



# Metrics and programming in nutrition sensitive agriculture

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# Abbreviations

CDI	Centre for Development & Innovation
DMFA	Dutch Ministry of Foreign Affairs
DSM	Dutch State Mines
ECDPM	European Centre for Development Policy Management
ETC	Excellent Training and Consultancy Foundation
FBKP	Food and Business Knowledge Platform
FIES	Food Insecurity Experience Score
FNS	Food Nutrition Security
GAIN	The Global Alliance for Improved Nutrition
HFIAS	Household Food Insecurity Access Scale
ICCO	Interchurch Coordination Committee Cooperation
IFPRI	International Food Policy Research Institute
IMC	International Medical Corps
IOB	International Research and Policy Evaluation
KIT	Royal Tropical Institute
MAHFP	Months of Adequate Household Food Provisioning
MDD-W	Minimum Dietary Diversity - Women
NGO	Non-Governmental Organisation
NSA	Nutrition Sensitive Agriculture
NWGN	Netherlands Working Group on International Nutrition
PMEL	Project Monitoring Evaluation and Learning
SC	Save the Children
SDG	Sustainable Development Goals
SNV	Foundation Dutch Volunteers
UNICEF	United Nations Children's Fund
VU	Free University Amsterdam
WASH	Water, Sanitation and Hygiene
WEA(I)	Women Empowerment in Agriculture (Index)
WFP	United Nations World Food Programme
WUR	Wageningen University & Research

## Colophon

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**Design:** Zwerver Grafische Vormgeving

**Cartoons:** Het is mooi werk bv

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# Introduction

In December 2017, the Netherlands Working Group on international Nutrition (NWGN) in coordination with the Food and Business Knowledge Platform (F&BKP) organized an internal workshop "Measuring nutrition effects of food security and agricultural programs" on metrics for nutrition sensitive programming and on lessons learned in applying these metrics in the field. This workshop served as a basis for an expert meeting, organized in The Hague in May 2018: "How to make agricultural programs work for nutrition, and which approaches to use to measure progress" for stakeholders working in the field of nutrition and food security.

The expert meeting started with a key note from Dr. Marie Ruel, Director of the Poverty, Health and Nutrition Division of the International Food Policy Research Institute (IFPRI). She presented the results of her review on Nutrition Sensitive Agriculture (NSA); summarizing what was learned so far. This was followed by case studies on experiences and lessons learned with measuring the contribution of NSA to nutrition outcomes by ICCO Cooperation and SNV. In addition, Dr. Hazel Malapit from IFPRI presented latest experiences with the Women Empowerment in Agriculture Index (WEAI). The meeting counted with active participation of policy makers, researchers, practitioners and representatives from the private sector.

This brochure provides the highlights of the presentations, discussions, key findings and next steps that were shared during both events. Since these events the NWGN has been involved in discussions with the Dutch Ministry of Foreign Affairs (DMFA) on nutrition and food security with relation to the SDGs. In the future, the NWGN will closely collaborate with the DMFA and the Food and Business Knowledge Platform to make nutrition sensitive and nutrition specific approaches inclusive in evidence-informed development policies and strategies.

## About the Netherlands Working Group on international Nutrition (NWGN)

The mission of Netherlands Working Group on international Nutrition (NWGN) is to promote inclusion of nutrition specific as well as nutrition sensitive approaches in evidence-informed development policies and strategies of Dutch stakeholders, taking into account the complexity of malnutrition in all its forms. The NWGN believes that improving nutrition contributes to the achievement of all SDGs in a direct or indirect way, while vice versa the achievement of many of the SDGs contributes to improving nutrition. Since 2008, the NWGN has been operational in exchanging and generating knowledge; providing technical advice, and carrying out advocacy and lobby activities.

In 2018, members of the NWGN include representatives of: DSM, Dutch Ministry of Foreign Affairs, ETC Foundation, Free University Amsterdam, GAIN NL, ICCO Cooperation, International Medical Corps, Royal Tropical Institute KIT, Save the Children NL, SNV, UNICEF NL, Unilever Research & Development Vlaardingen BV, Wageningen University & Research - Center for Development Innovation, Wageningen University & Research - Division of Human Nutrition, United Nations World Food Programme NL

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# Summary

The Netherlands Working Group on international Nutritional (NWGN) organized two events, in December 2017 and May 2018, to share approaches, metrics and practices of food security and agriculture programs on nutrition and identify approaches to measure progress.

The outcome of the first meeting showed that the result framework<sup>1</sup> which is used to guide nutrition sensitive programming clearly depicts the complexity and influences of different sectors like health, agriculture and education. The advice is therefore to focus on outcomes such as household access to food, dietary diversity and feeding practices, and not on impact on the nutritional status, with a sound monitoring evaluation and learning mechanism design.

With the insights gathered from the first meeting in December 2017, the second external meeting had 3 objectives: a) How can we ensure Nutrition Sensitive Agricultural (NSA) interventions<sup>2</sup> work for nutrition by taking into account



lessons learned on the pathways of change?, b) How can we measure the contributions of NSA interventions on nutrition, along the pathways, with improved metrics?, c). How can we ensure the lessons learned are relevant for policy, programs and innovation projects?

The working group discussions revealed that nutrition sensitive agriculture interventions have the potential to improve diets if the process includes ongoing monitoring and if the targets for Nutrition Sensitive Agriculture (NSA) programs are realistic and focused. To address malnutrition adequately, integrated approaches are needed, through co-location of different nutrition-sensitive and nutrition-specific programs that can leverage each other. Nutrition as a topic needs to become more 'accessible' for policy makers and practitioners: there is a need for 'nutrition for dummies' to realize nutrition sensitive agriculture in a cost-effective way at the center of SDG 2. The Nutrition Communi-

ty, involving practitioners, policy makers and researchers should also engage (more) in a shared learning agenda through common monitoring and evaluation approaches and metrics. Contextualization of programs and questionnaires is key: what works in one context cannot be standardized across countries in relation to gender equality, food distribution and food allocation, cultural differences between regions. Applying a gender lens and furthering women's empowerment through agriculture remains essential, using tools to unpack the agri-nutrition pathways and to help fine-tune programming.

