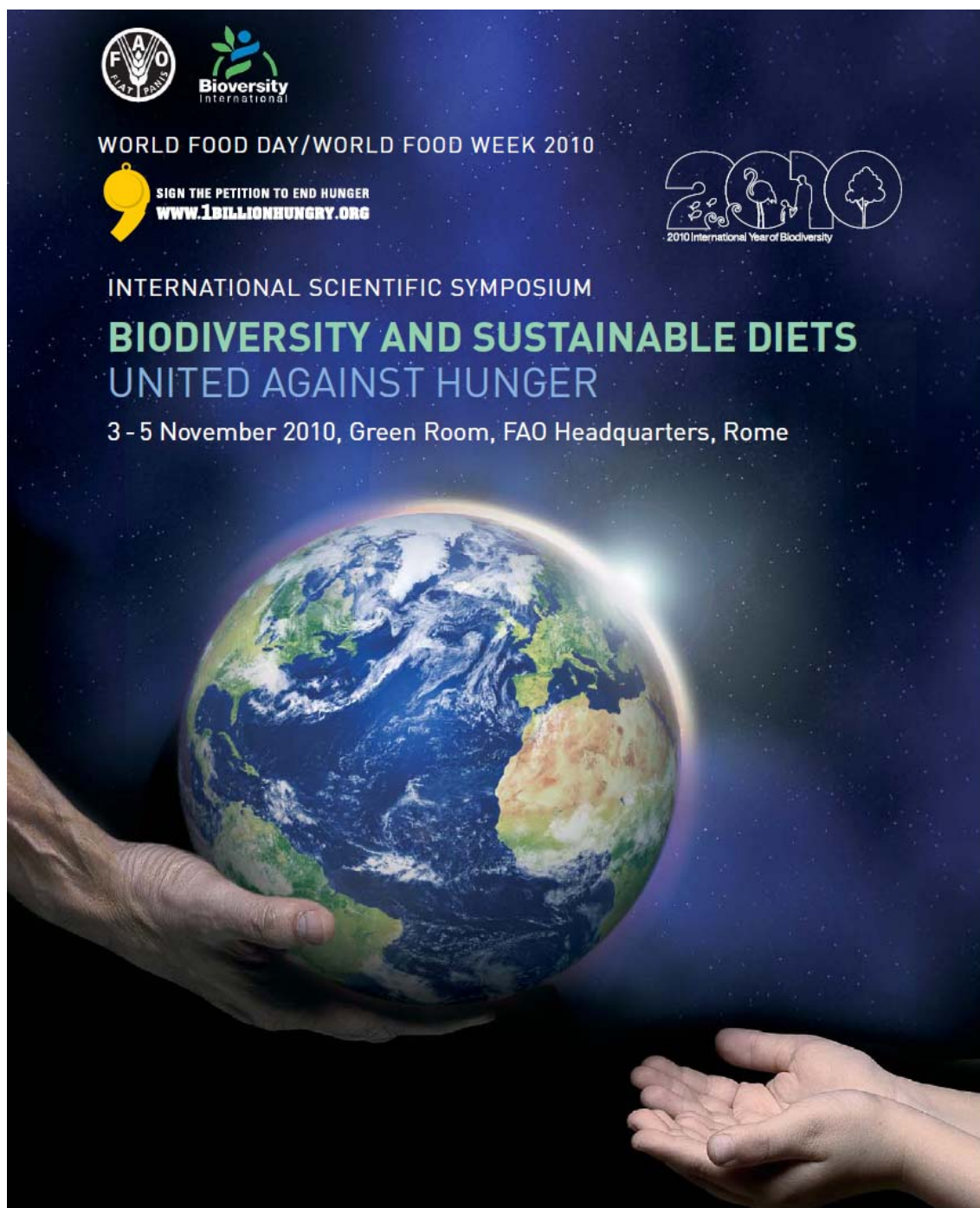


REPORT



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

REPORT

INTERNATIONAL SCIENTIFIC SYMPOSIUM

**BIODIVERSITY
AND
SUSTAINABLE DIETS**

UNITED AGAINST HUNGER

ROME, 3-5 NOVEMBER 2010

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

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FOREWORD

The Food and Agriculture Organization of the United Nations (FAO) activities in biodiversity, nutrition and sustainable diets, highlighting biodiversity, food production and food consumption as interconnected elements, aim at promoting a broader assessment of the link between local food products, biodiversity, nutrition, food security and sustainability. These activities are directed to assess the characterization of sustainable diets' models in different agro-ecological zones.

Today, close to one billion people suffer from hunger and another two billion suffer from micronutrient deficiencies. Simplification of diets, low in variety but high in energy, contributes to the escalating problems of malnutrition, including micro-nutrient deficiencies, obesity and chronic diseases, particularly among poor segments of the populations in both developed and developing countries. The trends are alarming, highlighting the inadequacy of the present food supply and dietary patterns. Many dietary patterns can be healthy but they can vary substantially in terms of their resource costs. Globalization, industrial agriculture, rural poverty, population pressures and urbanization have changed food production and consumption in ways that profoundly affect ecosystems and human diets. Therefore, there is an urgent need to develop and promote strategies for the advancement of sustainable diets and biodiversity, which will highlight how food production and food consumption are interconnected and ecosystem dependent.

