



FRUIT AND VEGETABLE PROMOTION INITIATIVE / A MEETING REPORT / 25-27/08/03

- Up to 2.7 million lives could be saved annually with sufficient fruit and vegetable consumption.
- Low fruit and vegetable intake is among the top 10 selected risk factors for global mortality.



WHO Fruit and Vegetable Promotion Initiative – report of the meeting, Geneva, 25–27 August 2003

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1. BACKGROUND

Noncommunicable diseases (NCD), including cardiovascular diseases (CVDs), diabetes, obesity, cancers and respiratory diseases, account for 59% of the 56.5 million deaths annually worldwide and for 45.9% of the global burden of disease.¹ Five of the ten leading global disease burden risk factors identified by *World Health Report 2002* – high blood pressure, high cholesterol, obesity, physical inactivity and insufficient consumption of fruit and vegetables – are among the major causes of these diseases.² Together with alcohol and tobacco use, these preventable risks play a key role in the development of NCD, which frequently involve overlapping risk factors and chronic conditions.

Fruit and vegetables are important components of a healthy diet, and their sufficient daily consumption could help prevent major diseases such as CVDs and certain cancers. According to *World Health Report 2002*, low fruit and vegetable intake is estimated to cause about 31% of ischaemic heart disease and 11% of stroke worldwide.³ Overall it is estimated that up to 2.7 million lives could potentially be saved each year if fruit and vegetable consumption were sufficiently increased. A recently published report on the Joint FAO/WHO Expert Consultation on diet, nutrition and the prevention of chronic diseases, recommends the intake of a minimum of 400g of fruit and vegetables per day (excluding potatoes and other starchy tubers) for the prevention of chronic diseases such as heart disease, cancer, diabetes and obesity as well as for the prevention and alleviation of several micronutrient deficiencies, especially in less developed countries.⁴

A high-level international review of research findings on fruit and vegetable consumption and cancer risk, coordinated by the WHO International Agency for Research on Cancer (IARC), concluded that eating fruit and vegetables may lower the risk of some cancers, particularly cancers of the gastrointestinal tract. IARC estimates that the preventable percentage of cancer due to low fruit and vegetable intake ranges from 5-12 % for all cancers, and up to 20-30% for upper gastrointestinal tract cancers worldwide.⁵

WHO's objective is *the attainment by all peoples of the highest possible level of health*.⁶ In recent years there has been an increasing emphasis by Member States on the need to improve the health of the poor and marginalized. Given these mandates and the increasing scientific evidence that low fruit and vegetable intake is a key risk factor for several NCD, WHO is planning an initiative which will actively promote increased consumption of fruit and vegetables.

At the Fifty-fifth World Health Assembly in May 2002, WHO Member States recognized the increasing burden of NCD and adopted a resolution on integrated NCD prevention.⁷ This included the request to the Director-General to develop a global strategy on diet, physical activity and health, in the context of the rising burden of noncommunicable diseases. That draft strategy has been developed in a consultative process with Member States from all WHO regions, United Nations

¹ *World Health Report 2002. Reducing risks, promoting healthy life*. Geneva, World Health Organization, 2002.

² *World Health Report 2002*, op. cit.

³ *World Health Report 2002*, op. cit., page 60.

⁴ *Diet, nutrition and the prevention of chronic diseases. Report of a Joint FAO/WHO Expert Consultation*. Geneva, World Health Organization, 2003 (WHO Technical Report Series, No. 916).

⁵ *Handbook on fruit and vegetable consumption and cancer prevention*, International Agency for Research on Cancer, forthcoming (end of 2003).

⁶ Constitution of the World Health Organization, Chapter I, Article 1

⁷ World Health Assembly resolution "Diet, physical activity and health", WHA55.23, May 2002.



organizations, civil society, the private sector, and with the advice of a reference group of experts. It will be presented to the WHO Executive Board at its 113th session in January 2004 and considered for adoption by WHO Member States at the Fifty-seventh World Health Assembly in May 2004.

