventions. Each country needs to adapt this prioritization process to its own needs.
- The health economic impact analysis can be used for building an investment case,, making informed decisions on allocations, selecting interventions and advocacy purposes but more economic impact studies are needed.

COUNTRY EXPERIENCES

Several country experiences were shared during the workshop. The following are some important lessons learnt derived from these country experiences:

- Presence at the community level is a condition to provide adequate health and nutrition services. Community volunteers and workers (CHW) need to be groomed to provide timely, targeting support and counseling particularly at the most high risk ages for declines in IYCF
- Lack of knowledge and skills regarding critically important strategies for preventing and addressing IYCF is a major cause of preventable malnutrition among children. Both family members and frontline workers need support and information.
- Motivation and commitment of health and nutrition service providers is crucial. The motivation of people and the social behaviors can have a dramatic effect on children's nutrition. Performance improvement cycle for CHWs providing IYCF counseling and support should include rational allocation of number of caregivers/households to be followed up, task shifting and recruitment of adequate workers to enable CHWs to provide timely and high quality support, frequent refreshers, incentives and accountability through monitoring feedback.
- Proper training involves individualized feedback by trained facilitators to trainees in one-to-one supervised practice sessions with real mothers. Continuous feedback on performance monitoring and supportive supervision is required to ensure motivation and commitment of community level health and nutrition workers. The improvement of the community health workers' performance cannot be achieved through a one-time training only. Learning throughout the programme lifecycle is important as part of a human resource plan for counseling services.
- Timing of counseling is critical: counseling should start early before problems occur and the damage is done and should target high risk periods (before and during pregnancy for timely initiation of BF, in the first 3 days to avoid pre-lacteals, 3 months, 6 months, 9 months, 12 months, 18 months as indicated by the A&T project in Bangladesh);
- Behavior change requires the use of precise messages (how much, what, how to, why...do-able things) provided through multiple communication channels (home visits, many TV & radio

spots, use of mobile phones, opinion leaders etc.) and targeting a variety of audiences (mothers/caregivers, family, health workers, and father). If you want to reduce stunting, you need to feed the children well and involve everyone.

- When addressing behavior change, one needs to look at the caregiver's appeal: the visible improvement in children's nutritional status encourages caregivers to continue feeding improved recipes and motivates others to do so; caregivers can change their cooking and purchasing patterns quickly especially when the child seems to like the food; convenience is also very important for the caregiver (constraints: caregivers are too busy to make special foods for their children, some ingredients have a high cost or are difficult to find).
- Mothers are often more willing to improve the child's diet rather than their own (poverty, influence of family members, food taboos during pregnancy and lactation).
- Integration is crucial. Examples exist of successful models such as Essential Nutrition Actions (ENA), linking maternal and child nutrition with health services at critical stages, particularly through ANC/Safe Motherhood initiatives and routine immunization sessions. The intervention package should not only focus on nutrients/nutrition but also on disease/illness. A new learning in large scale programmes is the common perception that children 6-24 months do not have an appetite and do not want to eat; some of this may be enteropathy due to frequent illnesses or subclinical conditions. Many of these are likely to be caused by poor IYCF.
- A hygiene component (hand washing at critical moments, especially before feeding infants) needs to be built into the IYCF strategy.
- Homestead Food Production (HFP) Programmes increase overall household food security and the consumption of micronutrient rich vegetables and fruits, and animal source foods. Such programmes also improve the consumption of a diversified diet by children and women and contributes to reduced anaemia prevalence among targeted children (aged 6-59 months) and non-pregnant women as well as the reduction in prevalence of night blindness among children aged 12-59 months (depending on the country)²⁴.
- Depending on the context, improving household food insecurity through HFP alone may not be sufficient to address childhood malnutrition. An integrated strategy that improves overall socio-economic well being, maternal education and knowledge for improved IYCF practices and ensures optimal maternal nutrition will likely be more effective in improving the child's nutritional status. Improved knowledge and education on child care practices, including IYCF practices is essential for an improved nutritional status of children even among food secure household.

India - Impact of Enhanced Nutrition Programme on Child Growth and Diet in India

India's primary policy response to child malnutrition is the Integrated Child Development Services (ICDS) programme which provides health, nutrition, and education services through a network of Anganwadi centers to adolescent girls, pregnant and lactating mothers, and children 6 months to 6 years. As part of the Supplemental Nutrition Programme, 6-36 months old children receive a ready-to-eat mix which is typically procured centrally through national or state private or public vendors.

²⁴ HKI's HFP programs in Asia (Bangladesh, Nepal, Cambodia and Philippines) have proven to be successful and sustainable interventions with an impact in these areas among others.

A study was conducted over 6 months in the state of Rajasthan with the objective to assess the effect of an enhanced supplemental nutrition programme on growth and dietary outcomes among 6-36 months children. For the purpose of the study one group received the regular, centrally procured baby mix while another group received a new locally prepared baby mix, as well as a multiple micronutrient supplement made of iron, folic acid, vitamins A and C, and zinc. Additionally, there was increased monitoring of the participating Anganwadi centres. Growth outcomes, (HAZ, WAZ and WHZ scores) were computed based on WHO growth standards. Dietary outcome was assessed as changes in energy, protein and iron intakes between the groups from baseline to final point.

Positive outcomes were observed and could be attributed to the fact that the Baby Mix used was prepared locally (resulting in greater acceptance due to local ownership and trust), to training and monitoring of health workers, and to the use of micronutrient supplement.

Nepal –Helen Keller International’s Homestead Food Production Programme model and the Action Against Malnutrition through Agriculture (AAMA) project

Helen Keller International’s (HKI) Homestead Food Production (HFP) Programme model integrates agriculture and nutrition by combining home gardening (vegetables & fruits) and animal husbandry (poultry, goats, fowl etc.) together with targeted nutrition education with focus on the Essential Nutrition Actions (ENA) in order to improve the intake of micronutrient rich food among women and young children. It is a flexible model adapted to the local context that builds capacity of key local partners to sustain programme activities and creates linkages with the health system, the agriculture sector and local markets.