The International Scientific Symposium “Biodiversity and Sustainable Diets”, as a contribution to the advancement of the Cross-cutting Initiative on Biodiversity for Food and Nutrition, was organized jointly by FAO and Bioersity International, within the World Food Day/Week programme. A consensus definition of “sustainable diets” was produced as a final outcome of the Symposium. Such a definition was urgently needed. For some time, the notion of sustainable diets had eluded governments and nutrition scientists as they struggled to reach a common terminology that captured well the notion. Through the Technical Workshop held in May 2010, an online survey, and the International Scientific Symposium, the agreement was reached. This definition will help the use of local food biodiversity, including traditional foods of indigenous and local ecosystems with their many sources of nutritionally-rich species and varieties, as readily-accessible and sustainable sources of quality nutrition. The notion of sustainable diets will also serve to support biodiversity as one component in the paradigm shift to address the multiple burdens of malnutrition.

The development of sustainable diets' models will foster a broader consensus for action in agriculture to improve nutrition through food biodiversity and will serve to raise more awareness in consumers and governments on food systems' sustainability. Sustainable diets linked to biodiversity will lead to a broader recognition that the potential of food biodiversity must integrate production, marketing, consumption and health of both rural and urban people in our increasingly global environment.

Current FAO activities are addressing the characterization of sustainable diets with food biodiversity at their core in different agro-ecological zones. Although we must improve the evidence base, existing knowledge warrants immediate action to promote the sustainable use of biodiversity in nutrition programmes, as contributions to the achievement of food and nutrition security and the Millennium Development Goals (MDGs).

Barbara Burlingame
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ACKNOWLEDGEMENTS

FAO acknowledges Bioversity International for having participated in the organization of the Symposium. The organizers are grateful to the CBD Secretariat, the Alliance Against Hunger and Malnutrition, INFOODS, IUNS, FENS, INRAN, CIHEAM-Istituto Agronomico Mediterraneo of Bari, Ministry of Agriculture and Food and Forestry Policies of Italy for their collaboration.

The technical and organizational support from Sandro Dernini, FAO consultant, and the very valuable contribution of all participants in the Symposium are acknowledged. Special appreciation is due to Timothy Lang, Paul Finglas and Isaac Akinyele, who served as Chairpersons of the Symposium, and to Harriet Kuhnlein, Jessica Fanzo, Carole Salas, Nadia Bergamini, Gervais Ntandou-Bourzitou and Robert Fungo who served as rapporteurs.

This document was prepared by Sandro Dernini with contributions from Barbara Burlingame and Stefano Mondovi. Special thanks go to Giuseppina Di Felice, Nadia Bergamini, Nathalie Lambert for their indispensable administrative and logistical support.

The organizers are grateful to Barilla Centre for Food and Nutrition, IDRC and CTA for their support.

ACRONYMS AND ABBREVIATIONS

AFROFOODS	INFOODS Regional Data Centre for Africa
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 Interuniversity Studies Center on Mediterranean Food Cultures, Italy
CIHEAM-Bari	International Centre for Advanced Mediterranean Agronomic Studies of 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	Institut National de la Recherche Agronomique
INRAN	National Research Institute on Food and Nutrition, Italy
IUNS	International Union of Nutritional Sciences
MDGs	Millennium Development Goals
MiPAAF	Ministry of Agriculture, Food, Forestry Policies, Italy
NGOs	Non-Governmental Organizations
RUTF	Ready-to-Use Therapeutic Food

SUMMARY

On the occasion of the celebration for the 2010 International Year of Biodiversity, the International Scientific Symposium “Biodiversity and Sustainable Diets: United Against Hunger” was organized jointly by FAO and Bioversity International. The three-day Symposium was held at FAO headquarters, from 3 to 5 November 2010, within the World Food Day/Week programme, as a contribution to the advancement of the Cross-cutting Initiative on Biodiversity for Food and Nutrition. It was realized in collaboration with the Secretariat of the Convention on Biological Diversity, the Alliance Against Hunger and Malnutrition, INFOODS, IUNS, FENS, INRAN, CIHEAM-IAMB, the Ministry of Agriculture, Food and Forestry Policy of Italy and with the contribution of the Barilla Center for Food and Nutrition, IDCR and CTA.

The Symposium was preceded by a Technical Workshop held on 31 May and 1 June 2010, at FAO headquarters, in Rome. The Workshop served to identify topics, agenda and programme of the Symposium as well as to develop a set of key points and recommendations for a definition of “sustainable diets” in line with the ecosystem approach.

The Symposium produced a consensus position on a definition of “sustainable diets” as those diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations. It was agreed that sustainable diets were protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable. It was also agreed that sustainable diets were those diets that were nutritionally adequate, safe and healthy, while optimizing natural and human resources.

The Symposium had the aim to mainstream, as a common path, food biodiversity and nutrition towards the achievement of food and nutrition security and the MDGs. The impact of food consumption patterns on agriculture production and on the environment was highlighted. The challenge to move towards sustainable food production and sustainable food consumption was broadly discussed. It was stressed how the notion of sustainable diets was addressed to the food systems’ sustainability, while acknowledging the interdependencies of food production, food consumption, food requirements and nutrient recommendations.

With global population expected to exceed 9 billion by 2050, FAO sustainable production intensification activities were presented to increase the productivity of agro-ecosystems, while reducing non-renewable inputs, lowering the environmental footprint of agriculture and relying on natural biological processes and biodiversity.

