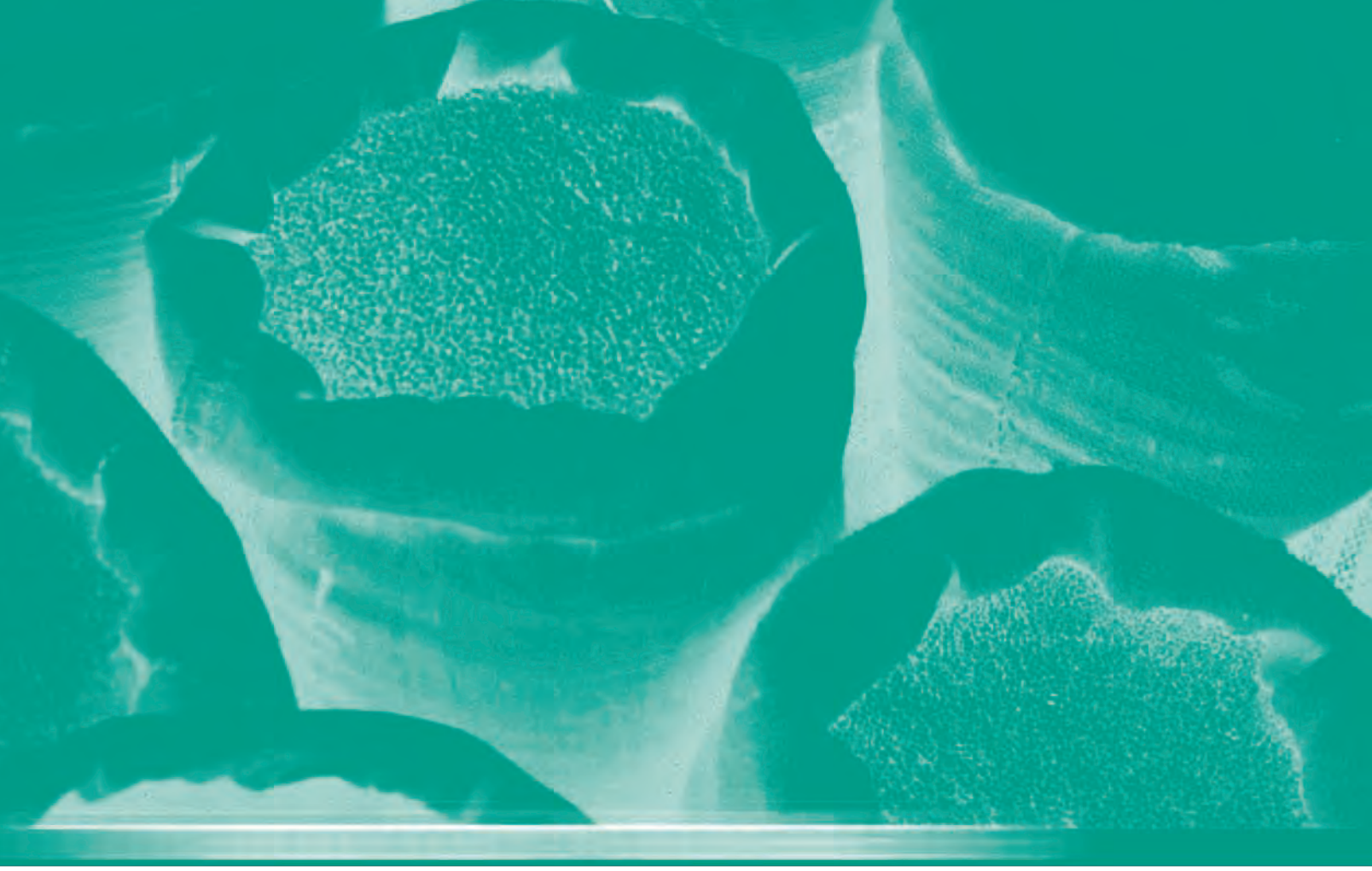

Integrating Food Security Information in National Statistical Systems

Experiences, Achievements, Challenges

INTEGRATING FOOD SECURITY INFORMATION IN NATIONAL STATISTICAL SYSTEMS

Experiences, Achievements, Challenges

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Acronyms

AAS	Amino acid score
ADER	Average dietary energy requirement
BMI	Body mass index
BMR	Basal metabolic rate
CARICOM	Caribbean Community
CBS	Central Bureau of Statistics (Sudan)
CFAF	Coopération financière en Afrique centrale - Franc (Niger)
CPA	Comprehensive Peace Agreement (Sudan)
CPI	Consumer price index
CV	Coefficient of variation
DAEP	Direction de l'Agriculture, de l'Elevage et de la Pêche
DEC	Dietary energy consumption
DES	Dietary energy supply
DGSCN	General Directorate of Statistics and National Accounts (Togo)
DHS	Demographic and Health Survey
DSCN	Direction de la Statistique et de la Comptabilité National
DSID	Direction des Statistiques, de l'Informatique et de la Documentation
EA	Enumeration areas
EAA	Essential amino acids
EAR	Estimated average requirement
ECH	Encuesta Contínua de Hogares
ENAHO	National household expenditure survey (Peru)
ENBC	National survey on the budget and household consumption (Niger)
ESA	Agricultural Development Economics Division (FAO)
ESS	Statistics Division (FAO)
EU	European Union
EWS	Early Warning System
FAO	Food and Agriculture Organization of the United Nations
FAOSTAT	FAO statistical databases
FBS	Food balance sheet
FEV	Food equivalent value
FHH	Female-headed households
FNP	Food and nutrition policy
FNSP	Food and nutrition security policies
FSSM	Food security statistics module
GDP	Gross domestic product
GIEWS	Global Information and Early Warning System
GPAFSN	Global Partnership on Agriculture, Food Security and Nutrition
HBS	Household budget survey
HLTF	High level task force
HOBALI	Hoja de balance de alimentos
HSPH	Harvard School of Public Health
ICAS	International Conference in Agricultural Statistics
ICES	Indian Consumption Expenditure Surveys
IFPRI	International Food Policy Research Institute
IHSN	International Household Survey Network
IICA	Inter-American Institution for Cooperation on Agriculture
ILO	International Labour Organization
