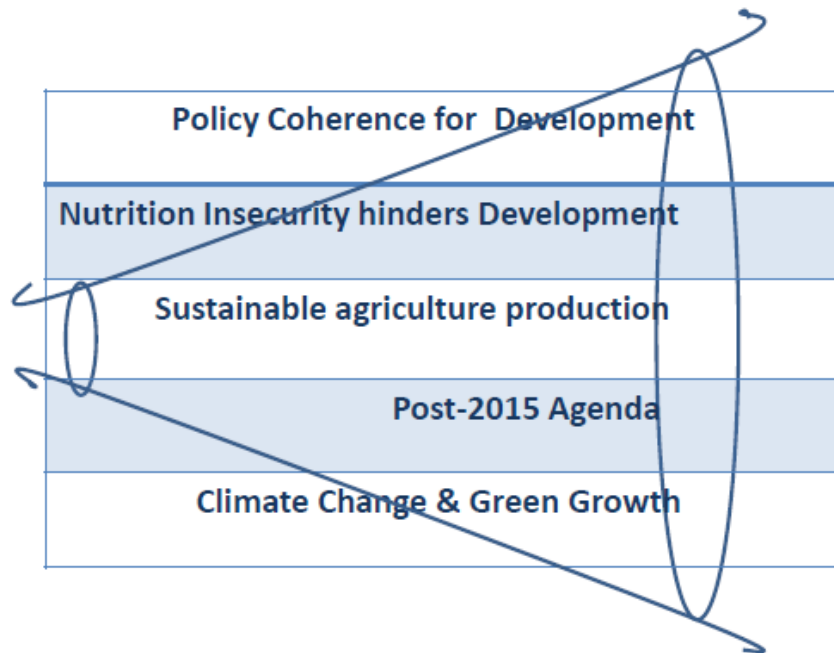


A View of Food Security through A Policy Coherent Lens



Aileen Robertson
Global Nutrition & Health a WHO Collaborating Centre
Metropolitan University College Copenhagen

March 2014

Views expressed in this commentary are entirely those of the author and do not necessarily reflect the opinion of the Metropolitan University College Copenhagen. The Metropolitan University College Copenhagen does not guarantee the accuracy of the data included in this report, nor does it accept responsibility for any use made thereof.

Author's profile

Aileen Robertson, PhD, is a Public Health Nutritionist at Metropolitan University College, Copenhagen, Denmark. Previously she worked at the Regional Office of WHO for Europe where she was Regional Adviser for Food and Nutrition Security for 12 years until 2004. Dr Robertson is a partner in many DG Research and EU funded projects, affiliated to WHO Collaborating Centre for Global Nutrition and Health and has carried out consultancies for DANIDA.

Table of contents

1	INTRODUCTION	4
1.1	BACKGROUND	4
1.2	CONTEXT “THE RIGHT TO FOOD”	4
1.3	GLOBAL FOOD AND NUTRITION SECURITY	4
1.4	AIMS OF THIS COMMENTARY	5
1.5	ORGANISATION OF THIS COMMENTARY	5
2	POLICY COHERENCE FOR DEVELOPMENT	6
2.1	WHAT IS POLICY COHERENCE FOR DEVELOPMENT?	6
3	NUTRITION INSECURITY HINDERS DEVELOPMENT – HUNGER & UNDERNUTRITION ARE DIFFERENT ...	8
3.1	HUNGER	8
3.2	UNDERNUTRITION	8
3.3	CONFUSING HUNGER AND UNDERNUTRITION LEADS TO POLICY INCOHERENCE	8
4	SUSTAINABLE AGRICULTURE AND FOOD PRODUCTION FOR DEVELOPMENT	9
4.1	ONE PRINCIPLE OF DEVELOPMENT IS TO DO NO HARM	9
4.2	MARKET-DRIVEN FOOD SYSTEMS CANNOT ALONE PROTECT HEALTH AND ENVIRONMENT	9
4.3	SUSTAINABLE AGRICULTURE IS GOOD FOR HEALTH AND NUTRITION	10
4.4	SUSTAINABLE AGRICULTURE IS GOOD FOR THE ENVIRONMENT	10
5	THE POST-2015 AGENDA AND POVERTY REDUCTION	11
5.1	HUMAN RIGHTS BASED APPROACH.....	11
6	GREEN GROWTH, CLIMATE CHANGE & UN BIODIVERSITY 2011-2020.....	13
6.1	GREEN GROWTH	13
6.2	INTERNATIONAL STRATEGIC PLAN FOR BIODIVERSITY 2011-2020	13
6.3	NUTRITION AND SUSTAINABILITY ICN SEMINAR.....	14
7	CONCLUSION AND RECOMMENDATIONS.....	15
8	APPENDIX - CASE STUDY FOR DEVELOPMENT	16
8.1	POVERTY, WOMEN AND AGRICULTURE.....	16
8.2	CASE STUDY IN BANGLADESH.....	16

Tables

Table 6-1 Health & Biodiversity linkages in support of the Aichi Biodiversity targets.....	14
---	-----------

Figures

Figure 1-1 Policy Coherence in Global Food & Nutrition Security for Development.....	5
Figure 1-2. A View of Food Security through a Policy Coherent Lens	6
Figure 2-1 The Great Balancing Act.....	7
Figure 5-2. Benefit-Cost Ratios of Investment to Reduce Stunting.....	12

1 Introduction

This commentary on Food Security is aimed to help maximise the potential to increase economic development and reduce poverty. The concept “Food Security” is not always well understood to ensure sectors working with food security always consider nutrition explicitly as a prerequisite, perhaps the term “food and nutrition security” should be used.