The NWGN proposes, as a follow-up to both events and in line with the Sustainable Development Goals (SDG) framework, to develop cost-effective measurement approaches, and to keep track of changes in nutrition related knowledge, attitudes and practices at individual and household level with a gender inclusive lens. It will also look into the lack of standardized approaches to measure overnutrition and report on the systemization of experiences on how to make agricultural programs work for nutrition.



Lastly, the NWGN proposes to Dutch policymakers to prepare a common agenda for adaptive programming and learning, and to look into the Food Nutrition Security results and indicator framework of 2018.



<sup>1</sup> Source: Herforth and Ballard 2016

<sup>2</sup> NWGN: How to meet "Reducing Hunger and Malnutrition" goal of Ministry of Foreign Affairs' food security policy, May 2018

# Measuring nutrition effects of food security and agriculture programs

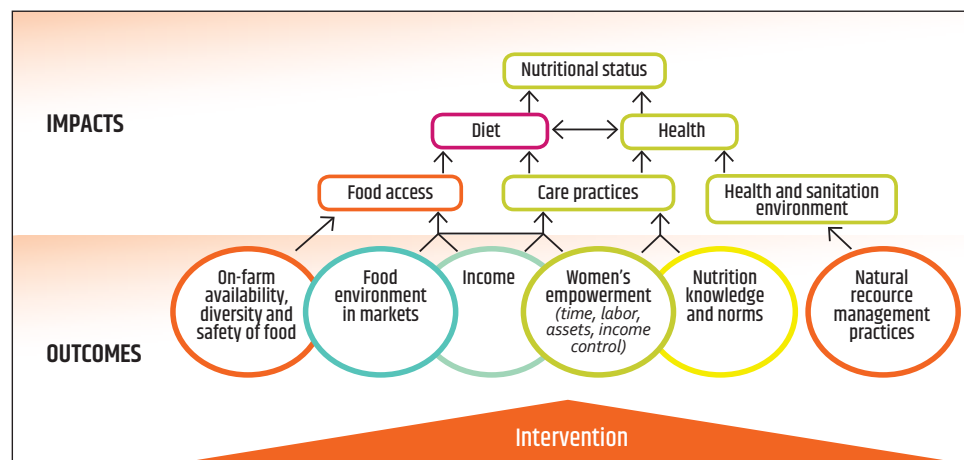
## Sharing approaches, metrics and practices

### Introduction

There is growing commitment at global level to address malnutrition in all its forms. Alongside nutrition-specific interventions, special efforts are being made to make agri-food systems more nutrition sensitive. At the same time there is a growing demand for evidence on what policies and programs work best, how they work, and at what cost. Good quality metrics and measurement tools are key to collect data on output, outreach, outcome, and impact levels. This is important for different stakeholders including agri-food practitioners, policy makers and academic experts involved in program evaluations and research, to monitor progress of program implementation. The Global Nutrition Report 2015 states: "Establishing outcome indicators for food systems can guide policy makers in fostering nutrition-friendly and sustainable food systems while also helping citizens hold

their governments accountable for their policy choices."

The Netherlands Working Group on International Nutrition (NWGN) in coordination with the Food and Business Knowledge Platform (F&BKP) are pleased to present lessons learnt about approaches, metrics, and practices for measuring effects on nutrition of food security and agricultural development programs shared during an internal NWGN workshop, held on December 12th, 2017. Field experiences and literature reviews formed the basis for a common analysis on the practical implications of the use of different metrics and measurement approaches for nutrition sensitive interventions. The overall aim of sharing these experiences was to strengthen the performance of the Dutch development sector in the fight against all forms of malnutrition; and ultimately to contribute to the Sustainable Development Goals.



Adapted from: Herforth and Ballard, 2016

### Nutritional status and related result chain framework

The nutritional status of individuals is defined by their diet and health, which in turn depend on food access, care practices, and the health and sanitation environment. The figure below illustrates a simplified framework that currently guides much nutrition-sensitive programming. Nutrition-sensitive programs are, by definition, complex in design and implementation as they often span different sectors, such as health, agriculture and education. As a result, these programs take longer to become fully functional and well implemented. A meaningful effect on biological outcomes, such as children's anthropometric measurements, may require as long as 1,000 days of program exposure<sup>1</sup>. Therefore, the 2016 FAO "Compendium of indicators for nutrition-sensitive agriculture"<sup>2</sup> recommends focusing monitoring, evaluation and learning on intermediate, or outcome indicators. Using a common framework and standardized approaches forms a starting point for meaningful cooperation and learning beyond program and country boundaries.

Standardized approaches are available for the measurement of a wide variety of outcomes. Examples include the following:

- Household Food Insecurity Access Scale
- Minimum Dietary Diversity for Women
- Women's Empowerment in Agriculture Index
- Infant and Young Child Feeding Practices

Source: Adapted from Leroy, Olney and Ruel, 2016

### Key Common Insights

#### Monitoring, Evaluation, and Learning Mechanism Design

- One should be conscious of what to measure, for whom, for what purpose, and at what costs.