In all six regional consultations with Member States on the development of the global strategy, the importance of fruit and vegetable consumption for a healthy diet, and the need for the promotion of fruit and vegetable production and consumption, were reiterated. Several Member States reported low fruit and vegetable intake in their population, with some describing consumption barriers such as high price.⁸ The country representatives from the Region of the Americas and the South-East Asia Region explicitly identified increasing fruit and vegetable production and consumption as being priority issues in the promotion of a healthy diet in their regions.⁹

In January 2003 the WHO Noncommunicable Disease Prevention and Health Promotion Department (NPH) cosponsored the Third "5 A Day" International Symposium in Berlin, Germany. "5 A Day" type programmes are national multi-stakeholder efforts to increase fruit and vegetable consumption in the population. Most of the existing programmes are in developed countries. However, some developing countries are starting similar campaigns. Some programme activities target the general population, while others target special populations such as schoolchildren and workers in the workplace.

The Berlin Symposium concluded that greater efforts should be made to change environments so as to increase the availability of fruit and vegetables in schools and worksites, changing national policies to influence fruit and vegetable intake, reaching poor and disadvantaged population groups to reduce health inequities. WHO plans to carry out a global fruit and vegetable promotion initiative within the framework of the proposed global strategy on diet, physical activity and health and the implementation mandate of the WHO Global Strategy for the Prevention and Control of Noncommunicable Diseases.¹⁰ At global and national levels the initiative will consider supply and demand aspects of fruit and vegetables together from the outset, be integrated into existing national food and nutrition policies, promote national food-based dietary guidelines, and make it a priority to reduce health disparities and inequalities.

WHO held a meeting on fruit and vegetable production and consumption in relation to health promotion and NCD prevention in Geneva (25-27 August 2003). Participants included nutrition scientists, advisers on nutrition from the WHO regional offices, experts from the Food and Agricultural Organization of the United Nations (FAO), IARC, the International Food Policy Research Institute (IFPRI), and leaders from national programmes which currently promote fruit and vegetable consumption (Annex 1 contains the list of participants and Annex 2 contains the meeting agenda).

⁸ *The development of a WHO global strategy on diet, physical activity and health: African regional consultation report and The development of a WHO global strategy on diet, physical activity and health: European regional consultation report.* Available at: www.who.int/hpr/globalstrategy.

⁹ *The development of a WHO global strategy on diet, physical activity and health: The Americas regional consultation report and The development of a WHO global strategy on diet, physical activity and health: the South-East Asia regional consultation report.* Available at: www.who.int/hpr/globalstrategy.

¹⁰ World Health Assembly resolution "Prevention and control of noncommunicable diseases" WHA53.17, May 2000.

The objectives of this meeting were to recommend what reviews needed to be undertaken on further evidence in preparation for the scientific meeting on fruit and vegetables to be hosted by the WHO Kobe Centre in March 2004; and how WHO should take the promotion of fruit and vegetables forward as a new initiative.

The expected outcomes of the meeting were the key topics on which scientific reviews would be commissioned for the meeting in Kobe; recommendations on the promotion of fruit and vegetables, including the overall scope, and the short- and long-term goals for the proposed initiative; ways to involve industry at global and national levels; guidance to countries wishing to initiate fruit and vegetable promotion programmes; and fundraising.

2. PRESENTATIONS

2.1 MEETING BACKGROUND AND PRELIMINARY RESULTS OF THE GLOBAL FRUIT AND VEGETABLE REVIEW

Dr. Pekka Puska, Ms Amalia Waxman, Ms Ingrid Keller, Department of NCD Prevention and Health Promotion, World Health Organization

WHO aims to increase fruit and vegetable consumption through targeted campaigns and programmes. Sufficient quantities of fruit and vegetables should become part of the daily diet in all countries. This forms part of the overall promotion of a healthy diet, which, together with physical activity, is an effective way to prevent disease and promote health. The promotion of the consumption of fruit and vegetables is supported by a substantial body of opinion.¹¹ WHO is developing a fruit and vegetable promotion initiative that will be carried out within the framework of the proposed global strategy on diet, physical activity and health (the draft of which is to be submitted to the Executive Board in January 2004).