1.1 Background

The world’s agricultural system faces a huge challenge to ensure global food and nutrition security without creating harm to human health and the environment. The question is how can the world feed more than 9 billion people by 2050 in a manner that promotes economic development, health and wellbeing, and simultaneously reduce environmental impact. The challenge is to increase food production at an affordable price while protecting human health and the environment and providing economic opportunities for millions of rural poor.

1.2 Context “The Right to Food”¹

“The Right to Food is enshrined in International Covenant of Economic, Social and Cultural Rights (ICESCR) ratified by the vast majority of nations. The right to food is also included in the Convention to Eliminate all forms of Discrimination Against Women (CEDAW), the Convention on the Rights of the Child (CRC) and the International Labour Organisation convention 169 for indigenous groups. The UNs Food and Agriculture Organization (FAO) is increasingly framing their work in a rights context and providing tools for implementation of the right to food, notably the Voluntary Guidelines on the Right to Food, and the Voluntary Guidelines on Responsible Governance of Tenure of Land, Fisheries and Forests. Additionally, several national constitutions and poverty reduction plans specifically commit to eradicating hunger and achieving the right to food. The new complaints mechanism, established by the Optional Protocol to the International Covenant on Economic, Social and Cultural Rights, will allow individuals or groups to file a complaint with the UN if their right to food is violated by a member state that is party to the Protocol.”

The Global Strategic Framework for Food Security and Nutrition (GSF)² is the 1st global framework adopted by governments, which mainstreams the right to adequate food and human rights into policies relevant to both food security and nutrition. The GSF highlights the need for coherence between food and nutrition policies and the need to strengthen human rights-based monitoring and accountability mechanisms.

1.3 Global Food and Nutrition Security

Food security means an assured supply and access to affordable adequate food. Nutrition security is more than just food security and incorporates *the consumption, across the life-course, of healthy nutritious diets that are based on international nutrient recommendations and food-based dietary guidelines*. For example global nutrition security can only be achieved for infants if their mothers’ eating patterns before, during and after pregnancy ensure appropriate weight gain, exclusive breastfeeding for first 6 months and appropriate complementary feeding until 2 years. Optimum growth, development and learning ability of children depend on consuming healthy nutritious diets and having access to affordable and quality health care and family care. Nutrition insecurity occurs

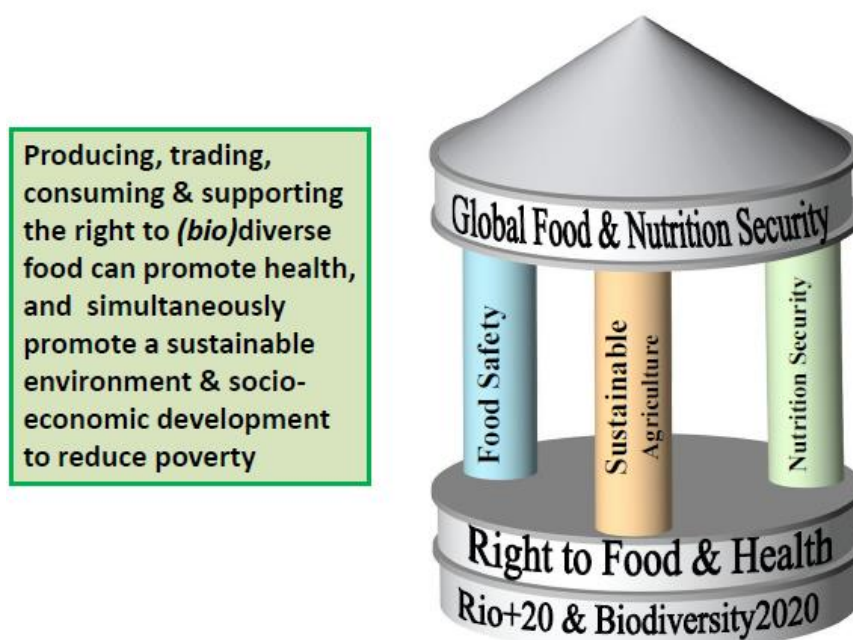
¹ Source: DAN Church Aid http://www.danchurchaid.org/content/download/77290/642707/version/2/file/Right2Food_WEB.pdf

² <http://www.fao.org/righttofood/publications/publications-detail/en/c/209801/>

due to: gender inequalities from socio-cultural discrimination; lack of cooking facilities, food preparation skills and knowledge; along with vulnerable being subjected to persuasive marketing to consume inexpensive energy-dense foods with low nutritional value. As mentioned in section 2. (figure 2-1 the Great Balancing Act) nutrition insecurity is compounded high population growth and unmet needs for family planning.

If policies are coherent producing, trading, consuming and supporting the right to biodiverse food can promote health and simultaneously promote both a sustainable environment and socio-economic development. As stated above, the GSF highlights the need for coherence between different sectors such as agriculture, health and education so that all policies work together and not in opposite directions. Figure 1-1 illustrates that policy coherence depends entirely on the active multisectoral collaboration between sectors working on sustainable agriculture, food safety and nutrition security. In addition the right to adequate food, health, education and gender equality as a human right should be mainstreamed into all food and nutrition security policies along with relevant recommendations from international conventions to protect the environment.