- As multiple nutrition sensitive (agriculture) intervention strategies and actors are required, a well-elaborated theory of change or logical framework, illustrating links, pathways of change, and assumptions, is essential.
- An embedded gender lens supports making explicit the assumptions around how different agri-food interventions lead to nutrition outcomes. Understanding differences between women and men around decision making, access and control over agricultural resources, division of labour and gender norms is key for designing interventions to leverage the positive impact of agri-food programming on nutrition.
- Engaging key agri-food actors, program staff and beneficiaries throughout the program cycle is required for tailoring intervention strategies to different contexts to both achieve sustainable results and ensure doing no harm.

#### Indicators

- Program level indicators for nutrition monitoring, evaluation, and learning should preferably focus on intermediate or outcome levels instead of impact level.
- Standardized outcome indicator measurements, such as Household Food Insecurity Access Scale (HFIAS), Months of Adequate Household Food Provisioning (MAHFP), and Minimum-Dietary Diversity for Women (M-DDW), have clear advantages as they facilitate comparability between programs, use of benchmarks, efficiency, and common learning.
- Measuring women's empowerment in relation to nutrition improvement is an evolving field with promising results. The project level Women in Agriculture Empowerment index (pro-WEAI) is a metric that allows measurement of progress on women empowerment and association with nutrition outcomes as well as comparison across different nutrition sensitive programs.

<sup>1</sup> Leroy, J.L., Olney, D.K., Ruel, M. Evaluating Nutrition-Sensitive Programs: Challenges, Methods, and Opportunities <sup>2</sup> <http://www.fao.org/3/a-i6275e.pdf>. Also see IFPRI (2016) Evaluating nutrition-sensitive programs: challenges, methods, and opportunities

## Areas for follow up and further action research

- Given the growing importance and potential of the Sustainable Development Goals (SDG) framework, the NWGN members' aim is to align indicators and particular program objectives with the SDG monitoring mechanism.
- With micronutrient deficiencies affecting 2 billion people worldwide and growing attention for diversification of diets, micro-nutrient supplements and fortification of food, there is a need to develop cost-effective measurement approaches, beyond Dietary Diversity.
- Intervention strategies to foster behaviour change are necessary for improvement of nutritional status. Therefore, it is also important to develop methods to keep track of changes

in nutrition related knowledge, attitudes and practices at individual and household level and how these are mediated by gender relations.

- Taking into account the need to address both under- as well as over nutrition at the same time, it was concluded that there is a need to address the current lack of standardized approaches to measure over nutrition, i.e. the increased risks associated with non-communicable diseases.
- Impact evaluations ideally have a control group included in the design to build evidence around attribution. However, this is often beyond what is feasible on the ground (cost, and human capacity). There is a need to look for innovative approaches to address these challenges within realities of programming.

## Insights from a gender analysis of impact evaluations approaches to measuring women empowerment in agriculture-nutrition pathways

Women's empowerment and the link with improved nutrition is an area of growing interest. There is a need to better understand how women's empowerment mediates progress towards nutrition in agricultural programs.

A recent analysis of impact evaluations highlighted the need for programs to:

- include a clear theory of change or logic model explaining how women empowerment works across the agriculture-nutrition pathways to achieve progress on nutrition
- build in mechanisms for routinely assessing how implementation modalities work to empower women and how this links to nutrition, but also to ensure no harm is done
- acknowledge women's empowerment to be context specific. What works in one context to empower women to address barriers to nutrition may not be applicable in another
- include women's perspectives and give them a voice, as part of intervention design as well as the monitoring and evaluation processes



- use monitoring and evaluation systems that value the use of multiple indicators capturing different elements of empowerment. Consider using mixed methods approaches that build an understanding of how interventions can lead to women's empowerment as both an outcome and process contributing towards improved nutrition.

*Julie Newton and Noortje Verhart,  
Royal Tropical Institute (KIT)*

## Field experiences of using standardized approaches to measure nutrition-related outcomes

NWGN member ICCO focuses on the availability and accessibility of food at household level and utilization of nutritious foods among particular target groups for monitoring, evaluating and learning from its programs. Since 2011, standardized measurements such as Household Food Insecurity Access Scale (HFI-AS), Minimum Dietary Diversity for Women (MDD-W), and Months of Adequate Household Food Provisioning (MAHFP) have been applied in over a dozen countries. This has gone hand in hand with involving field staff in the use of mobile devices and web-based applications for data collection, processing, visualization, and analysis. Experiences with contextualization, selection and training

of enumerators, sampling, logistics, and reporting have been reviewed carefully. The combination of measurements generates additional insights on seasonality, diet quality, and the position of women. The approach has improved reporting and made it easier to use the data for upstream and downstream accountability. In addition, target groups have been able to use the data and related insights for evidence-based lobbying and advocacy towards local duty bearers. In Ethiopia, so-called self-help groups, stressed the need for intervention strategies towards climate resilience food security safety net programs.

*Marijke de Graaf, ICCO Cooperation*

## Increasing the nutrition sensitivity of agriculture and value chains: Role of metrics for improving design

How agriculture contributes to improve nutrition, in particular that of vulnerable sub-groups, is a frequent topic of debate. Recent reviews point to a lack of evidence on nutrition outcomes in agriculture, which raises the question of how nutrition measurements can be strengthened. Agricultural interventions can vary from homestead production and diversification to commodity value chains. Hence, nutrition-sensitive agriculture and market-development activities should articulate a clear theory of change that is reflective of the constraints of the program. This is the lens that SNV takes in its dairy and horticultural value chain work. It is also important to

clearly state assumptions about what other changes need to occur beyond the activity scope. Where our interventions focus on improving nutrition outcomes of producers, validated indicators such as the Minimum Dietary Diversity for Women (MDD-W) and the minimum acceptable diet (MAD) provide much insight into the dietary issues of the more vulnerable members of a household. Greater understanding and more strengthening of food environment metrics is required to improve the design and evaluation of future value chain programs.