For the time being, there is not much information about the association between homestead food production programmes and growth of infants and young children. However, HKI is currently conducting a rigorous research to assess the impact of this integrated food security and nutrition education model on the nutritional status of children 0 to 24 months and women of reproductive age through the **Action Against Malnutrition through Agriculture (AAMA)** project in the Far Western Region of Nepal²⁵. HKI has also built a sub-study within the AAMA project to assess if there will be any added benefit to children if micronutrient powders are provided in addition to such intervention.

DISCUSSION

Implementation: The Government is always involved at the planning stage and the programme should be approved by the Ministry of Agriculture and the Ministry of Health in countries where such programmes have been implemented. However, to encourage sustainability, the HFP project is community based and mainly deployed and coordinated at the local level. In communities where HFP project is implemented, HKI tries to assess to the extent possible what other partner agencies are doing in the area of food security and often complement the HFP programme with such activities.

Sustainability: The programme covers a 3-4 years cycle but local NGOs continue the work after this period. Moreover, because the HFP is community based and often has high support from both

²⁵ The objective is to improve ‘household food security’ and malnutrition with a focus on children under 2 and mothers through homestead food production and ‘nutrition education’, including education for improved infant and young child feeding practices. The AAMA project will contribute directly to the National Nutrition Policy and Strategy which emphasizes the timely initiation of proper feeding practices including complementary feeding.

government and community leaders, there is always high potential for sustainability of such programmes.

Costs: The training provided and the initial animal inputs are the most important costs. Once inputs have been given, there are no more costs related to inputs. Households share the costs to demonstrate their commitment. The ENA training is intensive but effective and once in place it is sustainable.

Criteria for selecting beneficiaries: The primary targets are children and women from poorer households. However, the women beneficiaries of this programme need to have access to land, so those who do not have assets are not currently included. However, HKI is currently discussing and planning approaches to include such landless families into the HFP programmes.

Bangladesh - Alive & Thrive²⁶: Designing large scale IYCF programmes

The Alive & Thrive programme in Bangladesh works with the government and non-government sectors to implement a national scale behavior change communication programme. In the community component, over 30,000 BRAC CHWs are being trained to provide counseling and support to mothers. BRAC is targeting areas with a high prevalence of stunting (except for those covered by the National Nutrition Programme).

A large number of complementary feeding behaviors need to be improved to reduce stunting. This is being done through timed and targeted household counseling services and through mobilizing community leaders, media campaigns, and education sector programmes reaching the adolescents (important for pre-pregnancy nutrition).

Formative research included analysis of secondary data (evidence from large national surveys e.g. DHS Urban Health and Media surveys, and studies from ICDDR, BBF and others), followed by gap filling primary data collection to get an in-depth understanding on constraints and motivations for behavior change for IYCF and stunting.

The formative research findings indicate the following priorities regarding complementary feeding:

- Most critical timing of counseling by CHWs and health staff for improving IYCF: at delivery and first 3 days (BF initiation and no pre-lacteals), 1 month (establish EBF plan for 6 months of EBF), 3 months (prevent the premature use of other liquids and semi-solids), 6 months (introduction of semi-solid CF), 9 months (increase in quantity and self-feeding), 12 months (large increase in amounts to 2.5 times the quantity of food at 6 months; and transition to family food)
- “Poor appetite” is the reason caregivers provide for not being able to properly feed the child is as widespread as the early introduction of other liquids and foods in the first 6 months because of perceived insufficient milk.
- Frequent illnesses: doctors advise and caregivers stop feeding because the child is sick, or due to poor appetite
- Hygiene, contamination: hand washing before feeding infants reduces the risk of ARI, diarrhea and skin infection. This component needs to be built into the IYCF strategy. CF is the main carriers of fecal contamination and diarrhea peaks at 6-24 months.

²⁶ Alive: refers to the survival of the child; Thrive: refers to the need for survivors to grow better and become contributors to the society. Alive & Thrive is a global initiative dedicated to reducing under-nutrition and death caused by sub-optimal infant and young child feeding practices. Over the next 5 years, Alive & Thrive will work to improve infant and young child nutrition, beginning with a focus on Bangladesh, Ethiopia and Vietnam (3 very different contexts), to learn how to improve nutrition and create program models that can be replicated throughout the world.

- Animal foods/diversity: not feeding animal foods is not always linked to the availability of these foods; we need to ensure that children are given this important source of nutrients.
- Priority nutritional gaps identified in children's nutrition: iron, calcium, and energy. In simulations using the 24-h dietary survey results, extra oil, fish and MNPs filled the needs in energy, protein, iron, vitamin A and vitamin B. The main gap which remains is calcium.
- Quantity of semi-solids is an issue and no simple indicator has been found. Low density and watery products are fed frequently so frequency may not be a useful indicator.
- Ongoing monitoring of coverage, quality of counseling, media exposure and message uptake are key, as well as behavioral indicators (WHO).
- Hand-on training practice with real mothers is critically important as well as reinforcement of performance through supportive supervision using observation checklists, frequent refreshers, and incentives as well as holding managers accountable through monitoring feedback. Training videos have proven useful.
- Only few IEC materials are needed as much of the counseling involves hands-on demonstration of feeding, showing what to mix, how much and showing responsive and self-feeding. Counseling cards can be barriers to good counseling technique.

Thailand - Capacity strengthening at the health system and community level

Thailand's experience is seen as a success story in the region with a significant decrease of Infant Mortality Rate over the past 40 years. Thailand has recognized early on that addressing malnutrition is part of the country's effort to have a healthy population and that alleviating malnutrition needs efforts beyond the health sector. Malnutrition is not seen as a health problem: it reflects societal disparity and is part of a vicious circle of illness, poverty and lack of education.