Figure 1-1 Policy Coherence in Global Food & Nutrition Security for Development



Source: adapted from http://www.euro.who.int/__data/assets/pdf_file/0005/74417/E82161.pdf

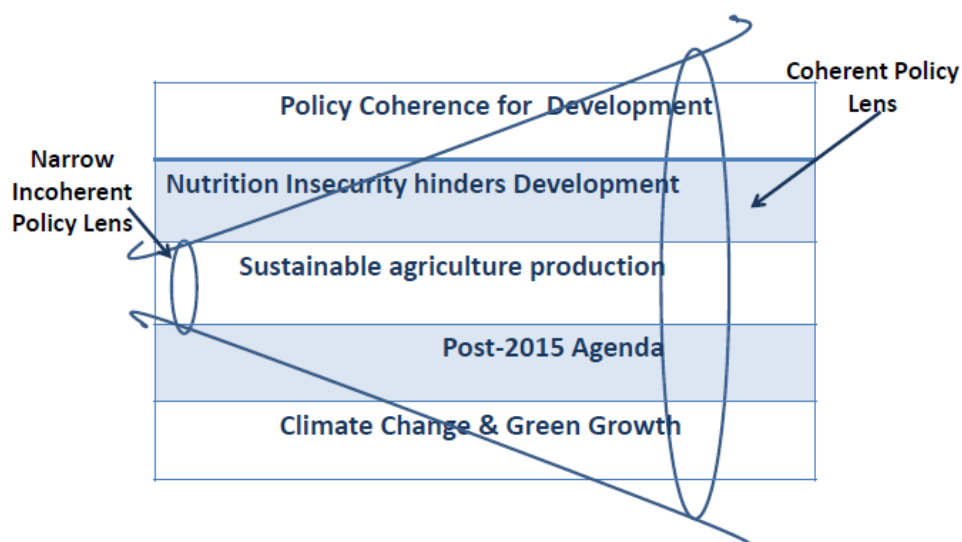
1.4 Aims of this Commentary

A Food Security strategy can be effective in improving economic development and reducing poverty but this depends on how it is interpreted and implemented. The simple steps in this document suggest ways to strengthen the implementation of Policies on Food Security.

1.5 Organisation of this Commentary

This commentary involves looking at Food Security through a policy coherent lens. Viewing the policy in this way can provide a tool to prioritise areas for implementation and so improve its cost-effectiveness. The coherent policy lens is described in Figure 1-2 where 5 areas are highlighted for consideration and implementation. If only sustainable agriculture and food production are implemented without considering the other areas essential to ensure food security, this constitutes a narrow incoherent policy. On the other hand a coherent policy will explicitly outline how to implement all components that are vital to ensure the right to adequate food.

Figure 1-2. A View of Food Security through a Policy Coherent Lens



Some essential components of a coherent food security policy:

- ✓ Policy Coherence for Development including population growth and sexual and reproductive health and rights
- ✓ Nutrition Insecurity hinders Development;
- ✓ Sustainable agriculture production;
- ✓ Preparation for post-2015 agenda and wealth creation;
- ✓ Climate Change, Green Growth, and UN Biodiversity Targets;

The organisation of this commentary considers each of these areas in the following five sections. Starting with policy coherence followed by: Nutritional Security or Nutrition Insecurity; Sustainable agriculture and food production for Development; Post-2015 agenda and poverty reduction; and Climate Change and Green Growth. It is described how the implementation of Food security can be strengthened and resulting in better investment of limited resources.

2 Policy Coherence for Development

“Policy coherence means different policy communities working together in ways that result in more powerful tools and products for all concerned. It means looking for synergies and complementarities and filling gaps among different policy areas so as to meet common and shared objectives.”
(OECD)

2.1 What is Policy coherence for development?

More coherence will ensure economic and social development while also protecting human health and the environment. It is recognised that policy coherence and ecological integration around food and nutrition, water, energy, health (including sexual and reproductive rights), education, and employment offers the best hope to improve economic development. Although achieving this coherence is challenging the World Resources Report³, “Creating a Sustainable Food Future”⁴, describes ways to achieve this^{5,6}:

³ http://www.wri.org/sites/default/files/WRI13_Report_4c_WRR_online.pdf

Figure 2-1 The Great Balancing Act.



The great balancing act presented in figure 2-1 illustrates three global challenges:

- Need for an increased quantity of food to meet increased population growth;
- Need to promote economic development particularly in rural areas for women farmers;
- Need to reduce the negative impacts resulting from agriculture practices.

OECD’s PCD approach⁷ stresses that steps should be taken to avoid any potential negative impact such as undermining progress towards development goals such as MDG1 (reduction of hunger and undernutrition). OECD recognises that growth in incomes is essential, but not sufficient to accelerate reduction of hunger and undernutrition. Universal provision of public services, such as affordable and quality health care (including sexual and reproductive rights) will help households to earn higher incomes. These specific initiatives to improve nutrition will maximise cognitive development and learning within the education sector.

Funding for nutrition has remained at less than 3% of overseas development aid despite nutritional status being increasingly recognised as a fundamental building block to development. Donors need to understand how best to protect (and not undermine) nutritional status. For example increased trade and marketing may result in negative impacts: breastfeeding can be undermined; and more energy-dense low nutritional value foods (high fat & sugar) may be consumed if prices fall compared with those of nutritious foods (vegetables and fruit). Many developing countries suffer from higher levels of nutritional problems (both over- and undernutrition) from dietary intakes too high in energy and deficient in essential nutrients.