*Deirdre McMahon, SNV*

# "HOW TO" MAKE "AGRICULTURAL" PROGRAMS WORK FOR NUTRITION

AND WHICH APPROACHES TO USE TO MEASURE PROGRESS

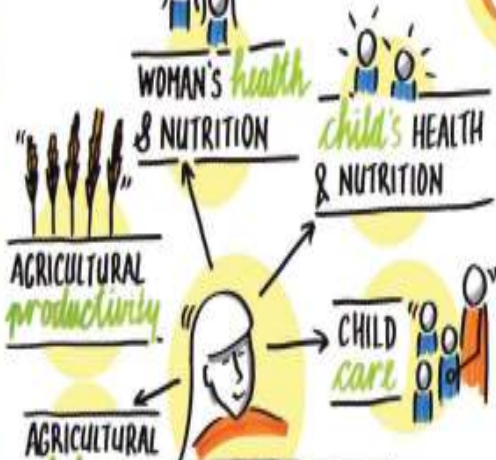
(THE BEGINNING OF A DIALOGUE)

MAY 17

THE HAGUE

THE NETHERLANDS

LEARNING AGENDA:  
A MORE FLEXIBLE  
APPROACH TO MONITORING  
(TRIAL AND ERROR)



THE *critical* ROLE OF WOMEN'S EMPOWERMENT, TIME HEALTH, NUTRITION



NSA PROGRAMS WORK

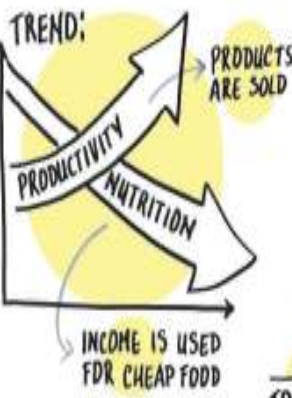
THEY *improve* A VARIETY OF DIET AND NUTRITION OUTCOMES

LOTS OF *learning* - STILL ONGOING-

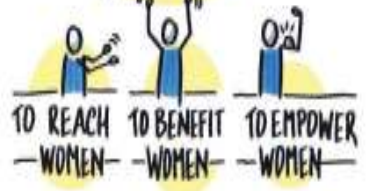
IMPACTS ON *stunting* ARE HARD TO ACHIEVE

ARE PROGRAMS GETTING TOO *complex* TO IMPLEMENT?

WE NEED *multi sectoral* THINKING



3 types OF DEVELOPMENT PROGRAMS



THIS MEANS DIFFERENT STRATEGIES and INDICATORS

YOU NEED CAREFULLY DESIGNED PLANS FOR *metrics*

- NEXT STEPS TOWARDS IMPROVED METRICS:
- NEED FOR ONGOING *research* AND SHARING OF EXPERIENCES
  - standardized* APPROACHES
  - LEADERSHIP (GOVERNMENT)

HOW DO YOU BRING BACK OBSERVING *outcomes* BACK INTO THE PROGRAM

NEEDED: "HOW TO.. NUTRITION FOR *dummies* (IT IS NOT THAT COMPLICATED)

DO WE NEED *cookbooks*?

BE CAREFULL WITH ROUTINE MONITORING -> IT CAN BACKLASH



# How to make agricultural programs work for nutrition

## Introduction

The timing of the second event organized by the NWGN on metrics called “How to make agricultural programs work for nutrition, and which approaches to use to measure progress?” was adequate as the recently published IOB evaluation ‘Food for Thought’ revealed that not all food security programs deliver on nutrition. Secondly, new figures published by the World Health Organization show how undernutrition, stunting, wasting and overweight figures have not improved<sup>1,2</sup>. It is broadly recognized that malnutrition in all its forms needs to be addressed through a set of complementary intervention strategies in combination with the right metrics for adaptive programming and reporting.

This meeting was organized with the following 3 objectives:

1. How to ensure Nutrition Sensitive Agricultural (NSA) interventions<sup>3</sup> work for nutrition by taking into account lessons learned on the pathways of change?
2. How to measure the contributions of NSA interventions on nutrition; along the pathways, with improved metrics?
3. How to ensure the lessons learned are relevant for policy, programs and innovation projects?

The workshop was organized by a subgroup of the NWGN consisting of Arine Valstar, Julie Newton, Noortje Verhart, Joanne Harnmeijer, Marijke de Graaf, Deirdre McMahon and Eelco Baan. They were supported by both chairs of the

NWGN, Annegré de Roos and Saskia Osendarp as well as the secretariat of the NWGN, Marielle de Jonge. Note keeping and reporting was done by Eline Minneboo and Maaike van den Berg.

The workshop consisted of keynote speeches, participatory group sessions and a panel discussion. First a briefing was given by the Ministry of Foreign Affairs on the Dutch Government’s interest and agenda to improve nutrition within the framework of the SDG’s. This was followed by a presentation by Marie Ruel, director of the poverty, health and nutrition division of IFPRI. Then all participants split into different sessions to discuss 3 cases presented by SNV, ICCO Cooperation and IFPRI on context specific metrics, metrics on household access to food and dietary diversity, and women’s empowerment respectively. The power-point presentation for the keynote speech and for the cases are available online via the NWGN website. Within the case sessions, participants were invited to share their own experiences, opportunities, challenges and solutions they gathered from the cases, resulting in lively discussions. The meeting was concluded with a plenary session in which a panel, including representatives from RVO, IOB, MOFA and IFPRI, shared their takeaways from the meeting, as well as recommendations for next steps. The 10 steps for improving nutrition through agriculture were mentioned as a practical tool on “How to make agriculture work for nutrition” (developed by the Community of Practice “Ag2Nut”).