INE	Instituto Nacional de Estadística

INEI	Instituto Nacional de Estadística e Informática (Peru)
INR	Indian rupee
INS	National Institute of Statistics (Niger)
MDER	Minimum dietary energy requirement
MDG	Millennium Development Goals
MECOVI	Mejoramiento de las Encuestas y Medición sobre Condiciones de Vida
MHH	Male-headed households
MICS	Multiple Indicator Cluster Surveys
MNAC	Micronutrients available for human consumption
MSIP	Ministry of Statistics and Implementation Programme (India)
MUHAS	Muhimbili University of Health and Allied Sciences
NBS	National Bureau of Statistics (Tanzania)
NFBS	National food balance sheet (Tanzania)
NFFP	National Food Fortification Program (Bolivia)
NGO	Non-governmental organization
NHBS	National household budget survey (Sudan and Niger)
NHS	National household survey
NPES	National Poverty Eradication Strategy (in Tanzania)
NPFS	National Programme for Food Security
NSGRP	National Strategy for Growth and Reduction of Poverty (Tanzania)
NSSO	National Sample Survey Organization
PAL	Physical activity level
PDCAAS	Protein digestibility corrected amino acid score
PEAP	Poverty eradication action plan
PFCT	Peru food composition table
PNSA	Programa Nacional para la Seguridad Alimentaria
PPAP	Participatory poverty assessment process
PPS	Probability proportional to size
PRSP	Poverty reduction strategy paper
PSU	Primary sampling units
QUIBB	Questionnaire Unifié des Indicateurs de Base de Bien-être
RAE	Retinol activity equivalent
RNI	Recommended nutrient intake
SADC	South African Development Community
SD	Standard deviation
SDG	Sudan pound
SOFI	The State of Food Insecurity in the World
SSCCSE	South Sudan Centre for Census, Statistics and Evaluation
TFCT	Tanzania food composition table
TFNC	Tanzania Food and Nutrition Centre
THBS	Tanzania household budget survey
TPDS	Targeted public distribution system
TSZ	Tanzanian shilling
UBOS	Uganda Bureau of Statistics
UGX	Ugandan shilling
UNDP	United Nations Development Programme
UNHS	Uganda national household survey
UNICEF	United Nations Children's Fund
UNU	United Nations University
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
WFP	World Food Programme
WFS	World Food Summit
WHO	World Health Organization