If the implementation of Food Security Policy is going to be coherent, this means making the determinants of nutrition security explicit so that nutrition insecurity is prevented.

⁴ <http://www.wri.org/our-work/project/world-resources-report>

⁵ <http://www.wri.org/publication/creating-sustainable-food-future-interim-findings>

⁶ <http://www.greenbiz.com/blog/2014/01/03/18-graphics-illustrate-global-food-challenge>.

⁷ In Focus 2013: Policy Coherence for Development and Global Food Security www.oecd.org/pcd/PoliCoh_PDFforWeb_270513.pdf

3 Nutrition Insecurity hinders development – hunger & undernutrition are different

In the light of continuing hunger, poverty and malnutrition, efforts have continued to raise awareness of the importance of nutrition security. The UN initiative for Scaling-Up Nutrition (SUN) highlights that nutrition security is only achieved when individuals actually consume rather than just have access to food. In March 2012 FAO Member States agreed: *“Nutrition security exists when all people at all times consume food of sufficient quantity and quality in terms of variety, diversity, nutrient content and safety to meet their dietary needs and food preferences for an active and healthy life, coupled with a sanitary environment, adequate health, education and care.”* Nutrition insecurity is the opposite.

3.1 Hunger

Hunger is the result of an empty stomach. A human physiological drive to eat exists to satisfy our feeling of hunger. Hunger results from having insufficient income or social and economic entitlements to access food. In order to cope with hunger, families are often forced to sell vital assets, such as farming tools, thus perpetuating their vulnerability to hunger. Hunger can mean that: children (particularly girls) are taken out of school to work; communities migrate from their homes and destitution, prostitution, and child trafficking can result. At its worst hunger contributes to onset of civil revolts and armed conflicts. Traditionally agriculture sectors have aimed to reduce hunger through increased production of food energy. However if only energy is produced hunger can be reduced but levels of chronic undernutrition and poverty will continue to increase.

3.2 Undernutrition

In contrast to hunger, undernutrition results from the lack of essential micronutrients. Many poor people suffer from undernutrition but may not suffer from hunger. One in eight people do not get the correct quality of food to be nutritionally healthy and so are unable to lead economically viable lives. Nutrient deficiency makes people, especially children, susceptible to infections which reduces their ability to absorb nutrients and stops their feeling of hunger. Chronic undernutrition (which is associated with retarded growth in height and cognitive development and usually called “stunting”) in the first 1000 days of a child’s life (from conception till two years old) has irreversible negative lifelong impacts. Physical and mental development is permanently impaired and there is increased risk of cardiovascular disease and premature death in adulthood.

3.3 Confusing Hunger and Undernutrition leads to Policy Incoherence

It is stated “852 million are living in hunger in developing countries”. However chronic undernutrition (or stunting) rather than “hunger” is a better indicator to use when trying to reduce poverty. Globally stunting affects one third of children and undernutrition contributes to 2.6 million deaths of young children each year.

More than 90% of stunted children live in Africa (40%) and Asia (36%). Stunted women give birth to children who also become stunted. Stunting is associated with inability to learn or earn a viable income and so be not economically productive, thus perpetuating poverty. With the result high levels of stunting undermines all aspects of development. Reduction of stunting, similar to poverty, has been extremely slow over the past 20 years. If the rate of stunting reduction is not accelerated, the number of stunted children is expected to double over the next 15 years along with its associated negative consequences on cognitive and economic development. The WHO proposes a global target of a 40% reduction in childhood stunting by 2025.

There is growing global awareness that the existence of nutrition insecurity hinders all development policies and recognition that chronically undernourished populations are unable to take advantage of otherwise coherent policies. Commitments to prioritise the fight against chronic undernutrition and stunting are essential to achieve any significant reduction in global poverty. Donor governments and signatories to SUN (UN's Scaling Up Nutrition) is able to use its influence to tackle chronic under-nutrition and so improve economic development and reduce poverty.

4 Sustainable Agriculture and Food Production for Development

Rightly sustainable agriculture and food production are identified as an important priorities.

4.1 One principle of Development is to do no harm

Addressing issues of incoherence within food security, green growth and climate change is a complex and multi-dimensional matter. The challenges include improving agricultural productivity while protecting health and the environment. As stated in the Hippocratic writings "do good or do no harm".

The health impact of agriculture systems can be positive or negative depending on how coherent policies are. Agriculture systems can negatively affect nutritional health and poor nutritional health in turn can negatively affect agriculture production. Agriculture is essential for good health yet it is also associated with illhealth such as: undernutrition; malaria; food-borne diseases; chronic diet-related diseases; plus a range of well recognized occupational hazards. In addition farm workers in poor health are less able to work and this: reduces their productivity and income; perpetuates a downward spiral into poor health and poverty; and further jeopardizes national food and nutrition security and economic development.

Increasing investment in agriculture is vital to achieve higher productivity and many developing countries are seeking investment for their agriculture sectors. However irresponsible investments can have unintended negative impacts on: political stability, social cohesion, human rights, sustainable food production, household food and nutrition security, the environment; and local people could lose access to resources on which they depend. In late 2012 the Committee on World Food Security (CFS) launched a two year consultation to develop CFS-RAI principles principles⁸⁹ that respect rights to adequate food security and nutrition, livelihoods and resources.