## Briefing Ministry of Foreign Affairs

Frits van der Wal and Jeroen Rijniers from the Ministry provided an overview of the Dutch Government’s interest and agenda to improve nutrition within the framework of the SDGs, referring to the recent IOB evaluation and the policy note on development cooperation.

Frits van der Wal explained that Minister Kaag’s policy note to Parliament explicitly mentions the Dutch contribution to achieving SDG 2. The existing food security policy will certainly continue, guaranteed with the same budget as previous years. However, changes are made in the geographic focus, which shifts more towards the Sahel, Horn of Africa and the Middle East. Gender and women empowerment are mainstreamed throughout the programming, and inclusion and shared responsibility of the SDGs are reflected in the Minister’s note. The note emphasizes the prevention of conflict and instability, and on sustainability and climate resilient actions. Van der Wal argues that there are enough indicators in the note to continue working on the ambitions of the NWGN. During the exchange days of the Food Security Experts from Dutch Embassies in developing coun-

tries, the framework and the policy note will be discussed further to see what additions and changes are needed.

Jeroen Rijniers continued, explaining the current structure and ways to measure results on nutrition within food security programs. At the moment, the Ministry uses aggregated indicators, structured via 3 objectives: nutrition, agriculture and ecological sustainability. There are different levels at which results are measured: the outputs (e.g. the number of undernourished people reached), the outcomes (e.g. the number of people with improved food intake) and the impact, which relates to the targets of SDG 2. The impact level is not measured yet- most of the reporting is done on the output and outcome level. From the reporting it does not become clear whether activities in agriculture deliver results on nutrition: nutrition sensitive agriculture, if it is there, is not visible. Agricultural focused programs would either be asked to report on nutrition indicators, but this is difficult to accomplish. The other option would be to design midway indicators that would tell us something about whether, or to what extent the activities are nutrition sensitive and contribute to nutrition related outputs and outcomes. Rijniers emphasizes that the results framework and indicators are a constant work in progress, and nutrition sensitive agriculture is one of the thematic areas for which the Ministry needs and wants to improve its framework.



<sup>1</sup> UNICEF/WHO/World Bank Group: *Levels and Trends in Child Malnutrition, Key findings of the 2017*  
<sup>2</sup> UNICEF/WHO/World Bank Group: *Global Overview Child Malnutrition, May 2018 and 2018 editions.*  
<sup>3</sup> NWGN: *How to meet “Reducing Hunger and Malnutrition” goal of Ministry of Foreign Affairs’ food security policy, May 2018*



## Keynote speech dr. Marie Ruel

Marie Ruel is the director of the poverty, health and nutrition division of the International Food Policy Research Institute (IFPRI). Ruel began her speech stating that agriculture linked to nutrition is not a new topic: it is merely back on the agenda after years of neglect. However, in the last few years, more progress has been made than in all decades before.

### A decade of reviews

Between 2001 and 2013, reviews of agri-nutrition programs were elaborated, showing clearly that most of these programs were not designed to be nutrition sensitive. It was concluded that so far agri-nutrition programs have had impacts on several underlying determinants of nutrition, but that evidence of impacts on nutrition is inconclusive- likely due to weaknesses in design, targeting, implementation and evaluation. On items such as livelihoods, income, diet quality and women's empowerment, no standardized and validated indicators were available as yet and overall,



very little evidence on impact of agricultural interventions on nutrition was found. Ruel concludes that when it comes to nutrition, on the whole projects were not well designed, and evaluations were not executed properly.

### A new direction in NSA programming

In 2018, Ruel together with Quisumbing and Balagamwala<sup>4</sup> conducted another review of current agri-nutrition literature of 45 papers written in the last 3 years, including 28 association papers. There is a renewed interest in implementing programs and evaluations rigorously, and women's empowerment was found to be an important factor. The 2017 review of the evaluation studies show that NSA programs were all aimed at increasing household and individual access to nutrient rich foods. All programs had impacts on household and child dietary diversity (and mothers' dietary diversity), micronutrients intake, and encourage people to consume animal source food, fruit or vegetables, and maternal knowledge and practices. Behavioral change was better integrated in these recent programs than it was before.

In addition, there is now a long list of impact indicators at the level of child and maternal nutrition. Besides measuring anemia, which can be done relatively easily, diarrhea and the intake of supplements are now measured more often. Hence the variety of indicators used within NSA programs has expanded. Currently program design is stronger in targeting, implementation, evaluation and focus on impact pathways. This includes a greater emphasis on women's empowerment, behavioral change communication and attention for complementary interventions such as WASH. However, all these improvements in programming still have had a very limited impact on stunting for various reasons, including the limited time between implementation

and evaluation. Ruel provides one successful example, in Burkina Faso, where a combined NSA and WASH intervention had great positive impact. However, the question in general is whether it is possible to implement such integrated programs without overloading program management.

### Is production diversity the answer?

Production diversity or livestock ownership are consistently associated with dietary diversity (in the household, mother and child), animal source food and micronutrient intake. However, the strength of association depends on markets and other contextual, socioeconomic, food environment and women's empowerment factors. Overall, production diversity is more important for poorer households living in remote areas where access to markets is limited, because then people are more likely to consume the products themselves. Ruel emphasizes that production diversity should not be considered a main goal in itself in all contexts!

### "Nutrition sensitive agriculture programs work- but there is a lot to learn"

It is clear that NSA programs improve a variety of diet and nutrition outcomes, especially when combined with behavioral change communication, women's empowerment, WASH and micronutrient-fortified products. Impacts on stunting are hard to achieve, even with well-designed, targeted, implemented programs and rigorous evaluations. Ruel questions whether programs are getting too complex and too challenging to implement. The agriculture sector has to work with other sectors such as WASH and health, and target households on these areas at the same time (co-location) - but can the agricultural sector take on full responsibility for such an integrated approach?