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Foreword

Under the terms of its mandate, the Food and Agricultural Organization of the United Nations (FAO) makes food security information available at national and sub-national levels. It also monitors progress made in meeting targets for reducing hunger, which were set by the World Food Summit (WFS) and the Millennium Development Goals (MDG).

FAO's Statistics Division (ESS) has been working in partnership with the European Commission on the EC-FAO Programme on Linking Information and Decision Making to Improve Food Security. The programme aims to enhance the quantity and quality of food security information, and to improve its collection and analysis. It also promotes the use of this information in decision-making processes. The work presented in this book represents over a decade of collaboration.

FAO Statistics Division has extended its statistical capacity-building activities to twenty countries as a result of support from the programme. These activities include providing the tools and technical support needed to analyse available food consumption data collected in national household surveys (NHS). The programme has also supported the development of a micronutrient module in the food security statistic module (FSSM). The module is a useful tool for deriving a suite of food security indicators at national and sub-national levels from NHS. Thanks to these activities, over twenty countries have produced technical food insecurity assessment reports. These provide valuable information and inputs for policy-makers in countries preparing national food security frameworks.

A follow-up to Deriving food security information from national household budget surveys: experiences, achievements, challenges (2008), this work is a compilation of papers from Bolivia, India, Niger, Peru, Sudan and Tanzania on the use of food security statistics for food security analysis. It includes a paper on how harmonized food security information can improve food and nutrition policies, and outlines the challenges for future work. There is also an analysis of food security in Uganda from the perspective of gender.

The intention of this work is to provide a better understanding of how food security indicators can be used for policy-making and intervention planning. It highlights how food data collection can be improved to obtain more reliable, consistent and timely food security information.

I wish to thank all authors from the national statistical offices and the other institutions involved in food security, for sharing their experiences. I am also grateful to national teams and FAO colleagues involved in the EC-FAO Programme on Linking Information and Decision Making to Improve Food Security, and, in particular, to colleagues from the Food Security and Social Statistics team of the Statistics Division. Finally, I express my gratitude to the European Union (EU) for their financial support of participating countries and to the EC-FAO Programme.

I would like to express my special gratitude to Seevalingum Ramasawmy, FAO Statistician, for compiling these experiences into a comprehensive report, to Sile O'Broin and Shannon Russell who edited and formatted the manuscript, and Adriana Brunetti for designing the book.

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Preface

FAO has a global mandate to monitor progress made towards achieving the targets on hunger set by the MDG in 2000 and the WFS in 1996. It tracks this progress by providing regular estimates of the proportion and number of people whose daily dietary energy consumption (DEC) is less than the minimum daily dietary energy requirement (MDER). The methodology for estimating hunger, or the prevalence of undernourishment indicator, is a parametric approach based on the distribution of DEC. It uses agricultural and food data derived from several sources such as trade, crop surveys, national household income and expenditure surveys, etc.