4.2 Market-Driven Food Systems cannot alone protect health and environment

Many agricultural policies have contributed to negative consequences on climate change, water, ecosystems and biodiversity. Food production policies that are driven by market forces alone will not guarantee livelihoods of poor farmers (especially women) nor guarantee that the poor eat wholesome nutritious foods. Market forces are critical to boost production, but left to their own devices are unlikely to achieve sustainable agriculture production. Rising food prices can hopefully support small farmers, but they can also encourage large farmers to expand and increase use of water and chemicals. Dramatic increases in food prices can be avoided by preventing food shortages and if these shortages are not prevented, political support for environmental protection will probably decline resulting in a vicious downward spiral.

As described in sections 4.3 and 4.4 there is great potential to create sustainable agriculture production and "win-win" solutions for both human health and the environment.

⁸ <http://uncsd.iisd.org/news/cfs-launches-process-to-develop-principles-for-responsible-agricultural-investment/>

⁹ <http://www.fao.org/fsnforum/forum/discussions/RAI>

4.3 Sustainable agriculture is good for health and nutrition

The great balancing act (figure 2-1.) requires agriculture systems not just to produce more energy and protein as was the mistake of EU's Common Agriculture Policy following the 2nd World War. Growing evidence demonstrates that the quality as well as the quantity of food must be in line with international nutrient and dietary recommendations. This will help to do less harm and avoid developing countries having to face dietary related health problems facing many OECD countries. Thus along with just producing more food there should also be policy coherence to ensure:

- **Shift to healthier diets** by eating more legumes, plants and vegetables and more fish so that their food supply is more in line with WHO nutrient and dietary recommendations;
- **Shift to a more efficient mix of animal products** - shifting just 20% of consumption of beef to other meats, fish, or dairy would save millions of hectares for carbon storage and other ecosystem services; and could help meet the world's demand for food crops.
- **Reduce production animal products** -if wealthier countries reduce meat consumption not only would human health be improved but the challenge of producing more food with less land, water and greenhouse gas emissions would also be possible.
- **Farm more sustainably:** breed better seeds adapted to local conditions; judicious use of fertilizer; more attention to micronutrients; and improve weather forecasting to inform the best selection of planting dates.
- **Reduce food losses and waste** along the whole food chain and protect nutritional health by encouraging better dietary diversification from more biodiverse foods.
- **Leave no farmer behind:** close gap between small farmers, consider special needs of women (e.g. infant and young child care) and learn how to increase plant biodiversity and feed cows more efficiently to improve income and eliminate micronutrient deficiencies
- **Help reduce the unmet needs of family planning and teenage pregnancy rates:** women understand themselves as local citizens with rights to be acknowledged and supported by governments

4.4 Sustainable agriculture is good for the environment

Figure 2-1 outlines a need to not only produce more food but also to reduce environmental impact:

- **Expand crops into low-carbon degraded lands** - grazing lands produce valuable forage; tropical savannas and woodlands (agroforestry), have carbon storage and better biodiversity and nutritional composition.
- **Intensify pasture productivity** - combine grass with nitrogen-fixing plants such as legumes (excellent nutritional source), shrubs & trees (indigenous trees now recognised for their nutritional properties e.g. Morenga trees).
- **Manage shifts in agricultural land to minimise deforestation** – agroforestry can protect environment while also supporting nutrition security (e.g. Moringa trees). Greater biodiversity promotes better nutritional health.
- **Increase productivity of aquaculture** -farmed fish are as efficient as chicken, making them an environmentally desirable source of protein and, if produced sustainably, they provide a complete source of nutrition when eaten whole.
- **Carbon sequestration and strategies to reduce food losses** and waste to save emissions, land, energy and money
- **Boost yields through improved soil and water management** to increase plant biodiversity, reduce green-house gas emissions, reduce demand for extra land and use of fertilisers and pesticides
- **Increase efficiency in use of inputs** - to boost production, reduce input costs, and create new economic opportunities.
- **Avoid competition from bioenergy** – which can increase risk of food shortages and undermine the environment.

Many agencies have shown interest in developing new indices to measure the rate of “agricultural transformation” in developing countries. However according to *Alexander J. Stein, Research Coordinator at IFPRI*, the plethora of new indices or “Metrics” should be better harmonized:

“The proliferation of food security indexes demonstrates the widespread interest in understanding the size of the hunger problem. To improve the measurement of food security, however, efforts and resources should be concentrated not on producing “index inflation,” but on supporting fewer indexes that rely on sound conceptual frameworks and that integrate new and timely data.”

Donors instead of inventing new indices such as the Agricultural Transformation Index, may wish to consider supporting and improving existing indices such as “The Women’s Empowerment in Agriculture Index”¹⁰. Eradicating chronic undernutrition and its associated social and economic costs must start with agriculture and food systems. The role of those in the agriculture and food sector is primarily to feed people by increasing the availability, affordability, and consumption of biodiverse, safe, nutritious foods that are aligned with both nutritional dietary recommendations and environmental sustainability. The food and agriculture sector’s direct role in enhancing nutrition therefore deserves greater attention by policy makers.

5 The Post-2015 Agenda and Poverty Reduction

In July 2012, the UN Secretary-General announced a 27-member High-Level Panel of Eminent Persons (HLPEP) to provide guidance and recommendations on the post-2015 development agenda. Also in 2012 a separate process to design Sustainable Development Goals (SDGs) was initiated at the Rio+20 summit where 192 Member States agreed to design a new set of SDGs.

5.1 Human Rights based Approach

Poverty will only be reduced if the determinants of lack of development such as high levels of chronic undernutrition and stunting are reduced using a human rights based approach.