Case studies and practices bringing biodiversity into the plate were presented with the aim to promote the consumption of food biodiversity. It was also highlighted how diets low in variety but high in energy were contributing to the escalating problems of obesity and chronic diseases. The need to promote food-based approaches, to reduce micronutrient deficiencies was stressed to ensure food and nutrition security and to achieve nutrition-related MDGs.

The need to generate further scientific evidence on the nutrient composition and consumption of food biodiversity was also emphasized to demonstrate the main role of biodiversity in nutrition. The development of further studies was required to assess the characterization in different agro-ecological zones of sustainable diets’ models, starting from the Mediterranean

diet, identified as an example of a sustainable diet. The need for a revalorization of local and traditional foods was also underlined.

The Symposium served to position sustainable diets, nutrition and biodiversity as central to sustainable development. The sustainable use of food, at the base of the sustainable diets rationale, was highlighted as fundamental to the achievement of broader goal of sustainable development, connecting nutritional well-being of the individual as well as of the community to the sustainability of feeding the planet. It was pointed out how the notion of sustainable diets, through biodiversity, can provide more eco-friendly nutrient recommendations to consumers and help clarify what is required for an environmentally sustainable food chain. It was pointed out that the development of sustainable diets models to minimize environmental degradation and biodiversity loss requires, at the same time, the development of programme activities and policies towards sustainable food production and food consumption.

The need for a direct engagement of the private sector was also stressed and the 2015 World Expo of Milan “Feeding the Planet – Energy for Life” was foreseen as an opportunity to move further on it.

The AFROFOODS Call for Action from the Door of No Return for an African Food Renaissance, *Annex 1*, was presented to acknowledge that local foods are the basis for African sustainable diets and returning to local crops and traditional food systems is a prerequisite for conservation and sustainable use of biodiversity for food and nutrition security.

As an outcome of the Symposium, the Cross-cutting Initiative on Biodiversity for Food and Nutrition was identified as the framework through which to promote further the sustainable diets’ concept in order to counteract the simplification of diets and biodiversity loss.

Furthermore, the participants recommended that FAO, Bioversity International and the CBD Secretariat, in collaboration with other relevant organizations and institutions at international /regional/national/local level should establish a Task Force to promote and advance the concept of sustainable diets and the role of biodiversity within it, in the context of the Cross-cutting Initiative on Biodiversity for Food and Nutrition, as contributions to the achievement of the MDGs and beyond.

The FAO on-line petition www.1billionhungry.org was promoted during the Symposium to sensitize participants, institutions and governments to take effective measure against hunger.

OPENING ADDRESS

Changchui He

*Deputy Director-General, FAO
Rome, Italy*

*Excellencies,
Distinguished participants,
Colleagues,
Ladies and Gentlemen,*

Welcome to the International Scientific Symposium on Biodiversity and Sustainable Diets: United Against Hunger. 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 require 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 a united action against hunger and malnutrition. As we are aiming to have as many signatures as possible by the 29th of 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 agroecological 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 an 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 sustainable 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 longstanding 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 environmentally 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 (MDGs). 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.

I thank you for your kind attention.

OPENING ADDRESS

Emile Frison

Director-General, Bioversity International

Rome, Italy

I am pleased to welcome all the participants to this International Scientific Symposium on Biodiversity and Sustainable Diets: United Against Hunger, that was co-organized by Bioversity International (Bioversity) and the Food and Agriculture Organization (FAO) in collaboration with many partners from Italy and abroad. I would like to also take this opportunity to thank the financial supporters of the Symposium.

I think this Symposium was a very timely one, indeed for the first time in 2010 it would seem that the whole issue of nutrition is reaching a level of awareness in the various sectors, including among donors, not seen before. For too long now the issue of Food Security has focused on the quantity of food, with very little or no attention given to the quality of food. What really matters is not just filling stomachs but providing a nutritious diet that will allow the cognitive and physical development of human beings. We are aware of the alarming and unacceptable levels of hunger, but the 2 billion people that suffer from malnutrition still do not receive sufficient attention. Expanding exponentially among the world's poorest people and, more than one would believe, among the wealthiest people are cases of micro-nutrient deficiencies and the double burden of malnutrition with non communicable diseases. This alarming situation is one that we must tackle together, especially when considering the rate of expansion in the poorest countries.

I am very pleased to see that, through a number of initiatives that have taken place and are taking place in different parts of the world, we are beginning to build this much needed awareness of malnutrition and its devastating impact on the peoples of developing countries. In 2008 Bioversity, together with the Convention on Biological Diversity (CBD) and FAO, launched a Cross-cutting Initiative on Biodiversity for Food and Nutrition and, more recently, initiatives such as Scaling Up Nutrition have really put the issue of nutrition at the top of the agenda. In New York, in September 2010, Scaling Up Nutrition was launched by Secretary of State Hillary Clinton and Micheál Martin, Minister for Foreign Affairs of Ireland.

I think this shows a real interest up to the highest levels. We must make sure that we seize this opportunity because tomorrow there may be some other hot topic that takes over from nutrition. It is up to all of us to take this momentum that is being built up and move it into action. When talking about nutrition we must attempt to move beyond the predominant medicalised approach of tackling individual or single micro-nutrient deficiencies or macro-nutrient deficiencies, attempting to fix the problem after the problem has occurred and with very little effort to prevent the problem in the first place. In order to tackle this issue we should begin looking at malnutrition through food systems, since it is the integration of the entire food system that will provide a sustainable answer to the problems of malnutrition. This Symposium is the right forum for us to do just that.