### Recommendations & priorities

IFPRI recommends that NSA programs focus on improving diets rather than on reducing childhood stunting; thus on outcomes rather than on impact. More user-friendly indicators for measuring diet quality would help monitoring and improving programs. In addition NSA programs should be carefully tailored to specific context, culture, economic, and food environment factors; what works in one country, does not automatically work in another.

The priorities for the coming years should be on sustainability of programs: right now many are not cost-effective and it takes too long to achieve results. We expect interventions to have a long term impact, on the children of the children we are targeting now, but we need to do research to be able to actually measure this. In addition, we need to focus on unintended consequences of agriculture, for example on women's workload, health risks, and obesity.<sup>4</sup>

<sup>4</sup> Ruel, M. T., Quisumbing, A. R., & Balagamwala, M. (2018). Nutrition-sensitive agriculture: What have we learned so far?. *Global Food Security*.

<sup>4</sup> One of the few reviews on the risks of overweight in a developing context according to Ruel: Kessaram, Tara, et al. "Overweight, obesity, physical activity and sugar-sweetened beverage consumption in adolescents of Pacific islands: results from the Global School-Based Student Health Survey and the Youth Risk Behavior Surveillance System." *BMC obesity* 2.1 (2015): 34.



### Case I. A nutrition metrics journey through 3 countries

Deirdre McMahon, SNV

Deirdre McMahon is SNV's global coordinator food and nutrition security. In this session, she discussed 3 different agricultural programs, in Cameroon, Rwanda and Laos to exemplify SNV's nutrition sensitive agriculture metrics in different contexts. With regard to SDG 2, SNV observes that specific attention for diet quality is missing in the indicators and thus they focus on low cost dietary indicators. Comparing different countries and different programs allows SNV to be able to cross-learn, and learn about the impact pathways of the agricultural interventions on nutrition in different contexts.

#### Cameroon

Cameroon has widely diverse landscapes, climate zones and agriculture systems, and faces climatic shocks from time to time. In addition, conflict in the neighboring countries has led to displaced communities and the necessity of taking in refugees. The project SNV works on is funded by the EU and has a multi-sectoral approach, focusing on health and nutrition at the same time. SNV aims to improve the nutritional status of vulnerable people, improve access to economic opportunities and to promote sustainability and scalability. It has become clear that even after an emergency context, where food aid and attention to nutritional needs has been provided, malnutrition still exists on a large scale.

#### Rwanda

The project in Rwanda takes place in a very different context of increased urbanization, where people are purchasing more food than they are producing themselves. On the other hand, there are areas in the country with amplified food insecurity and stunting. The target group of this project consists of horticulture producers, and the aim is to help facilitate their access to inputs and finance. The project does not solely focus on producers, but also on the consumer end of the value chain, to see how the income angle can be used to improve people's diets. Stunting and wasting as well as WASH are not looked into, but the focus is explicitly on dietary changes. WFP has done a vulnerability analysis in Rwanda, and found that every year in September there is a peak in food insecurity. SNV looks at how that gap between demand and supply can be closed, and aims to achieve at the output level behavioral change like kitchen gardening and the use of animal source foods to diversify household consumption. In addition, SNV uses advocacy towards the government to prevent mono-cropping (which happened in north Rwanda with potatoes, leading to higher productivity but worsening of the nutrition situation).

#### Laos

In Laos, stunting numbers are high, and although progress at the national level is visible, the regional variation within the country is high. In comparison to Rwanda, the project in Laos is a multi-sectoral one: SNV focuses on nutrition sensitive agriculture, WASH, local community entrepreneurs and consumer demand. Especially the impact of market dynamics on nutrition are studied, by comparing a rural group and a group with more access to markets. During the baseline study, it became clear how in some villages, there is no stunting but there is underweight, whereas in other villages there is no stunting but there is wasting. Does this have to do with disease, or with malnutrition? Therefore, SNV focuses also on WASH: access to clean water can prevent diarrhea outbursts as well as provision of save irrigation possibilities for agriculture.

#### Tailor-made projects for different contexts are necessary

SNV emphasizes how in the developing field we need to be mindful of the short timeframe in which most projects operate. This has consequences for the selection of tools for monitoring and measuring results. Among other things SNV makes use of experimenting design (adaptive programming). The 3 cases illustrate how projects need to be tailor made to specific country contexts. Sustainability is always a concern, but linking with local governments, through district platforms and aligning with local plans and targets can help to ensure lasting effects of interventions. A consideration has to be made between for instance a more costly community driven approach and radio or text messages on the other hand as a communication tool, balancing costs and effects. Lastly, McMahon emphasizes that organizations should refrain from overexposing households to information, and suggests households with central ID numbers that all programs working on nutrition, or other sectors, can use so no double work is done and cost effectiveness is ensured.

### Case II. Measuring household access to food and diet diversity in practice

Marijke de Graaf, ICCO Cooperation

Marijke de Graaf is ICCO's food security strategy and policy advisor and discussed in this session methodologies to measure household access to food and diet diversity in practice. ICCO works towards data informed programming and uses mobile devices and web-based data collection in order to facilitate reporting, not only to donors but also in order to raise awareness among target groups and duty bearers. ICCO's overall food security policy framework, and related monitoring, not only focuses on increased production and increased access to nutritious and safe food, but also on empowerment of women, increased knowledge and nutrition awareness as pre-conditions for improved nutrition.