The need to end poverty is key within the on-going discussions on the post-2015 goals for example the following proposed targets are suggested:

- a) Bring number living on < \$1.25/dy to zero & reduce by x% number living below their country’s 2015 national poverty line
- b) Increase by x% share of women & men, communities & businesses with secure rights to land, property, and other assets
- c) Cover x% of people who are poor and vulnerable with social protection systems
- d) Build resilience and reduce deaths from natural disasters by x%

The reduction of poverty along with the reduction of hunger; chronic undernutrition & stunting; sustainable agriculture; and food and nutrition security are all deeply intertwined. The debate about the policy incoherence that has existed between agriculture, food production, nutrition, biodiversity and conservation has been revitalised. Post-2015 many of the goals will therefore highlight that in order to successfully reduce poverty, stunting levels must be reduced and be an integral part of coherent food security policies.

¹⁰ <http://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/id/127346>

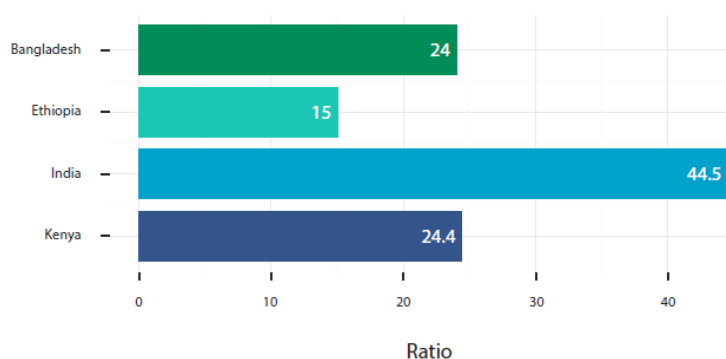
A post-2015 draft¹¹ suggested for Goal 5 “Ensure Food Security and Good Nutrition” includes:

- End hunger and protect the right of everyone to have access to sufficient, safe, affordable, and nutritious food
- Reduce by x% stunting, wasting by y% and anemia by z% for all children under 5 years.
- Increase agricultural productivity by x%, with a focus on sustainably increasing smallholder yields and access to irrigation.
- Adopt sustainable agricultural, ocean/freshwater fishery practices and rebuild designated fish stocks to sustainable levels.
- Reduce postharvest loss and food waste by x%

Member States of WHO have already endorsed a global target of a 40% reduction in childhood stunting by 2025.

Poverty is the main determinant of hunger and undernutrition – most people are hungry or undernourished because they cannot afford sufficient nutritious food, not because of food supply failures. Food price volatility causes sharp rises in food prices which can exacerbate poverty. Producing more food is essential, but production alone will not ensure food security and good nutrition. Reducing stunting (chronic undernutrition) is one of the most cost-effective development interventions (figure 5-2) and during the Copenhagen Consensus (2012) it was shown that for every \$1 spent on reducing levels of stunting, \$44.50 could be gained through future earnings¹²

Figure 5-1. Benefit-Cost Ratios of Investment to Reduce Stunting



The economic and social costs of malnutrition to the global economy are enormous. Loss of productivity and direct health care spending can account for as much as 5% of global GDP (equivalent to USD 3.5 trillion a year)¹³.

The upcoming International Conference on Nutrition (ICN2) in Rome in November 2014 will keep nutrition security on the political agenda and focus on international cooperation following the MDGs. The post-2015 development agenda presents a real opportunity to make a difference in addressing undernutrition and Denmark and DANIDA could play a key leading role to influence discussions.

¹¹ Source: A NEW GLOBAL PARTNERSHIP: ERADICATE POVERTY AND TRANSFORM ECONOMIES THROUGH SUSTAINABLE DEVELOPMENT p.41 http://www.post2015hlp.org/wp-content/uploads/2013/05/UN-Report.pdf?utm_source=UKHF+mailing+list&utm_campaign=f519f41d81-UKHF_Review_of_the_year_briefing_2013&utm_medium=email&utm_term=0_a21eedeab-f519f41d81-284927913

¹² Hoddinott, J. et al. (2012). *Hunger and malnutrition*. Copenhagen Consensus 2012 Challenge Paper

¹³http://www.fao.org/fileadmin/user_upload/post-2015/14_themes_Issue_Papers/Nutrition_web.pdf

6 Green Growth, Climate Change & UN Biodiversity 2011-2020

It is hard to imagine that green growth can be achieved without dramatic reductions in the numbers suffering from poverty and stunting (chronic undernutrition). These reductions will not happen without the implementation of coherent food and nutrition security policies.

6.1 Green Growth

There is a need for a “greener” agricultural development paradigm that addresses more sustainable, socially equitable, resilient and nutritious, as well as more productive, food and farming systems. There is recognition that agriculture and food security depend not only on the biodiversity of crops and livestock but also on land’s finite resources. Sustainable production respects the ability of land to regenerate and provide multiple goods and services, including agriculture; and to simultaneously reduce the ecological footprint of agriculture.

Discussions leading up to the Rio+20 UN conference emphasised the importance of sustainable development and the protection of the environment. The dynamics of population change, ecological degradation, and resource scarcity, and development policies and practices, all occurring in complex and highly unstable geopolitical and economic environments, foster new challenges. The dismal ecological and development records over the past two decades call for new directions. Evidence shows how nutritional strategies help the agriculture sector to mitigate global climate change (e.g. by increasing the consumption of more plants instead of animal products) and to adapt to more biodiversity.