Thailand introduced in the 1970s the first National Food and Nutrition Policy, which was subsequently revised and improved over the years. Key to Thailand's success is:

- The active involvement of local communities and a strong emphasis on human resources and community organization development as well as community self-financing and management.
- The multi-sectoral approach to health and nutrition both at national and at community level.

These national efforts have yielded positive results but there are still challenges such as rising overweight/obesity, non-clinical micronutrient deficiencies in children, and inadequate infant feeding practices (low Early breastfeeding rate, inappropriate complementary feeding).

CONCLUDING REMARKS

The outcomes presented at the beginning of the workshop were reviewed during the closing session. Participants agreed that:

- Recent advances, experiences and expertise on IYCF and maternal nutrition have been shared and can now be adapted to a specific country context;
- Existing tools to support programming in complementary feeding have been presented although, organizers acknowledged the need for follow-up in order for interested countries to be fully equipped with these tools. Further training/information will be provided upon countries' requests.

- Countries have started developing action plans by identifying key actions, responsibilities and a timeline for complementary feeding interventions as part of IYCF and neonatal health programmes to address stunting. This exercise highlighted some commonalities among countries in the region and it helped Regional Offices to identify the type of support needed. Countries were encouraged to continue working on these action plans developed during the workshop.
- Key actions to improve programming in maternal nutrition and gaps have been identified at country level but there is a need for follow-up discussions on this topic. More information is needed on maternal nutrition, including women's nutrition before pregnancy; however, there is enough evidence on the positive effect of the early introduction of iron supplements during the first trimester of pregnancy, to encourage countries to scale up such activity when addressing the issue of maternal nutrition. More attention on food based approaches are required showing their effectiveness on maternal nutrition. Another gap identified in the implementation of programmes to address maternal nutrition is the lack of adequate indicators to evaluate such programmes.
- Coordination between partners to tackle stunting in the Asia-Pacific region has been further strengthened through the presence for most countries of representatives of the 4 concerned agencies, Government partners and NGOs. The Regional Offices of FAO, UNICEF, WFP and WHO endeavor to continue this partnership and will inform countries about developments in this area.

This conference was seen by participants as a start for renewed efforts towards better addressing stunting through maternal nutrition and complementary feeding at country level. There is a lot of information about WHAT to do and many tools and models have recently emerged, however, more efforts are needed on HOW to do it to make it work at scale.

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UNICEF/WHO/WFP Asia-Pacific Regional Workshop
Reduction of Stunting through Improvement of Complementary Feeding and Maternal Nutrition
25 - 27 March 2010, Bangkok

Day 1, Thursday, 25 March 2010

Chair: France Begin Co-Chair: Nune Mangasaryan

Session Title & Chair	Time	Presentation	Presenter	Objectives
Session 1: Opening and setting up the scene	0830 - 0900	Welcome & Introduction	UNICEF/WHO/WFP	
	0900 - 0915	Workshop objectives & expected outcomes	UNICEF/WHO/WFP	Clear understanding on objectives and expected outcomes by all participants
	0915 - 0930	Overview of the global nutrition situation and maternal and child nutrition in Asia	France Bégin (UNICEF)	what is the situation, successes and challenges, what are some specific issues in Asia, need for a regional framework for action to reduce stunting
	0930 - 0950	Interventions for reduction of stunting: what works	Nuné Mangasaryan (UNICEF)	Update on effective interventions (Lancet series), delivery channels (going beyond efficacy)
	0950 - 1010	Recent advances in programming for complementary feeding and maternal nutrition	Randa Saadeh (WHO)	review of the outcomes and recommendations from Geneva meeting, introduction to the draft framework for priority actions, why and for which audience
	1010-1030	Update on recent global consultation on the management of moderate acute malnutrition	Noel Marie Zagre (UNICEF)	review of the outcomes and recommendations from meeting, overlaps with the agenda on reduction of stunting
	1030 - 1045	Questions and answers		
	1045 - 1100	Coffee break		

Session 2: Sharing lessons learned	1045 - 1130	Programming for complementary feeding: decision making matrix for prioritization of interventions	Mandana Arabi (UNICEF)	how to select interventions based on the context, what types of information/data is needed, what are the elements of a comprehensive approach to IYCF
Program implementation models for effective interventions for improvement of complementary feeding	1130 - 1145	Lipid-based supplements and fortified complementary foods in the context of IYCF programs	Edith Heines (WFP)	review of latest evidence on efficacy, way forward and challenges of large-scale implementation
	1145 - 1200	Questions and answers		
	1200 - 1300	LUNCH		
	1300-1315	Multiple micronutrient powders in the context of IYCF program: India ICDS	Rasmi Avula (South Carolina Univ.)	using MNPs as a channel to improve IYCF practices, what are the conditions
	1315-1330	HKI Enhanced homestead food production model	Nancy Haselow (HKI)	how can agriculture improve nutrition, what are the conditions for effective linkage to maternal and child nutrition
	1330-1350	Communication for behaviour impact: how to implement at scale (COMBI approach)	Tommaso Cavalli-Sforza (WHO)	where and how COMBI can be successful, discussion of examples from Asia
	1350-1415	Alive & Thrive Bangladesh - Program Design Lessons Learned	Tina Sanghvi (Alive & Thrive)	review of a process from assessment to implementation, elements of sustainability
	1415- 1515	Questions and answers		
	1515 - 1530	Coffee break		
Session 3: Maternal nutrition	1530 - 1550	Overview of program experiences for improvement of maternal nutrition and child birthweight/height	Edward Frongillo (Univ. South Carolina, USA)	addressing the mother and the child within the continuum of care, what interventions have enough supportive evidence to be recommended for scale-up, what needs to be further researched to address the gaps
	1550 - 1605	Evidence of micronutrient supplementation on maternal nutrition and birth outcomes	Michael Dibley (Sydney University, Australia)	