I believe the true definition of food and nutrition security is that of bringing diverse diets, diets that fulfil all the needs of human beings, to everyone's table. This takes me to the role of agriculture, with nutrition being in the medical camp and agriculture just caring about the quantity of food produced, any links between agriculture and nutrition are weak or totally lacking. We must, as Deputy Director-General of FAO, Dr He, has already mentioned, prevent the simplification of agriculture to the three major staples. Currently, these three major staples provide 60% of the calorie intake from plant origin at the global level. Such a degree of diet simplification is alarming and it is high time that we looked not only at producing quantities of food that are sufficient, but also nutrients and nutrition sufficient to fulfil all needs.

I have already mentioned the double burden of malnutrition, this is now becoming the world's number one problem in terms of public health, yet it has not been tackled properly nor is it even considered a major problem by many decision-makers. It is up to us now to make sure that this increased attention to nutrition looks at this issue in a holistic way and in a way that will prevent problems in the future. The organization of the Symposium also coincides with the International year of Biodiversity. The role that biodiversity can play in addressing the problems of malnutrition has been underestimated, understudied and deserves much more attention. For this reason, this particular Symposium on Biodiversity for Sustainable Diets is very important to me, it is also important that the general public is more aware of the importance of diversity and the potential of biodiversity in addressing the problems of malnutrition. In this regard, Bioversity organized, in May of this year, a whole week's celebration: 'La Settimana della Biodiversità' here in Rome together with the Secretariat of the CBD, IFAD, FAO, the Comune di Roma and many other partners to highlight the importance and raise awareness among the broader public of biodiversity for better nutrition.

There is an urgent need to change the paradigm of agricultural production in order to integrate this dimension of nutritional quality, this requires us to move beyond the major staples and to look at the many hundreds and thousands of neglected and underutilized plant and animal species that mean the difference between an unsustainable and sustainable diet. It is not just about producing calories, but diverse diets and that is why these neglected and underutilized species are so important. Of course, this change will not be successful without collaboration and improved communication among the different sectors. The gap between the agricultural and the nutrition and health sectors must be closed. At a national level (as well as the international level) ministries of agriculture, health, education and of course, ministries of finance must come together to set up and develop policies to address these problems in a sustainable way. There are many examples that show how we at Bioversity have started to try to practice what we preach in looking at neglected and underutilized species. One such example comes from Kenya, where we have been working with leafy green vegetables that have disappeared from the tables and markets in Nairobi. Our aim was to reintroduce these vegetables, to provide nutritious food in supermarkets and markets and to give farmers the opportunity to augment their income. In India, we have been working with the Swarmanathan foundation to look at nutritious millets (foxtail millet, finger millet and others that have various nutritious qualities) and reintroducing them in areas where they had been abandoned due to national policies promoting cassava production for starch. Through analyzing the impact of these policies, we were able to show that the income, derived by the cassava the farmers sold, was not sufficient to buy the millet they would have been producing otherwise.

What is more, the farmers themselves were consuming the cassava and of course this had a negative impact on their diet. We have been working in the Andes with native cereals, Quinoa

and Amaranth etc, in an effort to improve farming technologies and to allow the production of these nutritious foods to not only be maintained, but to develop further and also enter international markets. These examples and numerous others show that we can make a difference, the simplification of agriculture and the simplification of diets are not something that we just have to accept. In Kenya, the major obstacle in getting those leafy vegetables onto the tables was one of image, of being considered as backward, and the common conception that this is the food of the poor. However, through communication efforts involving the Minister of health, the chefs of the most famous restaurants of Nairobi who prepared new recipes with this leafy vegetable and by introducing it in the canteen of parliament, this food has been re-evaluated and people are taking pride again in producing, purchasing and consuming these vegetables. Today production is not sufficient to meet demand, so it is possible to make a difference. The westernization of diets is not ineluctable we must also tackle this problem. We have been working for a year or so in preparing for this Symposium together with FAO and many other partners, but this Symposium is not the end of the effort, it is the beginning, unless this Symposium leads to some real action we have not achieved very much. To have a book or a report on a shelf somewhere is not going to fill stomachs and certainly not to feed people better quality food, so we must take this opportunity in various initiatives, such as the Cross-cutting Initiative on Biodiversity for Food and Nutrition and Scaling Up Nutrition, to incorporate the dimension of a diverse diet and the role it can play in improving nutrition. So this is really the start of, I hope, a major effort to ensure that all people in the world will not only have adequate food, but adequate nutrition to meet their needs.

Thank you.

1. OBJECTIVES

- To produce a consensus position on a definition of “sustainable diets”
- To mainstream biodiversity and nutrition
- To advance the Cross-cutting Initiative on Biodiversity for Food and Nutrition

2. BACKGROUND

The Cross-cutting Initiative on Biodiversity for Food and Nutrition is being jointly developed by the CBD and its partners, the Food and Agriculture Organization of the United Nations (FAO) and Bioversity International (Bioversity). This Initiative was established by decision VIII/23 A of the Conference of the Parties, held on 9-31 March 2006, in Curitiba, Brazil. The overall aim of the Initiative is to promote and improve the sustainable use of biodiversity in programmes contributing to food security and human nutrition, as a contribution to the achievement of Millennium Development Goal 11, Goal 72 and related goals and targets and, thereby, to raise awareness of the importance of biodiversity, its conservation and sustainable use.