6.2 International Strategic Plan for Biodiversity 2011-2020¹⁴

Biodiversity is a key to sustainable, efficient, resilient and nutritious food production¹⁵. Governments recognise that biodiversity offers a wealth of untapped potential for: livelihoods; health; nutrition; the environment; economic development and strategies to help farmers cope with climate change. Research over the last 15 years (e.g. Bioversity International) has shown how science can help farmers to use agricultural biodiversity and plant diverse varieties to reduce pest and disease loss.

Governments are therefore endorsing resolutions and pledging commitments (Aichi Biodiversity Targets; **ICN2 2014**; Post-2015 SDGs; Expo 2015 Feeding the Planet; Global Partnership in Mexico, April 2014) to ensure resilient and sustainable biodiverse food systems. The Convention on Biological Diversity’s initiatives stress the need for more: biodiversity for food and nutrition; sustainable diets; and achievement of the Aichi Biodiversity Targets including targets 1, 4-7, 12- 14 (table 1.), 18 and 19 all directly or indirectly related to health and endorsed during Rio+20.

¹⁴ <https://www.cbd.int/sp/>

¹⁵ <http://www.cbd.int/doc/newsletters/development/news-dev-2015-2013-07-en.pdf>

Table 6-1 Health & Biodiversity linkages in support of the Aichi Biodiversity targets

Food underpins Health	Health Sector Opportunity	Benefits to Biodiversity (Aichi Targets)
<p>Food</p> <ul style="list-style-type: none"> • Species, varieties and breeds including domesticated and wild components • Diversity of diet • Ecology of production systems • Total demand on resources 	<p><i>Direct</i></p> <ul style="list-style-type: none"> • Recognize and promote dietary diversity, food cultures and their contribution to good nutrition • Recognize synergies between human health and sustainable use of biodiversity (e.g. moderate consumption of meat) <p><i>Indirect</i></p> <ul style="list-style-type: none"> • <i>Promote sustainable production harvesting and conservation of agricultural biodiversity</i> 	<p>T1 (values of biodiversity) T4 (sustainable production and consumption) T5 (reduce habitat loss) T6 (sustainable harvesting) T7 (sustainable management) T12 (preventing extinctions) T13 (genetic diversity) T14 (ecosystem services) T18 (local/traditional knowledge) T19 (knowledge, science & technology)</p>

Source: adapted from UNEP/CBD/COP/11/INF/27 September 2012 from <http://www.cbd.int/doc/health/cop-11-inf-27-en.pdf>

The focus is shifting from food being seen merely as a trade commodity to a public good that satisfies a wide range of biodiverse, nutritious dietary patterns to support human health, protect the environment and reduce poverty. By explicitly integrating nutrition into food security policies environmental gains can be more readily delivered¹⁶.

6.3 Nutrition and Sustainability ICN¹⁷ Seminar¹⁸

A Nutrition and Sustainability seminar in preparation for ICN (International Conference on Nutrition 2014) included discussions on approaches to integrating climate change, biodiversity and ecosystems with nutrition and health. Practical steps and recommendations included:

Case studies and resource sharing from countries and policies in development on sustainable diets/nutrition/climate change and food systems; and **insights from countries** including Malawi, Spain, Colombia, Germany, Finland and Ireland

Increased attention to biodiversity is important for both ecosystems and nutritional health.

Gender strategies recognize that half of the world's farmers are women and that they have special nutritional needs and concerns

Beyond 'eat local' campaigns into more emphasis on how food is produced and transported; and linking what is on the plate to improved agricultural and health policies

Guidelines for the catering sector, a major player in food in many countries and their leadership could transform food systems e.g. through public procurement e.g. Finland has examples of an environment passport for catering services in development, checklists for consumers, and projects that combine health and sustainability including climate-friendly lunches for catering

Clearly Green Growth cannot be achieved without improved health which leads to improved personal and national income¹⁹ Prompted by the 20th anniversary of the 1993 World Development Report, a *Lancet* Commission²⁰ revisited the case for investment in health.

A new investment framework to achieve dramatic health gains by 2035 shows how this leads to improved wealth:

¹⁶ p. 7 <http://www.mrfcj.org/media/pdf/2013-Uganda-Policy-Paper.pdf>

¹⁷ ICN = International Conference on Nutrition

¹⁸ http://www.unscn.org/en/nutrition_and_climate_change/

¹⁹ [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(13\)62105-4/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(13)62105-4/fulltext)

²⁰ <http://www.thelancet.com/commissions/global-health-2035>

Productivity: healthy employees are more productive and have lower rates of absenteeism.

Education: healthy children are more likely to attend school and have greater cognitive capacity for learning; improved education is a powerful mechanism for growth;

Investment: increased life expectancy is an incentive to save for retirement, which has effect on national savings, which in turn can boost investment and economic growth. Healthy populations also attract direct foreign investments.

Access to natural resources: control of endemic diseases can increase human access to land and other natural resources

Demographics: a fall in infant mortality initially boosts population growth but fertility then decreases as families choose to have fewer children. This leads to an increased ratio of working-age people (15-64yr) to dependent people (children and >65 yr) facilitating an increased GDP per head.

The ICN could provide one of the first platforms for promoting a coherent approach to integrating climate change, biodiversity and ecosystems, nutrition and health with food security to create an ambitious agenda for green growth.