Global hunger estimates are based on food security indicators from each of the following three main pillars of food security: food availability, food access and food utilization. Those indicators are, respectively: the average dietary energy available for human consumption; the inequality measure of food access, which is the coefficient of variation (CV) of DEC; and a measure of food utilization, which is the MDER. Country hunger estimates use production and trade data provided by national institutions, as well as food consumption data from NHS, to derive those three food security indicators.

FAO Statistics Division has been providing technical support to countries through its statistical capacity development programme. This programme helps to improve the collection and analysis of agricultural and food security data used to estimate the prevalence of undernourishment and other food security indicators. FAO Statistics Division is also currently working on the implementation plan of the Global Strategy to Improve Agricultural and Rural Statistics. That strategy aims to provide a framework for national statistical systems that enables them to produce and apply the basic data and information needed to guide decision-making. Methodologies for analysing food balance sheets (FBS) and NHS are being reviewed, updated and harmonised to provide more reliable and timely inputs for the national and global monitoring of MDG indicator 1.9 and WFS targets.

This compilation presents eight countries' experiences in deriving food security information at national and sub-national levels from NHS. Food consumption statistics derived from NHS and food availability estimates derived from FBS are discussed to understand their impact on measuring the level of undernourishment of the population, and their use for improving food security policies. The papers also discuss ways in which statistics can be used to improve the reliability of food security information at both national and sub-national levels.

The papers in this volume were presented at the Side Event of the Fifth International Conference in Agriculture Statistics (ICAS-5) held in Kampala, Uganda, from 12–15 October 2010.

Part one summarizes lessons learned in improving food security statistics for decision-making. Part two deals with how food security is monitored at national and sub-national levels in four countries, which includes the use of food security information in the Togo national programme of food security. The paper on Uganda analyses the food security statistics from the perspective of gender, while the papers on India and Tanzania are examples of trend analyses. Part three addresses approaches to measuring food acquisition and food consumption that can enhance estimates of food security. Examples from Sudan, Niger, Peru and Tanzania examine methodologies in detail, and consider how food data collection affects estimates of food security statistics. Part four reviews the policy implications of food security and micronutrient statistics on agriculture and the quality of life in Bolivia. It also looks at the quality and availability of food in terms of micronutrients in Tanzania. Finally, part five provides a glossary of terminology related to food security statistics.

How harmonized information improves food and nutrition security policies and programmes

Mr. Ricardo Sibrian[1]

ABSTRACT

Data collected in accordance with the complex of criteria governing food and nutrition security provide elements for identifying what food security information, statistics and indicators are best suited to the formulation of food and nutrition security policies (FNSP) in developing countries. Data sources come from food production surveys and trade administrative records that are used to estimate domestic supply of food commodities for human consumption in terms of FBS. The main source for food consumption, however, is restricted to data on private consumption in households as collected in national HBS. Food security information relates to energy and energy-yielding macronutrients, amino acids essential for an assessment of protein quality, as well as vitamins and minerals deriving from food commodities. These are supplied and estimated using FBS data and acquired by households using HBS data. The formulation of FNSP is based on current status and trends in domestic food supply at the national level. These policies can, however, be fine-tuned by using regional status and trends derived from food security information from HBS where this contrasts with production data. Examples are taken from countries in different continents. This diversity highlights the importance of these statistics as a basis for decision-making processes which have an impact on the food and nutritional status of different populations. This information is relevant to the formulation of policy on agricultural production, agro-industry and trade in relation to domestic food supply. It also helps to assess the impact of interventions affecting the demand for food by population groups.

Keywords: household surveys, food balance sheets, food security, food quality and quantity, food and nutrition policies

BACKGROUND

In the 1980s, global food and nutrition policies (FNP) made food available to a growing population, particularly to those older and physically developed individuals who required more of it. These policies initially enjoyed great success, but in the last 15 years this trend has reversed and they have failed.

Why did FNPs succeed in the 1980s and what were the underlying causes of their recent failure? A number of factors were at work, including the fact that FNPs failed to take into account the soaring food prices in the period 2008–2010.