	1605-1615	Summary of a meta-analysis on multiple micronutrient supplementation during pregnancy	France Bégin (UNICEF)	review of the key results of meta-analysis comparing multiple MN with daily IFA supplementation during pregnancy
	1615 - 1630	Questions and answers		
Session 4: Group work	1630 - 1730	Group work: review of assessment matrices (countries have previously filled them in), summarizing programmatic gaps for complementary feeding and maternal interventions as part of an integrated nutrition framework	Group work	introduction to a comprehensive gap analysis for IYCF programming,

Day 2, Friday, 26 March 2010

Chair: Tommaso Cavalli-Sforza Co-chair: Randa Saadeh

Session Title & Chair	Time	Presentation	Presenter	Objectives
Session 5: Planning process	0830 - 0900	Presentation of results from gap analysis matrices (from session 3)	Countries	Countries share the results of the gap analysis
	0900 - 1015	Planning process: Tools to support appropriate feeding of 6-23 month-olds; Using tools for comprehensive assessment and selection of interventions to fill-in programmatic gaps	ProPAN : Mandana Arabi (UNICEF) LP: Elaine Ferguson (London Sch), Randa Saadeh (WHO) TIPS: Sylvia Kaufmann (FAO)	introduction to ProPAN and Linear Programming and their applications, examples from the real-life use of tools in developing program recommendations. FAO's Approach on Trials of Improved Practices for Complementary Feeding, Country Lessons
	1015 - 1030	Coffee break		
	1030 - 1050	Planning process: building partnership and positioning nutrition	Nicholas Krauss (REACH, Lao PDR)	upstream process for putting nutrition on the political agenda
	1050-1120	Planning process: capacity strengthening at the health system and community (Thailand's experience)	Pattanee Winichagoon (Mahidol University, Thailand)	evolution of programming in Thailand and how their human resource policy has supported this

	1120 - 1145	Questions and answers		
Session 6: M&E	1145-1230	Planning process: monitoring and evaluation framework	Edward Frongillo (Univ. South Carolina, USA)	elements of a comprehensive framework for M&E with focus on reduction of stunting, regional applications
	1230 - 1330	LUNCH		
Session 6 (continued)	1330-1400	Operationalization of new IYCF indicators	Michael Dibley (Sydney University, Australia)	Highlights from operationalization guide, experience from using the new indicators, how can they inform programming, discussing some challenges especially with regards to the dietary diversity indicator
	1400-1415	Data from the updated WHO Global Data Bank on IYCF indicators	WHO HQ (Randa Saadeh)	Introducing Part III of the indicators document and some country analyses in Asia
Session 7: Group work on short term and long term action points	1415-1530	Group work: Work planning, short-term and long-term action points and resources needed for improving complementary feeding within a comprehensive IYCF framework, integration with maternal nutrition interventions	Group work	based on gap analysis, countries will identify short term (2010-2012) and long-term (2015) actions points
	1530-1545	Coffee break		
	1545-1615	Update on Codex for Complementary foods	Sashi Sareen (FAO)	Provide an update on Codex for CF including quality control issues for industrially processed complementary food
	1615 - 1700	Day 2 Wrap-up, introduction to group work for day 3		

Day 3, Saturday, 27 March 2010

Chair: Rita Bhatia Co-chair: Edith Heines

Session Title & Chair	Time	Presentation	Presenter	Objectives
Session 8: Resource planning	0830-900	Landscape Analysis	Randa Saadeh - Dr. Minarto (MOH Indonesia) and Faraja Chiwile (UNICEF Timor)	Key messages on LA; Reporting on the process and outcome of the Landscape Analysis
	0900 - 0930	Resource planning and mobilization, examples of costing from programmes	Luc Laviolette (World Bank)	review of costing paper by the World Bank, some examples from various programmes, way forward for better resource planning (what tools/data is needed? What can we do about it)
Session 9: Looking ahead - countries action plans	0930 - 1100	Group work: work planning, drafting of country action plans linked to costing	Group work	Countries develop draft action plan and rough estimated costs
	1100 - 1230	Presentation of country action plans/discussion and feedback	Countries	Countries will summarize major areas of action plan
	1230 - 1330	LUNCH		
Session 9 (continued)	1330 - 1430	Continued: Presentation of country action plans/discussion and feedback	Countries	Countries will summarize major areas of action plan
Session 10: Tools for better programming	1430 - 1630	Workshop on tools for programming for complementary feeding: ProPAN and Linear Programming	Facilitators with a selected number of participants per country	Participants get exposed to 2 new tools for potential use in country
	1630 - 1700	Closing of workshop on tools		

Annex 3 Priority gaps and actions for Complementary Feeding

Country	3 main gaps in your country for improving CF at-scale	3 main priorities to address these gaps	3 main actions to address these gaps	3 most important health system or community-based service delivery systems where CF can be integrated
Afghanistan	<ul style="list-style-type: none"> - Lack of national leadership and of leadership capacity - Lack of technical capacity and expertise - Lack of local approaches to address nutrition, i.e. Complementary Feeding 			
	<p>Good practices offering great potential:</p> <ul style="list-style-type: none"> - National policies and strategies are in place on nutrition, IYCF and on micronutrients but they do not properly address complementary feeding <p>There is high international attention and support</p>			
Bangladesh	<ol style="list-style-type: none"> 1. Lack of capacity and motivation among service providers and implementers as well as inadequate human resources at the community level 2. CF is not included in the HMIS and in pre-service curriculum of the GoB structure 3. Lack of purchasing power/access to adequate food (quantity plus quality) in addition to large knowledge gaps 	<ol style="list-style-type: none"> 1. Performance Improvement. Capacity building through pre-service/in-service and community level training plus reinforcing steps e.g. supervision, monitoring, incentives 2. Inclusion of CF indicators in the government monitoring systems 3. Combining behavior change communication with pro-poor approach: Nutrition education is not enough to improve CF in those who live below poverty line 		
Cambodia	<ul style="list-style-type: none"> • Fragmented implementation of evidence-based CF interventions: CF is implemented through NGOs, Government programmes but there is no national standard to scale up to the whole country • Limited behavior change communication activities: there is 	<ul style="list-style-type: none"> • Create a IYCF action plan based on the existing National Nutrition Strategy and Strategic Framework for Food Security and Nutrition • Implement CF mass media and strengthen interpersonal communication • Implement cash/food transfer or 	<ul style="list-style-type: none"> • Hold inter-ministerial/agency consultative workshops to develop IYCF action plan • Revise pre-service and in-service training curriculum • Pilot cash/food transfer or food voucher linked to nutrition 	<ul style="list-style-type: none"> • Baby Friendly Community Initiative • Minimum Package of Activities for Health Center Staff (Nutrition Module) • Agricultural Extension Workers