7 Conclusion and Recommendations

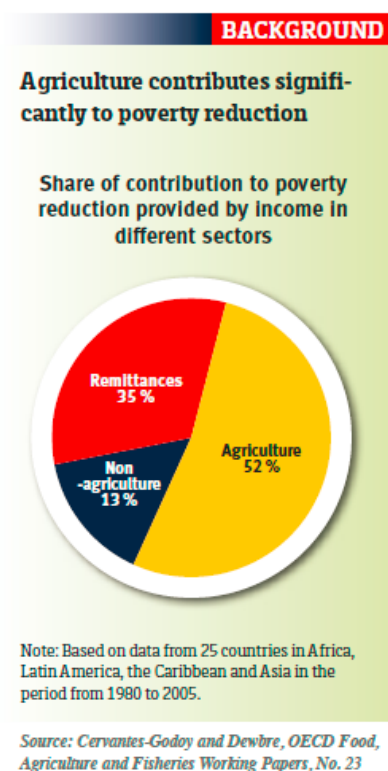
The term “food and nutrition security” reflects the multisector collaboration needed between those working with food security and nutrition security. The term expresses an integrated development goal to help guide implementation of policy and cost-effective programmatic action: As agreed by FAO Member States “*Food and nutrition security exists when all people at all times have physical, social and economic access to food, which is safe and consumed in sufficient quantity and quality to meet their dietary needs and food preferences, and is supported by an environment of adequate sanitation, health services and care, allowing for a healthy and active life.*”

Nearly 200 million are chronically undernourished (stunted) and this number could double over next 15 years if development policies are not coherent. The food crisis in 2008 closely followed by the economic crisis drew stark attention this. Despite efforts by the international community persistent chronic undernutrition exists and levels are even increasing. Food Security if viewed through a policy coherent lens can successfully fight poverty and promote human rights by considering the following:

- ✓ *Policy Coherence for Development* addresses “food security” and “climate change”. By ensuring nutrition is explicit in their policies the agriculture, health, environment and education sectors can develop more coherent policies to prevent unintentional harm and achieve their goals. For example investing in gender equality can help to reduce population growth which is expected to increase demands for food by 50%.
- ✓ *Nutrition Insecurity* hinders development goals and policy makers should understand the difference between “chronic undernutrition” and “hunger”.
- ✓ The role of *Sustainable Agriculture and Food Production* is primarily to feed people by increasing availability, affordability and consumption of biodiverse, safe, nutritious foods aligned with dietary recommendations and environmental sustainability.
- ✓ Given that the number of chronically undernourished (stunted) could double over next 15 years, the *Post-2015 Agenda and its Poverty Reduction* strategies present a renewed opportunity to reduce stunted growth (both in economic and human terms).
- ✓ Improvements in *Climate Change and Green Growth* can be achieved by the production of biodiverse foods that underpin human health; food and nutrition security; ecosystem resilience; sustainable livelihoods and the ability of farmers to cope with climate change.

8 Appendix - Case Study for Development

8.1 Poverty, Women and Agriculture



Poverty, Women and Agriculture

Agriculture Investments – can promote growth, reduce poverty and hunger and promote environmental sustainability but these investments must be conducted in a responsible way with respect to health and the environment. Their impact on nutritional health must be considered. Especially for women heads of households engaged in agriculture. In addition to facing extreme poverty, weak property rights, poor access to markets and finance, and limited ability to manage risks (such as biofuels provoking higher food prices). Poor women are also those giving birth to low birth weight infants and stunted young children who are at higher risk of death and infectious diseases. Many women of child-bearing age, due to their farm work in agriculture, may be unable to breastfeed their infants exclusively for the 1st 6 months and appropriately feed and care for their young children during the first 1000 days. A vicious cycle of poverty and gender inequalities are perpetuated, especially in regions largely dependent on agriculture. ...“The right to sexual and reproductive health is key to women’s ability to take charge of their own lives and choose when to have children and how many. The right to sexual and reproductive health is also crucial in the fight against maternal mortality and in efforts to promote gender equality and sustainable population growth”. In addition women need support to be able to feed their infants and young children according to WHO recommendations if levels of stunting are to be reduced and poverty eradicated

8.2 Case study in Bangladesh

Bangladesh: Inclusive education in Bangladesh with good results – Women farmers & education

Since 2006, 3 million men and women have taken part in farmer field schools in Bangladesh. Through their participation in farmer field schools the participants, who are small-scale farmers, have acquired tools that can help them improve their living conditions. Their earnings have increased significantly, and particularly women have discovered new income opportunities. Women also find that attending the field school has boosted their self-esteem and enabled them to gain more influence over decisions regarding production and family income. The field school’s focus on nutrition and hygiene has provided the women with knowledge which has resulted in fewer cases of disease in their families. Agriculture extension in Bangladesh²¹ “puts increased emphasis on linkages between agriculture production, food use and nutrition”

²¹ <http://bangladesh.um.dk/en/danida-en/agriculture-sector-programme-support/asps-phase-ii/agriculture-extension-component/>



Is it working...?

- **More nutritious vegetables and fish are being bought by urban consumers.** 54% of treatment group are buying 2-3 nutritious foods compared to 17% of control group (2 foods only), (7 day recall data).
- **The number of customers has doubled for treatment mobile traders** (100% increase) compared to 18% for control. The volume of business/sales increased by 55% amongst treatment LSPs, compared to 18% in control group.
- **63% of the treatment group are feeding nutritious foods** (small fish with bones, eggs, chicken) to 7-59 months children, compared to 29% control group (24 hour recall).

(MRM Data Q6-7)

Photo credit: iDE/ Allison Joyce



This project is funded by The European Union