With one and a half billion poor and one billion hungry in 2010, the world requires better-tailored FNPs. But how can FNPs be improved if they are based on misleading targets, on insufficient information or both? For example, the agricultural policies of several developing countries are aimed at increasing income from agriculture rather than at positive human development. Such agricultural policies are usually focused on external markets and ignore the needs of the local

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market. This focus is probably due to a lack of awareness of the needs of local people by programme implementers. Where policy is geared towards the achievement of revenue goals without regard for the population, resources allocated for human development goals worldwide will be insufficient.

Global food prices soared in mid-2008 as a result of the impact of global food policies on those countries that were unprepared to deal with the food insecurity of their populations at a local level. As UN agencies[2] tackle food insecurity, improved information on food and nutrition should emerge, which will result in the implementation of more effective policies and programmes in developing countries.

FNP must take into account both the levels and trends of food in terms of needs, access and sustainability of natural resources and the characteristics of its environment. Food needs must be quantified not only in terms of energy, but also in terms of those nutrients essential for human physical and mental development. Food access includes physical access to food through trade, increased production or both. It also includes identifying ways to reduce the effects that income level has on the acquisition of food and nutrients. Access is enhanced by improving income-generating activities of the poor and by marketing strategies aimed at keeping food prices low. Improved access can increase the ability of low-income population groups to acquire and consume a more balanced diet with an optimal quality of protein, essential vitamins and minerals. This strategy is particularly important for vulnerable population groups such as children, adolescents and women of reproductive age.

In the context of food policies, bio-fuel policies should be based on a careful analysis of their food and nutrition implications as well as their effect on the environment. The relationship between bio-fuel production and food policies raises controversial issues. For example, when bio-fuel production from palm oil was promoted, it was assumed that saturated fat from palm oil would not be consumed by people due to the risk of an increase in chronic diseases. However, with the large-scale production of palm kernels for use as bio-fuel, workers were diverted from using them as feed for livestock only. Instead, palm oil was produced from kernals as food for the general population. Palm product consumption has also increased the fat content of meats and meat products. The share of energy derived from animal fat and from palm oil in humans has also increased. In order to meet the nutritional needs of a targeted population, food and nutritional policies should, therefore, be based on a holistic framework.

Worldwide availability of palm oil and palm kernel products for human consumption has increased steadily. In the period 1990–2007, Africa had the highest level of consumption of palm products, followed by Asia and then the Americas.

The objective of this paper is to highlight how the proper use of food and nutrition statistics and other indicators can improve FNP design. Improved policies will provide a basis for informed decisions that will have a positive impact on the food security of populations. These improved policies will contribute to the fight against world hunger and malnutrition and will enhance human development.

CONCEPTS ON FOOD AND NUTRITION SECURITY

Food and nutrition security is achieved when everyone has physical, social and economic access to sufficient, safe and nutritious food that meets dietary needs and food preferences for an active and healthy lifestyle. Food security, as its definition implies, is quite complex.

Firstly, the definition refers to the daily consumption of food where distribution systems ensure a continuous supply of food to all population groups, regardless of markets, locations, seasons and acquisition patterns.

[2] For example: the Global Partnership on Agriculture, Food Security and Nutrition (GPAFSN) launched by the UN high level task force (HLTF) on the Global Food Security Crisis, the comprehensive agenda on food security adopted at the G8 Summit in L'Aquila, Italy, in 2009 and the reaction of the EU.

Secondly, the concept of access to sufficient, safe and nutritious food includes the continuous physical availability of food, as a result of food production, processing by the food industry and net trade for the entire population. It also implies the sustained economic ability to acquire food through the distribution system. This system includes: food produced for own-consumption; food commercialization schemes; public distribution systems with subsidized prices; or institutionalized food aid. Social access refers to acceptable food products supplied for consumption by population groups based on their cultural preferences.