The framework of the Cross-cutting Initiative on Biodiversity for Food and Nutrition identifies the contribution of agricultural biodiversity as a priority for improving nutrition and health of the rural and urban poor. It addresses major global health issues and trends such as micronutrient deficiencies, the decline of dietary diversity and the concomitant rise in chronic diseases that are affecting developing countries and, particularly, among the poor. The initiative promotes the use of local biodiversity, including traditional foods of indigenous and local ecosystems with their many sources of nutritionally-rich species and varieties as readily-accessible, locally-empowering and sustainable sources of quality nutrition. Furthermore, the Cross-cutting Initiative recognizes that, in an increasingly global, urban and commercial environment, the fulfilment of the potential of local resources must successfully integrate production, marketing, consumption and the health of rural and urban dwellers alike as components of sustainable food systems.

As a contribution to the advancement of the Cross-cutting Initiative on Biodiversity for Food and Nutrition, the FAO Nutrition and Consumer Protection Division, in collaboration with Bioversity International and INFOODS, organized a Technical Workshop “Biodiversity in Sustainable Diets”, held from 31 May to 1 June 2010, at FAO headquarters, in Rome.

The purpose of the Technical Workshop was to define a framework and topics for the organization of the International Symposium on “Biodiversity and Sustainable Diets”, planned in the Fall of 2010, at FAO headquarters, in Rome, within the 2010 World Food Day/Week programme.

3. THE SYMPOSIUM

The Symposium's programme, reported in the *Annexes*, was articulated as follows: one keynote speech, seven sessions with 40 presentations, one exhibition of posters, and two working groups: 1) Definition of Sustainable Diets and Platform for Actions; and 2) Code of Conduct on Sustainable Diets. Working Group 1 produced a consensus position on a definition of "sustainable diets", that was then approved by all participants in the plenary session of the Symposium. The adopted definition states as follows:

Definition of "Sustainable Diets"

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.

As a final outcome of the Symposium, the following document for a Platform for Action was approved.

Platform of Action

1. The participants of the Symposium recommend that FAO, Bioversity International and the CBD Secretariat, in collaboration with other relevant organizations and institutions at international /regional/ national/local level should establish a Task Force to promote and advance the concept of sustainable diets and the role of biodiversity within it, in the context of the CBD Cross-cutting Initiative on Biodiversity for Food and Nutrition, as contributions to the achievement of the MDGs and beyond.
2. FAO and Bioversity International should encourage the UN System, Governments, International Organizations, International Food Security and Nutrition Initiatives and other relevant bodies to finance and support research and development projects and programmes on biodiversity and sustainable diets.
3. Decision-makers should give priority to and promote sustainable diet concepts in policies and programmes in the agriculture, food, environment, trade, education and health sectors. Nutrition should be given more emphasis by plant and animal breeders and research on nutrient content of food biodiversity should be encouraged. Food composition data should be compiled by FAO in the INFOODS databases and by regional and national institutions.
4. New projects and case studies should be encouraged to demonstrate the synergies between biodiversity, nutrition and socio-economic, cultural and environment sustainability as well as to gather evidence about the potential of greater use of biodiversity for better nutrition and health and for poverty alleviation and improved livelihoods. The evidence gathered from these research efforts should be compiled by FAO and Bioversity International and made available on an open access web-based platform.

5. Food-based dietary guidelines and policies should give due consideration to sustainability when setting goals aimed at healthy nutrition. A guidance document on how to develop such guidelines and policies at national level could be elaborated by FAO, in collaboration with Bioversity International and other partners.
6. Governments, UN Agencies, Civil Society, Research Organizations and the Private Sector should collaborate in the development of programme activities and policies to promote sustainable diets in order to achieve sustainable food production, processing and consumption, and to minimize environmental degradation and biodiversity loss.
7. The development of a Code of Conduct for Sustainable Diets is strongly recommended.

4. CONCLUSIONS

The concept of sustainable diets, with biodiversity and at its core, has recently received renewed attention as the world struggles with many natural and man-made disasters.

The consensus position reached at the Symposium on a definition of sustainable diets was an important milestone for pursuing a coherent agenda in policies and programmes linking nutrition, agriculture, and the environment sectors.

Explicit in the definition of sustainable diets is food and nutrition security.

Participant organizations, institutions, NGOs, the private sector and other stakeholders were increasingly cognizant of the role that food biodiversity and sustainable diets can play in improving food and nutrition security.

At the Symposium, it was highlighted that although the evidence base must be further improved, existing knowledge warrants immediate action to promote the sustainable use of biodiversity in nutrition programmes, as contributions to the achievement of food and nutrition security and the Millennium Development Goals (MDGs).

Escalating population growth, land degradation and increasing demands for food further reinforce the need for enhancing sustainable food systems, promoting sustainable dietary patterns and food-based strategies as critical issues.

Among the overarching principles was the recognition that the health of human beings cannot be isolated from the health of ecosystems and the affirmation of the need for all-inclusive cooperation in activities to improve human and environmental health through sustainable diets.