As part of the fruit and vegetable promotion initiative, WHO will use this gathered knowledge to further strengthen the scientific evidence base, developing appropriate guidelines and standards, and sharing that information among all those concerned. The initiative will involve WHO's regional offices, FAO and other United Nations agencies, existing "5 A Day" type programmes, research institutions, nongovernmental organizations (NGOs) in the health and agriculture sector, and the private sector.

From July to September 2003, WHO collected country-level information on the definitions of fruit and vegetables, on general fruit and vegetable consumption (products and modes of preparation), on existing dietary recommendations on fruit and vegetables, and on programmes promoting the consumption of fruit and vegetables. Respondents were primarily nutrition and agriculture specialists, and responses from 93 countries were received. The results show that definitions of "vegetable" vary significantly between countries and regions. However, many definitions specify that vegetables are parts

¹¹ The World Health Report 2002, op. cit., *Diet, nutrition and the prevention of chronic diseases. Report of a Joint FAO/WHO Expert Consultation*, 2003, op.cit., *Handbook on fruit and vegetable consumption and cancer prevention*, IARC op.cit.



of a plant, are eaten cooked or raw with main meals, have different colours, are high in nutritional value and are good for health. Differences in definitions occur with respect to the inclusion or exclusion of starchy tubers, beans, lentils and corn. Definitions of fruit were found to be more consistent across countries and regions than the definitions of vegetables. Most definitions specify that fruits are the fleshy part around the seeds of a plant, have a sweet taste and are most often eaten raw as a dessert or snack. With respect to dietary recommendations, approximately 60 countries reported having specific dietary recommendations for fruit and vegetables described in portions and/or grams. These recommendations are mostly published by the Ministry of Health. Often a minimum of five portions or 400g of fruit and vegetables per person per day is recommended. However, the size of a portion varies considerably between countries. This review demonstrated the need for further clarification of the definition of a vegetable and of portion size.

2.2 WHO SURVEILLANCE ACTIVITIES TO MEASURE FRUIT AND VEGETABLE INTAKE

Dr Ruth Bonita, Director, Surveillance, NCD and Mental Health, World Health Organization

Risk factor data on NCD can be difficult to find, as different levels and quality of data are available from ministries of health, national statistics agencies or are published in a wide variety of peer-reviewed journals. The WHO Global NCD InfoBase displays in one place all available country-level prevalence data for NCD risk factors, including fruit and vegetable intake. As at 30 April 2003, the NCD InfoBase contained data from 166 Member States and from over 1400 sources. NCD InfoBase search and display functions will soon be available on the Internet for all users.¹² The most recent, nationally representative data in the NCD InfoBase form the basis for the Surveillance of Risk Factors Report I (SuRF I).¹³

The WHO STEPS framework is the principal information-gathering tool in the global NCD risk-factor surveillance project. It distinguishes between different levels of risk-factor assessment (self-reported behaviours, physical measurements and blood samples). The framework is used to collect data on fruit and vegetable intake through four survey questions on the number of days per week and the number of servings per day that fruit and vegetables are eaten. This information is also fed into the NCD database.

2.3 FAO'S ENDEAVOUR TO MEET THE FUTURE NEEDS FOR HORTICULTURE PRODUCTION

Wilfried Baudoin, Senior Officer, Horticultural Crops Group, Food and Agricultural Organization of the United Nations

The general recommendation for daily intake of fruit and vegetables is more than 400 grams per person per day or about 150 kg per person per year.¹⁴ Information from the FAO statistical

¹² The NCD InfoBase will be published under: www.who.int/ncd_surveillance

¹³ Available at: http://www.who.int/ncd_surveillance/resources/surf_report/en/

¹⁴ Diet, nutrition and the prevention of chronic diseases. Report of a Joint FAO/WHO Expert Consultation. 2003, op.cit.

database suggests that the total supply of fruit and vegetables available is 173 kg per person per year, which divides into 111.6 kg of vegetables and 61.4 kg of fruit.¹⁵ However, when a potential loss of 33% is taken into account, representing the loss from supply source to table, this availability is reduced to 115 kg per person per year or to 75% of the amounts required at global level.