Thirdly, daily nutrient requirements refer to energy and energy-yielding macronutrients, including carbohydrates, fats and proteins, which provide a balanced contribution to total dietary energy. FAO and World Health Organization (WHO) experts have recommended contributions to total dietary energy in the range of 55–75 percent from carbohydrates, 15–30 percent from fats and 10–15 percent from proteins. However, this distribution does not guarantee an adequate intake of essential amino acids (EAA) for an optimal use of proteins.

Fourthly, food and nutrition security for a healthy population means that energy and energy-yielding macronutrients, including EAA and micronutrients (vitamins and minerals), will be required for physical activity in relation to the particular economic activities of the population.. Allowances should be made for the different nutrient requirements of special population groups such as: pregnant and lactating females, adolescents and children, particularly young children suffering from infectious diseases in developing countries.

Fifthly, daily nutrient requirements will increase in developing countries as living standards improve. Most developing countries are witnessing an increase in the age structure of their population, while countries such as China, are witnessing an imbalance in their sex structure with more males than females. These structural changes in population imply a higher demand for food as heavier average body weights and increased height in a population will lead to enhanced demand for nutrients.

INDICATORS AND DATA SOURCES ON FOOD AND NUTRITION SECURITY

In light of the above concepts of food and nutrition security, the availability of food security information is essential in the decision-making processes that will enable the creation of sound FNSP. Global and national data sources need to be analysed and reanalysed in order to satisfy the information needs of decision-makers.

While food security concepts are difficult to implement, it is possible to assess relative trends in food insecurity, and to understand how far populations exceed or fall short of food and nutrition security. It is also possible to identify who are food and nutrition insecure, where such people reside and what the immediate causes of such insecurity might be. Unfortunately, the information derived from data collected and compiled by the institutional framework in developing countries may be limited. Lack of data may preclude the identification of possible causes.

Global information available for monitoring food and nutrition insecurity is obtained from a variety of national studies and surveys: Information on poverty (income deprivation) and undernourishment (food deprivation) at sub-national levels is derived from HBS. National undernourishment is derived from food balance sheets. Undernourishment of children (stunting and wasting) is derived from anthropometric surveys such as multiple indicator cluster surveys (MICS) and demographic and health surveys (DHS). The HBS and MICS/DHS surveys are also useful in analysing trends in food and nutrition insecurity at sub-national levels, while FBS assist in monitoring food undernourishment at the national level.

Food consumption data collected in HBS provides information for deriving three levels of food and nutrition security indicators. These help to identify inputs for policies in agriculture, trade, industry, labour, transportation, market development

and other productive sectors. Thus, this information can result in a better food and nutrition output to the population.

The first level of indicators is based on the physical quantities and monetary values of food acquired for household consumption in relation to expenditure. These indicators are used to assess, among other things: the physical unit costs of food baskets, the elasticity of food consumption with respect to income and the share of food expenditure to total consumption and expenditure.

The second level of indicators requires: (i) the conversion of physical quantities of food macronutrients such as proteins, fats, carbohydrates and alcohol in order to estimate DEC and its inequality due to income; (ii) the macroquality of food-consumption patterns assessed on the basis of the shares of total dietary energy obtained from proteins, fats and carbohydrates against the ranges recommended by FAO/WHO experts; (iii) the unit costs of energy and energy-yielding nutrients, carbohydrate, protein (animal and vegetable) and fat; and (iv) elasticity of energy and macronutrient consumption with respect to income. At this level of indicators the minimum and average dietary energy requirements (ADER) for different population groups are also included and are based on household member information (i.e. sex, age and attained height). This level also includes an assessment of undernourishment based on energy consumption, inequality in access to food and minimum energy requirements.