#### Dietary diversity as an indicator for diet quality

De Graaf explains how dietary diversity an indicator for diet quality is: resource-poor environments lead to low quality and monotonous diets, which in turn lead to a risk of micronutrient deficiencies. ICCO applies the so-called Minimum Dietary Diversity for Women (MDD-W) indicator. Relevant foods are classified into 10 pre-defined food groups, including sources of all relevant nutrients. In the field, data is collected at individual level via 24-hours recall questionnaires during face to face interviews. The application of this indicator in 5 food insecure Woredas in Ethiopia in 2016, revealed that the dietary diversity was very low, resulting in monotonous, low quality diets. Diets consisted mainly of staple foods combined with beans and peas, while consumption of fruits, vegetables, meat, fish and dairy was very limited. The data and related insights were shared with Self Help Groups, local leaders and duty bearers. It was recommended to develop interventions focusing on increasing diversity of local food production combined with behavior change communication promoting the consumption of more different food groups. De Graaf emphasizes that the MDD-W, as well as



the related tool to measure diet diversity and quality among infants, can be used as part of a context analyses as well as a baseline, midterm and/or end line to tailor interventions and keep track of progress.

### HFIAS and FIES - experience based measures

Besides dietary diversity, experience-based measures can be used, which are based on the finding that in case of potential food shortage, households tend to react in a similar way. The **Household Food Insecurity Access Scale** (HFIAS) shows the effects of experienced food insecurity in 3 domains: 1) mild food insecurity, resulting in worrying about the ability to obtain food, 2) moderate food insecurity, whereby people compromise on the quality and variety of food, and reduce quantity, 3) severe food insecurity resulting in experienced hunger. The HFIAS questionnaire consists of nine questions, identifying experiences of households during the previous month, as well as the frequency. Based on the results of the questionnaire, households can be classified as food secure or as mild, moderate or severely food insecure. This classification can easily be correlated with other characteristics of a household, e.g. female headed households of households being a member of a Self-Help Group. The indicator framework for the Sustainable Development Goal (SDG) # 2 includes the so-called: Food Insecurity Experience Scale (FIES), which is very much related to the HFIAS. However, the main difference is that the FIES focuses on a 'recall' period of 1 year instead of 1 month, and therefore less specific, i.e. more robust. The ICCO PMEL team concluded that the FIES is less specific and not suitable for program level monitoring and evaluation. as well as provision of save irrigation possibilities for agriculture. As seasonality plays an important role when it comes to sustainable food security, ICCO is using the indicator: 'Months of Adequate Household Food Provisioning' (MAHFP) in combination with the HFIAS. As for the training of enumerators to collect information based on these stand-



ardized questionnaires, ICCO experienced that the training of enumerators requires much attention, and that the questionnaires need a thorough process of contextualization per project location.

### Standardized approach for different actors

De Graaf emphasizes the need for ongoing research and sharing of experiences among all actors of the nutrition community and the Dutch diamond in order to be able to improve the metrics used within nutrition sensitive agriculture. Using a standardized approach facilitates sharing of experiences and a common learning agenda, which also came forward from the group discussion after this session- the NWGN can play a role in bringing all the indicators used by the various parties together. Leadership from Dutch policy makers, officials and a multi-actor working group is required to bring this forward and use the findings to update the current FNS Results and Indicator Framework 2018.

### Case III. Measuring women's empowerment for nutrition-sensitive agricultural projects

Hazel Malapit, IFPRI

Hazel Malapit is a senior research coordinator at the poverty, health and nutrition division at IFPRI. She coordinates research, training and implementation of the Women's Empowerment in Agriculture Index (WEAI), and presents a case on experiences from using the WEAI at project level, which is still a work in progress.

Women's empowerment comes from women's engagement in agriculture. However, time allocation also changes: time spent in agriculture decreases caring capacities, and this also influences children. The topic is thus not as straightforward as it may seem.

Pathways as listed below by Ruel and Alderman (2013) are important: where do interventions have effect, and what methods can we use to measure this? These pathways are all gendered, whereby the bottom 3 focus especially on women.

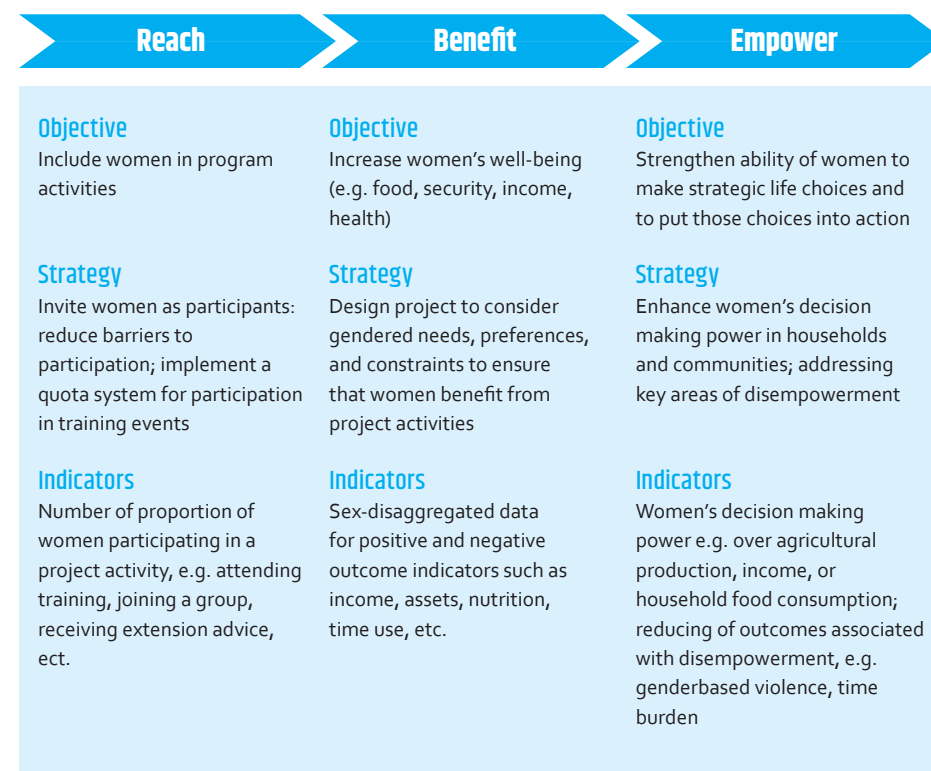
1. Food access for own consumption
2. Income from the sale of commodities produced
3. Food prices from changes in supply and demand
4. Women's social status and empowerment through increased access to and control over resources

5. Women's time through participation in agriculture (can be positive and negative)
6. Women's health and nutrition through participation in agriculture (can be positive or negative depending on exposure to health hazards and balance between energy intake and expenditure).