Changes in dietary habits have compromised nutritional wellbeing, increased erosion of local ecosystems, and contributed to the loss of food biodiversity. A close involvement of the civil society and of all stakeholders in the fields of environment, agriculture, nutrition, health, education, culture and trade, was recommended for the development of sustainable diets' programmes and policies.

Sustainability of food and agriculture activities upon which 2.4 billion people depend for livelihoods was considered a key driver in the transition towards a green economy, due to its dual positive impact on ecosystem services and poverty alleviation.

The improvement of food systems for sustainable diets was recommended through interdisciplinary efforts to address the problems of malnutrition, the degradation of ecosystems, and the erosion of biodiversity caused, at least in part, by modern day food systems and dietary patterns.

The need to promote sustainable production and consumption patterns, through the development of programme activities and policies, along with education and policies, at the base of the sustainable diets rationale, was stressed to direct the choices and behaviours of consumers towards more sustainable food patterns.

Increasing the sustainability of agro-food systems, from primary production to consumption, will improve food and nutrition security (in terms of availability, access, stability and utilization), while minimizing the use of external inputs (e.g. fertilizers, water and energy) and sustaining the health of ecosystems, biodiversity and people. The notion of sustainable diets will serve to promote the use of food biodiversity, including traditional foods of indigenous peoples, with their many sources of nutritionally-rich species and varieties as readily-accessible sources of quality nutrition. While good nutrition should be a goal for a nutrition-sensitive agriculture, it is imperative that concerns about sustainability are not lost in the process of meeting that goal. Many dietary patterns can be healthy but they can vary substantially in terms of their resource costs.

It was considered as essential to start to apply the notion of sustainable diets to different agro-ecological zones.

Improving nutrition through biodiversity could be the basis for the development of codes of practice, providing guidance to the health, agriculture, environmental and food industry sectors and to consumers. Agricultural production practices need to respond to the challenge of climate change by reducing their negative impact on the environment, and increasing productivity while improving sustainability and achieving food and nutrition security.

Therefore, new strategies on sustainable diets and sustainable production and consumption are required to connect the nutritional well-being of the individual and of the community to the sustainability of feeding the planet.

AFROFOODS
CALL FOR ACTION FROM THE DOOR OF RETURN
FOR FOOD RENAISSANCE IN AFRICA
House of the Slaves, Goree, Dakar, Senegal
10 December 2009 - Human Rights Day

We, the participants at the 5th AFROFOODS Sub-regional Data Center Coordinators Meeting held in Dakar, Senegal, on 9-11 December 2009,

- **Note** that the degradation of ecosystems and the loss of food biodiversity is contributing greatly to the increases in poverty and malnutrition in Africa;
- **Recognize** that returning to local crops and traditional food systems is a prerequisite for conservation and sustainable use of biodiversity for food and nutrition;
- **Acknowledge** that local foods are the basis for African sustainable diets;
- **Urge** that food composition data be emphasized as the fundamental information underpinning almost all activities in the field of nutrition;
- **Call upon** the sectors of public health, agriculture, and environment and food trade to help reinforce and assist with the improvement of food composition data, particularly on local foods;
- **Request** that the contribution of food composition be credited as one of the most important components for action in nutrition and food quality, food safety, and food and nutrition security.

We **invite** all sectors to place AFROFOODS on the national, regional and international agenda for all food and nutrition activities in Africa through interdisciplinary strategic plans for achieving the relevant MDGs; and therefore, from the **Door of Return** of the House of the Slaves of Gorée-Dakar, we accept the challenge ourselves and send this **call for action** to our colleagues, as well as to governments, the private sector and financial entities, to strengthen AFROFOODS activities in a renewed commitment to an African food renaissance.

**DRAFT PROPOSAL FOR
A “CODE OF CONDUCT FOR SUSTAINABLE DIETS,”**
based on the model of the Code of Conduct for Marketing of Breast-milk Substitutes.

Contents

Introduction

Article 1. Aim of the Code

Article 2. Scope of the Code

Article 3. Relationship with other international instruments

Article 4. Definitions

Article 5. Information and education

Article 6. Consumers

Article 7. Health Sector, Agriculture Sector, Environmental Sectors, Food Industry Sector

Article 8. Special Requirement of Developing Countries

Article 9. Research

Article 10. Implementation and monitoring

Preamble

Introduction

Affirming the right of every human being to be adequately nourished, to attain and maintain [as a means of attaining and maintaining] health;

Acknowledging that malnutrition is part of the wider problems [including] poverty, social injustice, lack of education;

Recognizing that the health of humans cannot be isolated from the health of ecosystems;

Conscious that food is indispensable for [an unequalled way of] providing ideal nutrition throughout life [for all ages and life cycles/stages];

Recognizing that the conservation and sustainable use of food biodiversity is an important part of human and (ecosystem) well-being;

Conservation should support the right to food [sustainable diet] and vice versa. Conservation should recognize the right for local populations to benefit from their traditional resources;

Recognizing that when ecosystems are able to support sustainable diets, nutrition programmes, policies and interventions supporting the use of supplements, RUTF, fortificants, and infant formulas are inappropriate and can lead to malnutrition, and that the marketing of these food substitutes and related products can contribute to major public health problems;

[Considering that when] (In periods when) ecosystems are not able to support sustainable diets, there is a legitimate use of supplements, RUTF (ready to use therapeutic foods) and fortificants; that all these products should accordingly be made accessible to those who need them through commercial or non-commercial distribution systems; and that they should not be marketed or distributed in ways that may interfere with sustainable diets;