The third level of food security indicators requires the conversion of physical quantities into EAA, which are protein components, vitamins, minerals and, if possible, nutritional trace elements. The estimation of EAA consumption is a key factor in assessing protein quality. Protein quality along with vitamin and mineral consumption are fundamental for food and nutrition security policy analysis. These indicators are important for policies: (i) in agriculture (for net food producer countries); (ii) in trade (for net food importer countries): (iii) in the food industry (small or large-scale) for most countries with large populations; (iv) in the feed industry for poultry and pigs (whether large-scale or cooperative production); and (v) in bio-fuel and other non-food industries which use food commodities such as cereals and oil crops, like palm and coconut, among others.

FOOD AND NUTRITION SECURITY CASE STUDIES

Several studies have shown the importance of these food and nutrition security statistics and indicators. Most HBS reports derive food and nutrition security indicators from household data relevant to the first level. Very few national HBS reports include food and nutrition indicators of the second level and, until recently, only a few countries had reported undernourishment food security assessments. No reports, with the exception of the recent studies from Bolivia and Tanzania, include indicators of the third level.

Countries reporting second-level indicators on undernourishment assessments for sub-national population groups have been able to justify national and sub-national initiatives that would otherwise not have been possible. These include: direct food-aid programmes for vulnerable population groups by the social welfare sector; programmes from the productive sector, such as agriculture, designed to cope with food production shortages; and trade initiatives to complement food availability. Countries reporting second-level food and nutrition indicators include Armenia, Bolivia, Cambodia, India, Kenya, Lao PDR, Malawi, Mozambique, Peru, Sudan, Tanzania and Togo. India and Tanzania have reported trends in food and nutrition security indicators.

Reports on third-level food and nutrition security indicators provide users and stakeholders with key information for planning food security in the public and private sectors. Examples of countries reporting third-level indicators for sub-national

population groups are Bolivia and mainland Tanzania; the latter reported trends from 2000/01 and 2007.

For example, the Bolivian study highlighted provincial differences in the availability of both macronutrients and micronutrients, such as vitamin A and B2 as well as calcium and iron of animal origin. An analysis of micronutrient sources and nutrient unit costs allowed the identification of food items that are potential solvers of micronutrient deficiencies. Policies on food production, food agro-industry and food commercialization and distribution may contribute to increasing the availability of food in local markets, especially for low-income population groups.

Nationwide, the Tanzanian study not only showed that the food deprivation trend remained the same in the period 2000/01 and 2007, but that food quality had improved in terms of protein quality, vitamin A, vitamin B12, calcium and iron of animal origin. At the regional level food deprivation decreased in one half of the region and increased in the other half. However, most regions registered an improvement in the quality of protein and some micronutrients. These changes in food security and nutrition are the result of relevant social and economic policies that have been published in the National Agricultural Policy of 2009 developed by the Ministry of Agriculture, Food Security and Cooperatives. An analysis of unit costs of main micronutrients by food commodities at regional levels may provide inputs for policies aimed at promoting food and nutrition security and targeting vulnerable population groups. For example, food production policies promoting food commodities, such as maize flour, which may be used as vehicles for calcium fortification, fall into the industrial sector. Policies in the agricultural sector include the cultivation of orange-coloured sweet potatoes to enhance vitamin A availability, or the production of pulses as sources to limit EAA lysine. Agricultural policies relevant to the feed industry and those designed to enhance the availability of animal protein from sources such as poultry and fish can also provide improved inputs for animal production.