### Reach, benefit and empower

Agricultural development programs can be classified into programs that reach women, programs from which women benefit, and programs that empower women.

The strategies and activities to achieve these 3 aims are quite different, and indicators are needed to monitor these programs as exemplified in the figure below:



The implications of this framework for projects are that objectives, strategies, tactics and indicators can be aligned. The first step is in general to consider 'how does gender play a role?' If the project seeks to empower, we need to think about what tactics will affect what domains of empowerment. For funders it is important to check whether the empowerment aimed at achieving is backed by the strategies and tactics in the proposal: avoid an 'empowerment bandwagon' without a motor.

Programs that reach women do not per se benefit them, and even when they benefit women, empowerment is not necessarily provided. Trying to understand what works for women is an explicit goal in IFPRI's programs.

### The Women's Empowerment in Agriculture Index (WEAI)

A set of indicators is needed that can measure empowerment at the project and at the portfolio level. IFPRI has co-developed the WEAI with the Oxford Poverty and Human Development Initiative and the index was launched in 2012. It measures inclusion of women in the agricultural sector via surveys, whereby men and women in the same household are interviewed. Baseline findings from 13 countries across the world show how credit, workload and group membership are constraints of inclusion of women. It is a standardized measure, which allows finding gaps but does not provide very context specific data.

### Adapting WEAI to the project level

The WEAI was not what project implementers wanted: instead of a standardized measure, a more adaptable index with shorter interview



time was needed in the field. Also attention to health and nutrition was missing, and issues such as intra-household dynamics.

The metrics designed for empowerment are a core set of pro-WEAI empowerment modules (mixed methods; a quantitative survey and qualitative protocols) and standardized add-ons depending on project needs, such as nutrition and health, and livestock-enhanced.

At the moment, cognitive interviewing and identifying indicators has been completed but the end-product is not finalized yet. Compared to the WEAI, the pro-WEAI also includes some value chain components and aspects about decision making, which are still under construction.

### Gender in the Theory of Change

The WEAI can help understand links between gender, agriculture and nutrition, as it is a framework of reach, benefits and empowerment of women. It can also be used if a program is not about women in itself, as a tool to get through the theory of change. It is a metric to help unpack the different agri-nutrition pathways, and to help fine-tune programming. It is not a one size fits all: not all programs can do an elaborate measurement of all 3 aims, and empowerment is context dependent because of cultural factors. We need to remember that we do not measure for the sake of measuring, but that we have clear what our goal is, and what the subsequent tactics are to reach that goal.

### Main Takeaways

Nutrition sensitive agriculture interventions have due potential to improve diets. To develop and scale this potential, ongoing monitoring and rigorous evaluations of a selection of projects is required. In addition, targets for NSA programs should be realistic and focused; individual programs should not aim to achieve everything. To address malnutrition adequately, integrated approaches are needed, through co-location of different nutrition-sensitive and nutrition-specific programs that can leverage each other.

- There is consensus about the importance of Nutrition for sustainable development; however 'making agricultural or economic development interventions nutrition sensitive' is often viewed as too complicated in terms of programming, monitoring and evaluation. Nutrition as a topic needs to become more 'accessible' for policy makers and practitioners that do not want to go fully into detail: there is a need for 'nutrition for dummies' to realize nutrition sensitive agriculture in a cost-effective way at the center of SDG 2.
- The Nutrition Community, involving practitioners, policy makers and researchers should engage (more) in a shared learning agenda. For this, common monitoring and evaluation approaches and metrics, would be helpful.
- There is a need to further clarify the different objectives, potential and requirements of monitoring, evaluation and (applied) research of NSA interventions. This includes the specification of who should be involved and how the different components relate and complement each other. External evaluations require rigorous and independent approaches. Preferably the focus should be on the quality of evaluations, rather than on the quantity, i.e. not all programs require an external evaluation.
- Contextualization of programs and questionnaires is key- what works in one context cannot be standardized across countries. Take for instance vegetarian diets into account, and if looking at gender equality, food distribution and food allocation, cultural differences between regions.
- Applying a gender lens and aiming for women's empowerment through agriculture remains pivotal. However, we need to understand exactly what works for women: programs that reach women do not necessarily benefit them, and even when they do benefit, empowerment is not guaranteed. In addition, empowerment of women can also have unintended negative consequences on health, child care and food security. WEAI and pro-WEAI are helpful tools to unpack the agri-nutrition pathways and to help fine-tune programming.



### Next steps

- The NWGN will develop further as a forum for sharing experiences, challenges, lessons learned and recommendations related to nutrition sensitive agriculture interventions and related metrics. As part of this process members will join forces to systematize experiences on how to make agriculture programs work for nutrition and the use of standardized indicators such as HFIAS as well as indicators 'under construction' such as pro-WEAI, resulting in documentation of 'best practices'.
- Dutch policy makers are to engage further with NWGN members, facilitating a common agenda for adaptive programming and learning. In addition, they are to adapt the 'Food and Nutrition Security results and indicator framework 2018', making use of information and findings of the expert meeting, as well as to learn from practice on what works best in what context.