FAO fully subscribes to the need for a fruit and vegetable initiative. Fruit and vegetables are an important part of diet as they contain vitamins, essential micronutrients, fibre, vegetable proteins and biofunctional components. The world's demand for fruit and vegetables will increase in line with population expansion as, with rising standards of living and the awareness of the health benefits of fruit and vegetables, dietary patterns will change, and the consumption of fruit and vegetables per capita will increase. Fruit and vegetable production, easily undertaken by unskilled people, can play an important part in poverty alleviation programmes and food security initiatives, providing employment opportunities and a source of income. Fruit and vegetable production is well adapted for small-scale production units and can provide relief for people at the individual household level as well as in health centres and refugee camps. Developing countries may find new opportunities for fruit and vegetables, opportunities for trade and earning foreign currency, which offer a comparative advantage in the context of globalization and as a result of the GATT.

FAO's involvement is reflected through field operations as well as normative activities.¹⁶ Direct interventions are implemented through field projects to improve nutrition and household food security in Latin America and the Caribbean, Africa, the Middle East and Asia. Currently the emphasis is on urban and/or periurban horticulture and school gardens. Garden projects in schools and health centres are also promoted in collaboration with the World Food Programme. The Special Programme for Food Security (www.fao.org/spfs) was expanded after the World Food Summit in 1996 with the main objective of improving national and household food security in least developed countries.

To overcome the current constraints on horticulture production/development and increased consumption, national horticulture production plans are needed. A new website – “Good Morning Horticulture” – is creating visibility and awareness through the dissemination of information on horticulture, food, income and health. Its goal is to make the people “*grow and eat more vegetables and fruit*”. The programme calls for multidisciplinary inputs and thus it is suggested that it be considered as a component of an interagency initiative.

2.4 FRUIT AND VEGETABLE CONSUMPTION AND CANCER PREVENTION

Dr Wael K Al-Delaimy, International Agency for Research on Cancer

Of all dietary factors in cancer prevention, the most abundant evidence is for the protective effect of fruit and vegetable consumption. The European Prospective Investigation into Cancer and diet (EPIC) is a multinational study across 10 European countries investigating the relationship between diet, lifestyle and environmental factors and cancer incidence.

¹⁵ FAOSTAT available at: <http://apps.fao.org/>

¹⁶ FAO's normative tools include the Codex Alimentarius (www.codexalimentarius.net), the Horticulture Cultivars Performance Database (www.fao.org/hortivar) and the Integrated Production and Protection Management Card System (www.fao.org/hortivar/ippcardssystem) which is aimed at reducing the use of and the reliance on pesticides to control pests and diseases.



Preliminary, unpublished EPIC data shows that:

- Fruit has a protective effect against lung cancer, while vegetables do not.
- In women, fruit has a protective effect against colorectal cancer (not dose-response).
- In men, vegetables have a protective effect against colorectal cancer (dose-response).
- Fruit and vegetables do not have a protective effect against prostate cancer.

IARC's forthcoming fruit and vegetable handbook which reviews all studies on fruit and vegetables and cancer, estimates that cancer incidence could decrease by 5-12% with increased fruit and vegetable consumption.¹⁷ A meta-analysis by Riboli and Norat concluded the following:

Fruit has:

- A protective effect against the risk of cancers of the lung and bladder (both case-control and cohort studies);
- A protective effect against the risk of cancers of the mouth and pharynx, larynx and oesophagus (case-control only, no cohort study data);
- A protective effect against the risk of cancers of the stomach and colorectum (case-control only, cohort study data not significant);
- No significant protective effect against the risk of breast cancer.

Vegetables have

- A protective effect against the risk of cancers of the oesophagus, breast, lung, stomach, and colorectum (case-control only, cohort study data not available or not significant);
- No significant protective effect against the risk of cancers of the mouth and pharynx, larynx or bladder (case-control data not significant, cohort data not available or not significant).

Thus, there is substantial potential for preventing cancer through diet, particularly through the consumption of fruit and vegetables. The benefits of increased fruit and vegetable consumption in populations also goes beyond specific cancer risks to other chronic diseases.