POLICY ELEMENTS FOR PROGRAMME IMPLEMENTATION

The UN Thematic Paper on MDG 1[3] reported on the progress of MDGs, highlighting successful strategies in developing countries for achieving the eradication of extreme poverty and hunger. These strategies and interventions addressed human rights, employment generation (particularly enterprise development and youth employment), social protection, working conditions and social dialogue. They included key factors for success that enabled the creation of an environment conducive to equitable economic growth and human well-being. Policies also reached out to the most vulnerable. They focused on investing in the rural poor, protecting food security gains in times of crisis and promoting sustainability. The interventions highlighted were related to nutrition, health-based prevention and treatment, social protection, food and nutrition safety nets, smallholder farmer productivity-enhancement and multi-sectoral approaches. There were many critical gaps and constraints identified in the implementation of interventions. These included: (i) environmental factors; (ii) statistical and analytical deficits; (iii) insufficient funding; (iv) lack of operational priority for programmes to reduce under-nutrition and hunger; (v) lack of institutional homes for food and nutrition security as a national cross-cutting issue; (vi) an inadequate information base for making sound policy and programming decisions; and (vii) low local capacity to develop, manage and monitor complex multi-sector programmes. In the agricultural and agro-industrial sectors, the lack of smallholder access to inputs, technologies and markets also constituted a problem.

The EU has adopted the four pillars for food security identified at the World Food Summit 1996. These are:

[3] This paper is part of the background papers for the General Assembly held in September 2010.

- to increase food availability;
- to improve access to food;
- to improve nutritional adequacy of food intake; and
- to enhance crisis prevention and management.

These four pillars were used as the basis for the food security principles stated at the World Summit on Food Security in 2009. In particular, there is recognition that food security strategies need be country-owned and country-specific, with an appropriate balance of support for national production and trade.

The Caribbean Community (CARICOM) gives a high priority to its food and nutrition security policy by promoting a participatory approach among regional organizations and international partners in development, including FAO and the Inter-American Institution for Cooperation on Agriculture (IICA). A workshop coordinated by the CARICOM Secretariat in collaboration with FAO and with assistance from the Government of Italy and the EU was held from 28–29 September 2010 in Georgetown, Guyana. Among its objectives, was the review of a draft CARICOM Regional Policy for Food and Nutrition Security. This food and nutrition security strategy includes links among sectors such as agriculture and trade, education, health and social welfare.

In developing the National Policy and System for Food and Nutrition Security in 2009, Brazil devised a conceptual framework that made food and nutrition security a strategic and permanent objective of public policies, in compliance with the principles of the Human Right to Adequate Food (DHAA) and those of Food Sovereignty.

CONCLUSIONS

Stakeholders on the cross-cutting issue of national and global food and nutrition security have more food and nutrition information for decision-making with multi-sectoral approaches than required. Food and nutrition security statistics and indicators of first, second and third levels can be derived from FBS and HBS data; the former, for national and global food and nutrition information, and the latter, for food and nutrition policies and programmes aimed at vulnerable sub-national population groups. As key stakeholders in national and international food and nutrition security, producers and users of agricultural and food data need to share experiences and knowledge in order to support the decision-making process and to implement programmes which impact on targeted population groups.

National Statistics Offices have made progress in many areas. They are adding value to already conducted HBS. They are improving instrument designs for the collection of food consumption data on physical quantities in standard measurement units as well as on own production in monetary value. They are deriving food and nutrition security statistics and indicators of the three levels and feeding their findings back into the decision-making process of stakeholders on national and global food and nutrition security.

The Global Strategy to Improve Agriculture and Rural Statistics may provide a great opportunity to development partners as a cooperation framework for technical and financial support to developing countries to reassess their food and nutrition security policies. The development of methodologies has provided a good basis for deriving proper food and nutrition security statistics and indicators needed to identify and target insecure sub-national food and nutrition population groups.

CHALLENGES FOR THE FUTURE

Institutions in charge of research for food and nutrition security need to improve the development of methodologies for assessing nutritional status in a population. For example, statistics about iron deficiencies using food consumption data requires more knowledge about absorption, inhibiting factors and their relationship to population diets

worldwide. Currently available knowledge is based on research which is limited to very controlled settings in clinical trials. Findings are clearly not valid for all populations. The challenge remains to promote the use of food and nutrition statistics and indicators for policy design and programme implementation, which have an impact on the food and nutritional status of vulnerable population groups. Such support will assist in achieving those MDG 1 targets related to hunger reduction.

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