Appreciating that there are a number of social and economic factors affecting sustainable diets; [and that, accordingly] governments should develop [social] support systems to protect, facilitate and encourage them. [and that] Governments should create an environment that fosters sustainable diets, provides appropriate family and community support and protection from factors that inhibit it;

Affirming that health-care systems, and the health professionals and other health workers serving in them, have an essential role to play in guiding sustainable diet practices, encouraging and facilitating sustainable diets, and providing objective and consistent advice to families, communities and governments about the superior value of sustainable diets;

Affirming further that educational systems and other social services should be involved in the protection and promotion of sustainable diets;

Aware that families, communities, women's organizations and other nongovernmental organizations have a special role to play in the protection and promotion of sustainable diets, particularly for pregnant and lactating women and infants and young children;

Affirming the need for governments, organizations of the United Nations system, Non-Governmental Organizations, experts in various related disciplines, consumer groups and industry to cooperate in activities aimed at the improvement of human and environmental health through sustainable diets;

Considering that manufacturers and distributors of food substitutes have an important and constructive role to play in relation to sustainable diets, and in the promotion of the aim of this Code and its proper implementation;

Affirming that governments are called upon to take action appropriate to their social and legislative framework and their overall development objectives to give effect to the principles and aim of this Code, including the enactment of legislation, regulations or other suitable measures;

Believing that, in the light of the foregoing considerations, and in view of the vulnerability of ecosystems, and the human health risks involved in inappropriate feeding practices, including the unnecessary and improper use of food substitutes, the marketing of substitutes requires special treatment, which makes usual marketing practices unsuitable for these products.

INTERNATIONAL SCIENTIFIC SYMPOSIUM
BIODIVERSITY AND SUSTAINABLE DIETS
UNITED AGAINST HUNGER

PROGRAMME

WEDNESDAY, 3 NOVEMBER 2010

- 08.30-9.30 **Registration**
Sign the Petition 1billionhungry.org
- Session 1*
9:30-11:30 *Opening Session*
- 9:30-10:00 **Welcoming Addresses**
Mainstreaming Nutrition and Biodiversity for Sustainable Development
Changchui He, Deputy Director-General, FAO
Emile Frison, Director-General, Bioversity International
- 10.00-10.30 **Keynote Speech**
Sustainable Diets and Biodiversity: the challenge for policy, evidence and behaviour change
Timothy Lang, Centre for Food Policy, City University, London
- 10.30-11.30 **Setting the Scene - Links with Global Initiatives**
Biodiversity and sustainable diets for improved livelihoods for all
Emile Frison, Alliance Against Hunger and Malnutrition
- Global biodiversity outlook 3**
Kalemani Jo Mulongoy, Principal Officer, Scientific, Technical and Technological Matters, Convention on Biological Diversity (CBD)
- The Cross-cutting initiative on biodiversity for food and nutrition: nutrition and biodiversity - a common path**
Barbara Burlingame, Senior Officer, Nutrition and Consumer Protection Division, FAO
- Opportunities and challenges for nutrition societies to redress malnutrition through food-based approaches**
Rekia Belahsen, General Secretary, International Union of Nutritional Sciences

- Session 2*
11.30-13.00
- Feeding the Planet: The Challenge of a Sustainable Food Production and Consumption***
Chair: Ezzeddine Boutrif, Director, Nutrition and Consumer Protection Division, FAO
- Expo 2015 of Milan: Feeding the planet-energy for life**
Alberto Mina, Director, Institutional Relations, EXPO 2015 of Milan
- Sustainable production intensification**
William Murray, Senior Officer, Plant Production and Protection Division, FAO
- The Dualine Project: Food sustainability - towards new issues**
Louis Georges Soler, INRA/CIRAD, France
- Sustainability and diversity along the food chain**
Daniele Rossi, Director General, Federalimentare, Italy
- 13.00-14.30
- Lunch break*
- Session 3*
14.30-16.00
- Sustainable Food Consumption***
Chair: Florence Egal, Senior Officer, Nutrition and Consumer Protection Division, FAO
- Ensuring that agriculture, biodiversity and nutrition remain central to addressing the MDG One hunger target**
Jessica Fanzo, Senior Officer, Bioversity International, Rome
- Cities as drivers of sustainable food systems**
Julien Custot, Food for the Cities Initiative, FAO
- Food typologies, food behaviour determinants and actions aiming at improving behaviours for a better health**
Patrick Etievant, Head, Nutrition, Chemical Food Safety and Consumer Behaviour Division, INRA, France
- The contribution of forest biodiversity to sustainable diets**
Paul Vantomme, Senior Officer, Forest Economics, Policy and Products Division, FAO
- 16.00-18.00
- Report on technical workshop “Biodiversity in Sustainable Diets”**
Sandro Dernini, Consultant, Nutrition and Consumer Protection Division, FAO
- Working groups on Recommendations**

THURSDAY, 4 NOVEMBER 2010

Session 4
9.00-12.00

***Bringing Biodiversity into the Plate -
Case studies and practices promoting food biodiversity***
Chair: Harriet V. Kuhnlein, Founding Director, Professor of
Human Nutrition, CINE, Canada

