SUSTAINABLE DIETS AND BIODIVERSITY

DIRECTIONS AND SOLUTIONS FOR POLICY, RESEARCH AND ACTION

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Bioversity International

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DIRECTIONS AND SOLUTIONS FOR POLICY, RESEARCH AND ACTION

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BIODIVERSITY AND SUSTAINABLE DIETS UNITED AGAINST HUNGER
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PREFACE

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The book presents the current state of thought on the common path of sustainable diets and biodiversity. The articles contained herein were presented at the International Scientific Symposium "Biodiversity and Sustainable Diets: United Against Hunger" organized jointly by FAO and Bioversity International, held at FAO, in Rome, from 3 to 5 November 2010. The Symposium was part of the official World Food Day/Week programme, and included one of the many activities in celebration of International Year of Biodiversity, 2010. The Symposium addressed the linkages among agriculture, biodiversity, nutrition, food production, food consumption and the environment.

The Symposium served as a platform for reaching a consensus definition of "sustainable diets" and to further develop this concept with food and nutrition security, and the realization of the Millennium Development Goals, as objectives.

In the early 1980s, the notion of "sustainable diets" was proposes, with dietary recommendations which would result in healthier environments as well as healthier consumers. But with the over-riding goal of feeding a hungry world, little attention was paid to the sustainability of agro–ecological zones, the sustainable diets' concept was neglected for many years.

Regardless of the many successes of agriculture during the last three decades, it is clear that food systems, and diets, are not sustainable. FAO data show that one billion people suffer from hunger, while even more people are overweight or obese. In both groups, there is a high prevalence of micronutrient malnutrition. In spite of many efforts, the nutrition problems of the world are escalating. Improving nutrition through better balanced nutritious diets can also reduce the ecological impact of dietary choices. Therefore, a shift to more sustainable diets would trigger upstream effects on the food production (e.g. diversification), processing chain and food consumption.

With growing academic recognition of environmental degradation and loss of biodiversity, as well as a dramatically increasing body of evidence of the unsustainable nature of agriculture as it is currently practiced in many parts of the world, renewed attention has been directed to sustainability in all its forms, including diets. Therefore, the international community acknowledged that a definition, and a set of guiding principles for sustainable diets, was urgently needed to address food and nutrition security as well as sustainability along the whole food chain

A working group was convened as part of the Symposium and a definition was debated, built upon previous efforts of governments (e.g., the Sustainability Commission of the UK), UN agencies (FAO/Bioversity Technical Workshop and Biodiversity and Sustainable Diets), and others. The definition was presented in a plenary session of the Symposium and accepted by the participants, as follows: *Sustainable Diets are those diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy; while optimizing natural and human resources.*

The agreed definition acknowledged the interdependencies of food production and consumption with food requirements and nutrient recommendations, and at the same time, reaffirmed the notion that the health of humans cannot be isolated from the health of ecosystems.

To address also the food and nutrition needs of a richer and more urbanized growing world population, while preserving natural and productive resources, food systems have to undergo radical transformations towards more efficiency in the use of resources, and more efficiency and equity in the consumption of food and towards sustainable diets. Sustainable diets can address the consumption of foods with lower water and carbon footprints, promote the use of food biodiversity, including traditional and local foods, with their many nutritionally rich species and varieties. The sustainable diets' approach will contribute in the capturing efficiencies through the ecosystem approach throughout the food chain. Sustainable diets can also contribute to the transition to nutrition-sensitive and climate-smart agriculture and nutrition-driven food systems.

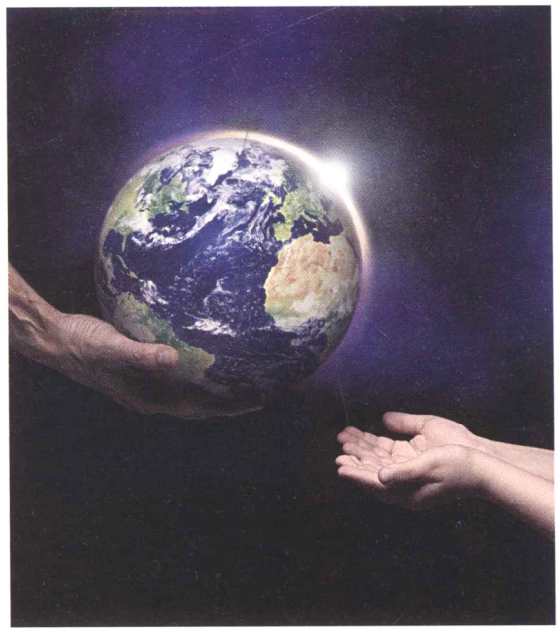
A close involvement of civil society and the private sector is needed to engage directly all stakeholders in the fields of agriculture, nutrition, health, environment, education, culture and trade, along with consumers.