	<p>more communication on breastfeeding but little on CF</p> <ul style="list-style-type: none"> Limited social safety nets to ensure access to nutritious food 	<p>food voucher linked to nutrition and targeted to poor households</p>		
China	<ol style="list-style-type: none"> Lack of officially endorsed technical guidelines on CF Lack of national policy to support the implementation of guidelines Lack of costed comprehensive national action plan for implementation of the IYCF policy 	<ol style="list-style-type: none"> Review of IYCF status Development and adoption of technical guidelines on IYCF by MoH Scale up training plan for IYCF implementation 		<ol style="list-style-type: none"> Rural health/community health system MCH system Women's Federation system
India	<ol style="list-style-type: none"> Lack of National/State Plan of Action on IYCF Weak capacity to understand, implement and roll out CF activities Lack of routine monitoring of IYCF data Sensitivity around low cost high quality CF options Lack of IYCF guidelines in the context of HIV/AIDS and emergencies 	<ol style="list-style-type: none"> National/State Plan of Action on IYCF with clear timeline Pre-service and in-service training of Health and Nutrition workers Strengthen existing monitoring systems and link data to action Evidence-based advocacy for low cost culturally acceptable high quality CF Explore options and channels for reaching community with CF messages Developing and disseminating IYCF guidelines in the context of HIV/AIDS and emergencies 	<ol style="list-style-type: none"> Advocacy for National/State Plan of Action on IYCF with clear timeline Assess current capacity deficit for CF Creation of coalitions/partnerships for addressing the capacity deficit (including partnerships with industry) Design and implement a comprehensive BCC strategy for reaching communities with key IYCF interventions with focus on CF Design and disseminate IYCF guidelines in the context of HIV/AIDS and emergencies 	<ol style="list-style-type: none"> Training institutions/professional bodies/academia National rural health mission; integrated child survival and development services; National rural employment guarantee act Urban strategy
Indonesia	<ul style="list-style-type: none"> IYCF policy at national level: it is being developed Lack of context specific local foods for CF (assessment -): there is a great variety in the country Lack of local capacity -> decentralization system Cultural barriers Lack of resources 	<ul style="list-style-type: none"> Finalize approved IYCF policy and accepted by local authority Local regulation Advocacy Dissemination) Capacity building Training and orientation Determine recipes Develop technical guidelines Inter-sectors coordination 		<ul style="list-style-type: none"> Community-based activity Posyandu (integrated post) Desa staga (alert village) PKK (family welfare movement) Health systems CMAM ANC IMCI (Integrated Management of Childhood

		Task forces established Regular coordination meeting M&E Integrated planning and budgeting		Illnesses) Newborn and child care
Lao PDR	<ol style="list-style-type: none"> 1. Lack of a comprehensive IYCF strategy and plan of action although the IYCF in strategy as one of interventions in the national plan of action for nutrition, there is no comprehensive steps on strategy on the IYCF should be implemented 2. Lack of assessment on IYCF (including the availability of food composition table) 3. Lack of community-based training 	<ol style="list-style-type: none"> 1. Using the global strategy and planning guide to identify gaps and develop a national IYCF strategy (e.g. workshops) 2. Incorporate IYCF indicators into future nutritional assessment 3. Improve capacity at community level 	<ol style="list-style-type: none"> 1. Conduct stakeholder workshop 2. Conduct nutritional assessment to include new IYCF indicators 3. Conduct community based on IYCF 	<ol style="list-style-type: none"> 1. Community based IMCI 2. MOH outreach activities 3. Other mass organization (e.g. Lao Women's Union)
Mongolia	<ol style="list-style-type: none"> 1. Lack of IYCF strategy and of official comprehensive complementary food technical guidelines 2. Lack of communication strategy on IYCF counselling 3. Lack of complementary food counselling skills for family doctors, midwife and nurses 	<ol style="list-style-type: none"> 1. Developing the IYCF strategy including with complementary food technical guidelines 2. Appropriate communication strategy and BBC 3. Strengthen counselling skills 		<ol style="list-style-type: none"> 1. The ANC system 2. The PMTCT system 3. Integrated to training for family doctors and nurses
Myanmar	<ol style="list-style-type: none"> 1. Incomplete pre-service training content 2. Low training coverage to Basic Health Staff of 325 townships in 17 States and Divisions 3. Lack of updated country Data on IYCF (last: 2003 MICS) 	<ol style="list-style-type: none"> 1. To update the curriculum for pre-service and in-service training 2. To identify and prioritize areas (geographic and thematic) to address coverage training of IYCF 3. Receive, disseminate and use IYCF data (through MICS) for future programming 	<ol style="list-style-type: none"> 1. To review and update curriculum for "Basic Health Staff" and "Hospital Staff" by conducting a national workshop involving all related sectors. 2. Mobilization of resources, e.g. Funding, Human resources and Logistic Support 3. Periodic food and Nutrition Survey including all IYCF indicators 	<ol style="list-style-type: none"> 1. WCHD – through Women and Child health project 2. GMP – growth Monitoring Program 3. CBNP – Government implemented Community Based Nutrition Program integrated with NGOs (both national and international)