**Nutrient diversity within species in major food crops
consumed in India**

Thing-Nga-Ning Longvah, Deputy Director & Head, Food
Chemistry Division, National Institute of Nutrition, India

Nigerian traditional food system and nutrition security
Onimawo Ignatius, President, Nutrition Society of Nigeria,
Nigeria

**Canarium Odontophyllum Miq.: An underutilized fruit for
human nutrition and sustainable diets**

Ismail Amin, Department of Nutrition and Dietetics, Faculty of
Medicine and Health Sciences, University Putra, Malaysia

**Assessing nutritional diversity of cropping systems in
African villages**

Roseline Remans, Tropical Agriculture and Rural Environment
Programme, The Earth Institute, Columbia University, New York

**Edible insects in Eastern and Southern Africa: Challenges
and opportunities**

Muniirah Mbabazi, Department of Food Science and
Technology, Makerere University, Uganda

**Fruit trees in home gardens of the Nuba mountains, Central
Sudan, and their contribution to household nutrition and
income**

Katja Kehlenbeck, World Agroforestry Centre ICRAF, Kenya

Conservation of plant biodiversity for sustainable diets

Kate Gold, International Projects Coordinator, Millennium Seed
Bank Partnership, Seed Conservation Department, Royal
Botanic Gardens, United Kingdom

12.00-13.00

Working groups on recommendations

13.00-14.30

Lunch break

Session 5
14.30-16.00

Biodiversity and nutrition, a food-based approach
Chair: Rekia Belahsen, General Secretary, International Union of
Nutritional Sciences

Introductory Remarks (Video)

Denis Lairon, President, European Federation of Nutrition Societies

The challenges of overcoming rural poverty and malnutrition through local foods in West Africa

Amadou Tidian Guiro, Department of Animal Biology, University of Cheikh Anta Diop, Dakar, Senegal

Revisiting the vitamin A fiasco: Going local in Micronesia

Lois Englberger, Island Food Community of Pohnpei, Federated States of Micronesia

Bioactive components in indigenous African vegetables

Francis Omujal, Natural Chemotherapeutics Research Laboratory, Ministry of Health, Kampala Uganda

Aquaculture with small fish species has the potential to improve nutrition and combat micronutrient deficiencies

Shakuntala Haraksingh Thilsted, The World Fish Center, Bangladesh

Nutrition indicators of biodiversity

Ruth Charrondiere, Nutrition and Consumer Protection Division, FAO

16.00-17.30

Panel discussion: Biodiversity, food composition and sustainable diets

Chair: Barbara Burlingame, Senior Officer, Nutrition and Consumer Protection Division, FAO

Afrofoods call for action from the door of return:

Isaac Akinyele, AFROFOODS, Elected Coordinator, Nigeria

Recent achievements in Europe through EuroFIR and BaSeFood projects

Paul Finglas, EuroFIR & EUROFOODS, Coordinator, United Kingdom

Research projects and activities on biodiversity, food composition and sustainable diets among SAARCFOODS members

Thing-Nga-Ning Longvah, SAARCFOODS, Elected Coordinator, India

Achievements on biodiversity in relation to food composition in Latin America

Lilia Masson, University of Chile, Chile

Research projects and activities on biodiversity, food composition and sustainable diets among ASEANFOODS members

Prapasri Puwastien, ASEANFOODS, Coordinator, Thailand

17.30-18.30

Working groups on recommendations

FRIDAY, 5 NOVEMBER 2010

Session 6

9.00-11.30

The Mediterranean Diet as an example of a Sustainable Diet

Coordinated by the National Institute of Food and Nutrition Research (INRAN), Italy. Chair: Carlo Cannella, Director, International Interuniversity Studies Center on Mediterranean Food Cultures (CIISCAM), Italy

Keynote Address

Pietro Sebastiani, Permanent Representative of the Republic of Italy to FAO

The Mediterranean diet as intangible world heritage

Pier Luigi Petrillo, Italian Ministry of Agriculture, Food and Forestry Policies (MiPAAF)

MiPAAF Biovita project: Biodiversity and Mediterranean diet

Giuseppe Maiani, INRAN, Italy

MiPAAF Bioqualia project: Organic farming, sustainability and biodiversity

Flavio Paoletti, INRAN, Italy

Mediterranean Diet: an integrated view

Mauro Gamboni, Agro-Food Department, CNR, Italy

Is the Mediterranean diet, World paragon, sustainable from plate to field?

Martine Padilla, CIHEAM-IAMM, France

Food and energy: a sustainable approach

Massimo Iannetta, ENEA, Italy

Double Pyramid: Healthy food for people, sustainable food for the planet

Andrea Poli, Barilla Center on Food and Nutrition, Italy

The Mediterranean diet at the beginning of the 3rd millennium

Cosimo Lacirignola, Director, CIHEAM-IAMB, Italy

11.30-12.30

A Platform for Action on Biodiversity and Sustainable Diets - Main recommendations

12.30-13.00

Closing remarks

Ezzeddine Boutrif, Director, Nutrition and Consumer Protection
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Emile Frison, Director-General, Bioversity International

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LIST OF BACKGROUND PAPERS

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- 3) John, T. and Eyzaguirre, P., *Linking biodiversity, diet and health in policy and practice*. Proceeding of the Nutrition Society. 65 (2006) 182-189;
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- 5) The CIHEAM Watch Letter, *The Mediterranean Diet*, Spring 2010, N. 13;
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