The Symposium served to position sustainable diets, nutrition and biodiversity as central to sustainable development. The Proceedings of the Symposium, presented in this publication, provide examples of sustainable diets, which minimize environmental degradation and biodiversity loss. Various case studies and practices are also presented bringing biodiversity to the plate, with data showing improvements in nutrient intakes through food biodiversity, as a counterbalance to the trend of diets low in diversity but high in energy which contribute to the escalating problems of obesity and chronic diseases. The Mediterranean Diet was showcased as a useful model.

The contents of this book provide an array of new directions and solutions for policy, research and action on sustainable diets, and useful contributions to the follow-up for the Rio+20 United Nations Conference on Sustainable Development, and its outcome document, *The Future We Want*.

Although the evidence base must be improved, existing knowledge warrants immediate action to promote sustainable diets and food biodiversity in nutrition-driven agriculture policies and programmes, as contributions to the achievement of food and nutrition security, the Millennium Development Goals, and post-2015 development agenda.

The contributions of all session chairpersons, rapporteurs, speakers and everyone who participated in the discussions and working groups were a vital part of the Symposium's successful outcomes. This book represents a significant international achievement.



Acknowledgements

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Overall leadership was provided by Barbara Burlingame, Principal Officer of the Nutrition and Consumer Protection Division of FAO. The technical and organizational support from Sandro Dernini, in collaboration with Ruth Charrondiere, Florence Egal, Stefano Mondovì and Barbara Stadlmayr and the very valuable administrative and logistical support from Giuseppina Di Felice and Nathalie Lambert, FAO staff, and Nadia Bergamini, Bioversity International staff, are acknowledged.

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Acronyms and abbreviations

AFROFOODS	INFOODS African Network of Food Data Systems
BCNF	Barilla Center for Food and Nutrition
BIOVERSITY	Bioversity International
CBD	Convention on Biological Diversity
CNR	National Research Council, Italy
CTA	Technical Centre for Agricultural and Rural Cooperation
CIBFN	Cross-cutting Initiative on Biodiversity for Food and Nutrition
CIISCAM	International Inter-university Centre for Mediterranean Food-Culture Studies, Italy
CIHEAM-Bari	International Centre for Advanced Mediterranean Agronomic Studies, Bari, Italy
CINE	Centre for Indigenous Peoples' Nutrition and Environment, Canada
CODEX	Codex Alimentarius Commission
ENEA	National Agency for New Technologies, Energy and Sustainable Economic Development, Italy
FAO	Food and Agriculture Organization of the United Nations
FENS	Federation of European Nutrition Societies
ICRAF	International Center for Research in Agroforestry, Kenya
IDRC	International Development Research Centre, Canada
INFOODS	International Network of Food Data Systems
INRA	National Institute for Agricultural Research
INRAN	National Research Institute for Food and Nutrition, Italy
IUNS	International Union of Nutritional Sciences
MDGs	Millennium Development Goals
MiPAAF	Ministry of Agriculture, Food and Forestry Policy, Italy
NGOs	Non-governmental organizations
RUTF	Ready-to-use therapeutic food

OPENING ADDRESSES

Changchui He
Deputy Director-General FAO, Rome
3 November 2010

As you are aware the theme for this year's World Food Day is "United Against Hunger". This theme underscores the fact that achieving food security is not the responsibility of one single party; it is the responsibility of all of us. The 2010 celebration also marks the 30th World Food Day, a celebration that has been observed around the world over the last three decades. The latest hunger figures show that 925 million people live in chronic hunger. While there is a welcome decline from the 2009 level, the number of hungry people remains unacceptably high. Furthermore, this number does not reflect all the dimensions of malnutrition. Micronutrient deficiencies, for instance, affect an estimated two billion people. Responding properly to the hunger and malnutrition problems requires urgent, resolute and concerted actions. It calls for united efforts by all relevant actors and at all levels.

Already, close to two million people around the globe have signed the "Against Hunger" petition, as part of an international advocacy and awareness campaign launched by FAO ("1BillionHungry.org"). It aims at placing pressure on political leaders and mobilizing all parties to take united action against hunger and malnutrition. As we are aiming to have as many signatures as possible by 29 November, when the petition will be presented to member countries on the occasion of the 140th session of the FAO Council, I am inviting all of you, if you have not yet done so, to sign the petition on the tables placed outside the room.

Coming back to this year's International Scientific Symposium, the theme for the symposium is "Biodiversity and Sustainable Diets: United Against Hunger", jointly organized by FAO and Bioversity International as a contribution to the 2010 International Year of Biodiversity.

For the first time, the concept of "biodiversity" is linked with the emerging issue of "sustainable diets" in exploring solutions for the problems of malnutrition in its various forms, while addressing the loss of biodiversity and the erosion of indigenous and traditional food cultures. Our purpose is to promote the development of new sustainable food production and consumption models.

There is currently no universally agreed definition of a "sustainable diet". However, a definition is needed to develop policy, research and programme activities for the promotion of sustainable food systems that minimize environmental degradation and biodiversity losses. There is growing academic recognition of the complexity of defining sustainability, as well as an increasing body of evidence showing the unsustainable nature of current food systems. A definition of sustainable diets shall therefore address sustainability of the whole food supply chain and thus provide guidance on promoting and applying the concept in different agro-ecological zones.