<p>Nepal</p>	<ul style="list-style-type: none"> - Lack of training in regard to IYCF to grass root level - Lack of sufficient trained manpower for community counseling to transmit information, knowledge and skills to the community caregivers - IYCF and care policy available but poor implementation and monitoring: not utilized fully and effectively nationwide - Lack/Insufficient inputs (i.e. targeted supplements) in food insecure areas - Gap in IYCF communication strategies 	<ul style="list-style-type: none"> - Prioritize IYCF in new NHSP II Strategy; implement policy - In-service training - Include CF in CBNCP and other community packages 	<ul style="list-style-type: none"> - Advocacy to decision-makers (and follow-up) - Conduct training (use 6-monthly review process to do this) - Increase budget allowance for IYCF (total package) 	<ul style="list-style-type: none"> - Use IMCI, CBNCP and other opportunities to empower - Integrate into other groups (mother groups, community groups, CFUGs) - Education, Agriculture, MLD, WSWC
<p>Philippines</p>	<ul style="list-style-type: none"> a. Limited capacities <ul style="list-style-type: none"> 1.1. Health professionals and frontliners= knowledge/skills (curriculum integration, in-service trainings) 1.2. Monitoring and supportive supervision 1.3. Limited tools for IYCF counseling/BCC b. Inadequate integration of IYCF in existing activities e.g. <ul style="list-style-type: none"> 2.1. Maximize “use” of contact time with mother, e.g. during immunization, pre-natal 2.2. SF policy shift to 6-24 months as priority regardless of nutritional status 2.3. Sustain mass communication support c. Local policy support -> budget, programs, human resources 	<ul style="list-style-type: none"> a. Formulation of a comprehensive strategy b. Integration of IYCF with other health services c. Increase Local Government Unit policy support for IYCF 	<ol style="list-style-type: none"> 1. Formulate comprehensive strategy <ul style="list-style-type: none"> a. Review output of just concluded program implementation review b. Integrate gap analysis c. Reorganize the Technical Working Group-IYCF d. Hold series of planning meetings and workshops 2. Actions to address need to improve integration with other services <ul style="list-style-type: none"> a. Formulate and disseminate protocols and guides for integrating complementary feeding concerns in existing maternal and child health services, local plan of action for nutrition, etc. b. Finalize and disseminate the national policy on 	<ul style="list-style-type: none"> a. Prenatal, postnatal and immunization visits b. Supplementary Feeding (targeting of 6-24 months regardless of nutritional status) c. Communications planning

	(intensify advocacy)		<p>supplementary feeding to target 6-24 months old regardless of weight status</p> <ul style="list-style-type: none"> c. Develop and implement an IYCF communications plan <p>3. Actions to address low level of local policy support</p> <ul style="list-style-type: none"> a. Advocate for the adoption of a resolution on investments for IYCF at the level of the Regional Development Council and local development councils <p>4. Integrate IYCF-related components in Provincial Investment Plan for Health annual work plan</p>	
PNG & Pacific	<ul style="list-style-type: none"> 1. Formulate IYCF strategy/action plan 2. Monitoring IYCF activities 3. No Micronutrient supplementation (St) options local production of complementary food (Lt) 	<ul style="list-style-type: none"> 1. Formulate IYCF strategy <ul style="list-style-type: none"> a. Thematic working group to develop action plan on IYCF b. Develop national IYCF strategy/action plan c. National Consultation meeting 2. Improve monitoring of IYCF activities <ul style="list-style-type: none"> a. Monitoring included in Action Plan b. Develop monitoring tool and pretesting c. Training in the use of monitoring tool 3. Micronutrients <ul style="list-style-type: none"> a. Multi-Micronutrient supplementation (ST) to be used b. Develop local supplementary food c. Food based interventions 		

Sri Lanka	<ol style="list-style-type: none"> 1. Health System: Lack of HR -> carder, training 2. Communication: Inconsistent messages at all levels and sectors 3. Community: <ul style="list-style-type: none"> - Lack of appropriate CF -> HB, Cons - Myths and beliefs 			
Timor Leste	<ul style="list-style-type: none"> - Overarching: lack of up to date data and information on IYCF - National: Lack of integrated IYCF element in nutrition strategy - Community level: Insufficient coverage of IYCF promotion - Health system: Limited skilled health service provider 			
Vietnam	<ol style="list-style-type: none"> 1. Lack of clear operational national action plan with clearly outlines roles and responsibilities and budget issues 2. Limited appropriate counseling skills amongst service providers (9facility and community based) 3. Limited tracking of CF indicators at macro level/surveillance system (incentives – priority) 	<ol style="list-style-type: none"> 1. Ensure CF is well articulated in national nutrition strategy (2011-2015) and integrate with other strategies and plans (cf. child survival, Ed), sectors 2. Improve pre-service and in-service training for all levels (facility and community) 3. Strengthen supervision and monitoring system 	<ol style="list-style-type: none"> 1. Develop and operationalize plan <ol style="list-style-type: none"> a) Practical/feasible, evidence based-> outlines different options for targeting , culturally sensitive, geographically appropriate b) SMART c) Target – Clear M&E framework d) Roles and responsibilities(other sectors) and accountability e) Cost sensitive 2. Review and revise (update, adapt) training: curriculum, materials, methodology <ol style="list-style-type: none"> a) Pre/in-service training b) Facility and community levels c) Other sectors (Agriculture, Education) 3. Develop and operationalize / implement M&E framework which contains CF indicators and which is decentralized 	<ol style="list-style-type: none"> 1. National Nutrition programme (Nutrition Network) 2. EPI/ Outpatient visits 3. Mass organization meetings/event eg women’s union, farmers union, youth union