The alarming pace of food biodiversity loss and ecosystem degradation, and their impact on poverty and health makes a compelling case for re-examining food-agricultural systems and diets.

FAO has been working with member countries, international and regional partners for the past few years to determine the status and trends of plant genetic resources that feed the world. We looked into the key achievements as well as the major gaps and needs that require urgent attention. This effort has culminated in the publication of the Second Report on the State of the World's Plant Genetic Resources for Food and Agriculture that was launched by the Director-General of FAO last week. The Report provides a wealth of information from over 100 countries for improving conservation and sustain-

able use of plant diversity to meet the key challenges of malnutrition, food insecurity and rapid climate change. It points out that plant diversity can be lost in a short lapse of time in the face of rapid climate change, population pressure and environmental degradation.

There is an urgent need to collect, document and better use this diversity including crop wild relatives, not least because they hold the genetic secrets that enable them to resist heat, drought, floods and pests. New and better-adapted crops derived from genetic diversity can offer more nutritious and healthier foods for rural and urban consumers, and provide opportunities to generate income and contribute to sustainable rural development. Now more than ever, there is a greater need to strengthen linkages among institutions dealing with plant diversity and food security, and with other stakeholders, at global, regional, national, and local levels. Far greater efforts are required to counteract the effects of long-standing underinvestment in agriculture, rural development and food security.

The Declaration of the World Summit on Food Security held at FAO in 2009, stressed the urgent need and concrete actions to promote "new investment to increase sustainable agricultural production and productivity, support increased production and productivity of agriculture", and for the implementation of "sustainable practices, improved resource use, protection of the environment, conservation of the natural resource base and enhanced use of ecosystem services". In this Declaration it is also stated that FAO "will actively encourage the consumption of foods, particularly those available locally, that contribute to diversified and balanced diets, as the best means of addressing micronutrient deficiencies and other forms of malnutrition, especially among vulnerable groups".

Agricultural biodiversity should play a stronger key role in the transition to more sustainable production systems, in increasing production efficiency, and in achieving sustainable intensification. The agriculture sector is responsible for ensuring the production, commercialization and distribution of foods that are nutritionally adequate, safe and environment friendly. Therefore, there is an urgent need to develop and promote strategies for sustainable diets, emphasizing the positive role of biodiversity in human nutrition and poverty alleviation, mainstreaming biodiversity and nutrition as a common path, promoting nutrition-sensitive development and food-based approaches to solving nutrition problems.

The importance of food-based approaches is fully recognized by FAO. Many developing countries, international agencies, non-governmental organizations (NGOs) and donors are beginning to realize that food-based strategies are viable, cost-effective, and provide long-term and sustainable solutions for improving diets and raising levels of nutrition. Narrowing the nutrition gap – the gap between what foods are grown and available and what foods are needed for better nutrition – means increasing the availability, access and actual consumption of a diverse range of foods necessary for a healthy diet. Focusing on the distinctive relationship between agriculture, food and nutrition, FAO works actively to protect, promote and improve established food-based systems as the sustainable solution to ensure food and nutrition security, combat micronutrient deficiencies, improve diets and raise levels of nutrition, and by so doing, to achieve the nutrition-related Millennium Development Goals (MDG).

Globalization, industrial agriculture, rural poverty, population pressures and urbanization have changed food production and consumption in ways

that profoundly affect ecosystems and human diets, leading to an overall simplification of diets. High-input industrial agriculture and long-distance transport increase the availability and affordability of refined carbohydrates and fats, leading to an overall simplification of diets and reliance on a limited number of energy-rich foods.

In spite of the increasing acknowledgement of the value of traditional diets, major dietary shifts are currently observed in different parts of the world, representing a breakdown in the traditional food system. This trend has coincided with escalating rates of obesity and associated chronic diseases, further exacerbated by the coexistence of micronutrient deficiencies, owing to the lack of dietary diversity in modern diets. Dietary shifts that have occurred in urban areas are currently extending to rural communities as well, where people have abandoned diets based on locally-grown crop varieties in favour of "westernized" diets.

Your deliberations should, therefore, focus the need for repositioning nutrition security, developing and strengthening food value chains and promoting public/private sector collaborations, with biodiversity and sustainability at its core. The Symposium shall also serve to explore ways in which agricultural biodiversity can contribute to improved food security and to feeding the world within a framework of enhancing agricultural efficiency and ensuring sustainability. I do hope that your collective intellectual wisdom will also offer broad perspectives on ways of changing current global thinking on how to feed the world sustainably and achieve food and nutrition security.

I am sure that the outcome of the Symposium will guide FAO and others in their work towards addressing the role of biodiversity for sustainable food production, in light of global changes.

I once again wish to emphasize that in the current context of difficulties and challenges, it is the shared responsibility of all actors to solve the problems of hunger and degraded ecosystems, and I am convinced that united we can reach the goal of sustainable diets, now and for future generations.

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Emile Frison
Director-General Bioversity International
Rome
3 November 2010