Annex 4: Priority gaps and actions for maternal nutrition

Country	Main gaps for addressing maternal nutrition effectively at each levels	Main actions points to address the gaps in maternal nutrition most effectively	The most important health system or community based service delivery systems where maternal nutrition can be integrated
Bangladesh	1. Implementation of IFA supplementation to reduce anaemia among women of reproductive age, including adolescents, yet to be mainstreamed in primary health care and education system (e.g., adolescents in schools).	<ul style="list-style-type: none"> - Develop/strengthen policy for mainstreaming maternal and adolescent nutrition issues in health and education systems in the new Health, Nutrition, and Population Sector Program (HNPS) - Identify and address constraints in anaemia interventions within ANC, MNCH, safe motherhood, reproductive health, and Family Planning programs 	
	2. Gap: Lack of evidence-based guideline for reduction of maternal under-nutrition (e.g., Low BMI, anaemia, IUGR, birth outcome).	<ul style="list-style-type: none"> - Research on existing government and non-government programs addressing maternal nutrition to form evidence-base e.g., how to improve BMI, reduce IUGR and neonatal mortality - Form a national-level task force to prepare guidelines on maternal nutrition 	
	3. GAP: HH food insecurity and gender discrimination in intra-household food distribution/sharing	<ul style="list-style-type: none"> - Review data from DHS, Food Security and Nutrition Surveillance Project (FSNSP) and other available sources to develop key research questions - Design new researches and review results and implications from previous researches to better design programs and policies - Implement appropriate interventions to ensure adequate nutrition 	
	4. Gap: Lack of social security leading to early marriage of adolescents and consequently early pregnancy and inadequate birth spacing	<ul style="list-style-type: none"> - Emphasize more on adolescent nutrition starting iron folate supplementation from adolescence through nation programs (newly-wed couple should be targeted) - Strengthen Social security to delay early marriage - Strengthen family planning activities with a specific focus to delay the first pregnancy among adolescent mothers 	

Cambodia	<ul style="list-style-type: none"> Limited nutrition support to women during pregnancy (education on dietary diversity, food supplementation, weight gain) Low coverage of postnatal care Limited interventions targeting women of reproductive age 	<ul style="list-style-type: none"> Revise in-service training of health care providers and community health workers and extend the delivery payment scheme to cover quality ANC package Carry out behaviour change communication campaign on PNC and IFA Include WIFS in upcoming policy on prevention and control of micronutrient deficiencies and begin scale-up 	<ul style="list-style-type: none"> Reproductive health program (community based postpartum care, facility based ANC/PNC) Baby Friendly Community Initiative Minimum Package of Activities in service training of health providers (nutrition module)
China	<ul style="list-style-type: none"> Lack of comprehensive policy for preventing micronutrient deficiencies Policy exists for folic acid since 2009 but does not include other micronutrients for anaemia, calcium and other known deficiencies Lack of comprehensive strategy and action plan Detailed technical guidelines 	<ul style="list-style-type: none"> Develop standard with minimum must have micronutrients, finalise and approval by standard committee Develop strategy , action plan with budget – this will involve advocacy for resource allocation for implementation of the action plan Develop detailed technical and operational guidelines, including <ul style="list-style-type: none"> Capacity development for staff and Clear strategy for reaching women before pregnancy Monitoring and evaluation 	MCH system and rural health system (village doctors)
India	<ol style="list-style-type: none"> Lack of actionable data for policy decision on maternal nutrition Low priority for maternal nutrition(adolescent, pre-pregnancy, pregnancy) at all levels (joint planning/ implementation and review) Poor translation of limited existing policies on maternal/adolescent nutrition into action Weak capacity of front line functionaries on maternal nutrition Low socioeconomic status of women in society and poor community awareness at family level on maternal malnutrition 	<ol style="list-style-type: none"> Build capacity of programme managers for optimum use of available data for programmatic action (all stake holders) Strengthen coordination between Health, ICDS, and other stake holders for joint planning and monitoring maternal health and nutrition interventions Enhance capacity of front line functionaries on maternal nutrition Create community awareness on maternal malnutrition Empowerment of Women/SHGS/creating alliances for women and adolescent linking with social security schemes 	<ul style="list-style-type: none"> Provide and/or strengthen maternal nutrition through existing ANC, VHND, ARSH and KSY. Build partnerships and alliances including industry parties for maternal nutrition and school department for adolescent girls

Indonesia	<ol style="list-style-type: none"> 1. Lack of comprehensive policy (only Iron Supplementation) 2. Lack of human resources in particularly in nutrition knowledge. 3. Limited data on maternal nutrition to be used for developing appropriate nutrition strategic intervention. 4. Cultural barrier. 	<ol style="list-style-type: none"> 1. Develop integrated policy on maternal nutrition (Nutrition, MCH, CDC, Food Security, Women Empowerment, Education, Religious Affairs, Home Affairs). 2. In-service (short term) and pre-service (Long term) - >Midwives, MD, Nurses). 3. Strengthening integrated information system (Routine & Survey; Community & Facility Based; Local Area Monitoring). 	<ol style="list-style-type: none"> 1. Posyandu (Integrated Post) -> Nutrition education. 2. ANC -> Iron Supplementation, Screening CEM, Fetal Growth, Counseling, Integration with Malaria control, STDs, Tetanus Toxoid Immunization. 3. PNC -> Breastfeeding Counseling.
Lao PDR	<ol style="list-style-type: none"> 1. Limited mechanism for nutrition service delivery (pregnant-lactating IFA, post-partum VA+deworming, nutrition education) at the community level (community-based and outreach) 2. Limited maternal nutrition education materials (e.g. food taboos during lactating period) 3. Limited capacity of health staff at all level with regard to maternal nutrition 4. Very low access and utilization/uptake health service (with only 20% have access to health service) 	<ol style="list-style-type: none"> 1. Strengthen the existing strategy to revitalize community based and outreach activities through establishing mothers' club at village level to allow for a platform for information exchange amongst pregnant and lactating women led by trained village health volunteers (Lao Women's Union representative at the village level) 2. Develop and implement a comprehensive maternal nutrition education through all delivery channels by conducting gap analysis on maternal nutrition education materials to identify training modules 3. Develop training module and train health staff at all level on maternal nutrition through conducting a comprehensive training for community based workers (VHV, LWU) on basic maternal nutrition 4. Develop a set of indicators that specific to Laos context but in line with global recommended indicators for tracking maternal nutrition situation 5. Establish nutrition surveillance system that include specific selected indicators for maternal nutrition 	<ol style="list-style-type: none"> 1. MOH outreach activities 2. Other mass organization (e.g Lao Women's Union) 3.
Mongolia	<ol style="list-style-type: none"> 1. Lack of general maternal nutrition knowledge among family doctors 2. Lack of communication and behavior change on appropriate traditional practices such as drinking, strong tea... 3. No implementation strategy for maternal nutrition policy 	<ol style="list-style-type: none"> 1. Training for family doctors on general maternal nutrition 2. IEC for mothers, grandmothers or husbands on maternal nutrition (can be submitted to Millennium challenges programme for financial support) 3. Including maternal nutrition policy in ANC and reproductive health programmes 	<ol style="list-style-type: none"> 1. ANC /family doctors 2. Reproductive health programmes 3. School health education programmes and Medical Science University curriculum to include maternal nutrition

Myanmar	<ul style="list-style-type: none"> • Late registration of ANC due to lack of knowledge on importance of early ANC • Difficulty to access to health facilities because of health staff and population ratio, geographical difficulties and security • Insufficient resources like funding (both Govt. budget and funding from donors) 	<ul style="list-style-type: none"> • We need to strengthen the existing action plan on BCC program in collaboration with partners • Integration of activities within related sectors who are working for mother and children (NNC, MCH,WCHD, HEB,RH) and PARTNER AGENCIES • Timely replacement /recruitment of vacant posts and new posts. Advocacy to get funds for training, recruitment and supplies. 	
Nepal	Lack of training		
Philippines	<ol style="list-style-type: none"> 1. Lack of community-based and family support for maternal care—need to ease work load, additional food, 2. Poor quality of pre-natal care—attitudes of health workers, lacking in nutrition advice and tools for such, lack of investments for iron-folate supplementation at both national and local levels for both pregnant women and adolescents 3. Weak nutrition component of health program for adolescent 	<ol style="list-style-type: none"> a. Financing, investment, resource generation for maternal nutrition b. Women empowerment programs c. Capacity building (including monitoring, supportive supervision and development of tools) 	<ol style="list-style-type: none"> a. Outreach b. Population Center/Family Planning/Pre-marriage counseling c. Schools
PNG & Pacific	<ol style="list-style-type: none"> 1. Weak maternal nutrition component in Reproductive Health Policy 2. Poor capacity amongst service deliverers to provide appropriate nutrition counseling to women 3. Poor monitoring of compliance to routine iron/folate supplementation 	<ol style="list-style-type: none"> 1. Make maternal nutrition a prominent component of Reproductive health policy 2. In- service training , pre-service training, postbasic training of health professionals esp. PH nurses, midwives and mobilizing community groups for community based integrated programmes such as EPI/ IYCF /safe motherhood programmes , school curriculum for life skills so that both boys and girls are equally exposed to the importance of maternal nutrition, FP, ANC and IYCF & BFHI in the community. 3. Advocate for and support monitoring of compliance to routine IFA supplementation 	Fiji Gov't has launched a 5yr National Iron and Multivitamin supplementation program to address iron deficiency anaemia including 6-59month old children, school age children and CBAs also including adolescent girls in and out of school. This is a significant milestone for the Pacific.

Sri Lanka	<ol style="list-style-type: none"> 1. Irregular/inadequate targeted health/nutrition interventions for high risk vulnerable pregnant women 2. Preconception care package not yet streamlined into the routine MCH programme 3. Nutrition package delivered to vulnerable groups (poor) not targeted properly 	<ul style="list-style-type: none"> • Implement targeted nutrition/health interventions • Incorporate pre-conception care package into routine MCH programme • Better coordination of monitoring and supervision of delivery of nutrition package for vulnerable group 	<ol style="list-style-type: none"> 1. Health care delivery system/primary health care delivery system 2. Plantation Human Development Trust and other Government grass root field officers (social services, agriculture etc.) 3. CBOs, NGOs, UN
Timor Leste	<p>Overarching: Lack of understanding on the consequences of adolescent and maternal nutrition to national development.</p> <p>National: Lack of clarity on the roles of implementation and monitoring amongst departments (MCH and Nutrition) within the Ministry of Health.</p> <p>National: Lack of clear maternal nutrition guideline and action plan within the nutrition strategy.</p>	<p>Overarching: To advocate and create awareness on the importance of maternal nutrition at all levels.</p> <p>National: To conduct joint department (community health service directorate) identification of programme activities, clear roles and responsibilities and action plans.</p> <p>National: To develop integrated implementation guide on maternal nutrition in the revised national nutrition strategy.</p>	<ol style="list-style-type: none"> 1. SISCa 2. ANC and PNC visits 3. Adolescent reproductive health (promotion and education)\ 4. Women's empowerment activities.
Vietnam	<ul style="list-style-type: none"> - Limited implementation of key interventions for maternal nutrition at scale. - Fragmented responsibilities between different programmes and departments (MCH -MOH- and National Institute of Nutrition). - Limited availability of data and lack of key maternal nutrition indicators. 	<ul style="list-style-type: none"> - Report the results of this meeting to the Safe Motherhood Group, including MCH and National Institute of Nutrition. - Need to update the maternal nutrition interventions. - Ensure that the maternal nutrition package is included in the National Nutrition Strategy currently being developed. 	