2.5 THE "5 A DAY PROGRAM" IN THE UNITED STATES OF AMERICA

Dr Lorelei DiSogra, Director, 5 A Day For Better Health Program, National Cancer Institute, Dr Frances Taccone, Director of Development, Produce for Better Health Foundation

The 5 A Day For Better Health Program began in California in 1988 and became a national programme in 1991. It is the largest public-private partnership for health and nutrition in the United States; the principal partners being the National Cancer Institute (NCI) and the Produce for Better Health Foundation (PBH). The National 5 A Day partnership also includes the United States Department of Agriculture, the Centres for Disease Control and Prevention, the American Cancer Society and a variety of non-profit, private sector, state/local partners. National programme

¹⁷ Handbook on fruit and vegetable consumption and cancer prevention, IARC op.cit.

¹⁸ Riboli and Norat: Publication anticipated end of 2003 in the *American Journal of Clinical Nutrition*.

components include state/regional community interventions, communications, environmental and policy change, research, and industry collaboration. The Programme has grown and evolved tremendously over the past 12 years.

The NCI is the national health authority for the 5 A Day Program and the lead federal agency. The goal of NCI's 5 A Day Program is to increase all Americans' consumption of fruit and vegetables to 5 to 9 servings a day. Currently, NCI's key initiatives include:

- Increasing the availability of fruit and vegetables in schools;
- Men's 9 A Day campaign;
- African American Men's 9 A Day campaign.

Research efforts include intervention/behavioural research, surveys, focus groups, Web-TV tests. This research indicates that awareness of the recommendation to eat five or more servings of fruit and vegetables each day has increased from 22% in 1992 to 40% in 2002, and that consumption has increased by half a serving between 1992 and 1996. Current priorities include expansion of the school fruit and vegetable snack programme, expansion of salad bars in school lunch programmes, launch of a faith-based initiative, increased focus on environmental change, expansion of partnerships with African American organizations to reduce health disparities, strategic dissemination of evidence-based interventions, increasing awareness of the "eat 5 to 9 a day" message and the health benefits of eating a diet rich in fruit and vegetables, collaboration with federal agencies on policy changes that will impact fruit and vegetable intake, and collaboration across the National Institutes of Health.

The PBH is a non-profit consumer education foundation whose mission is to increase consumption of a variety of fruit and vegetables for better health. PBH chairs the National 5 A Day Partnership (www.5aday.com), which works to expand efforts to increase the consumption of fruit and vegetables for improved public health. Several factors have been critical to PBH's success:

- The strong 5 A Day identity which is simple, focused, professional, and colourful;
- An energized, unified and focused marketing plan;
- A strong case is made for the economic benefits of the programme;
- The development of an exciting and compelling "selling story" focused on new and existing funding sources;
- The targeting of children and families through schools, retailers and foodservice programmes.

PBH has incorporated the increasingly popular concept of phytochemicals into its brand identity "The Colour Way" which promotes fruit and vegetables in colour groups with common benefits. This message is clear, creative and compelling.

2.6 THE EUROPEAN 5 A DAY-TYPE PROGRAMMES

Morten Strunge Meyer, Danish Cancer Society

European 5 A Day-type programmes differ in their slogans (e.g. 3 A Day, Half a Kilo A Day and others), resources, organizational structure and maturity. Lessons learnt from existing European programmes

to increase fruit and vegetable consumption suggest that the sustainability of programmes is dependent upon partnership (between industry, government and NGOs) and leadership. Partnerships are crucial to ensure adequate resources, to add credibility to the programme, and to communicate with and influence stakeholders from different sectors. A variety of knowledge and skills are required to develop and implement a 5 A Day-type campaign, including medical/nutrition/public health, behaviour change, communications, lobbying, coalition-building, fundraising, etc. Consensus on scientific issues (e.g. the recommended daily intake) should be established before a campaign is launched to avoid confusing the messages to the public. In changing behaviour, environmental changes are much more effective than changing individual knowledge and attitudes. There is currently a lack of evaluation of 5 A Day-type programmes due to the difficulty of measuring fruit and vegetable intake, potential confounders, limited interventions and the relative newness of programmes. Evaluations should include measurements of awareness (does not prove change in behaviour), impact on intake and cost effectiveness. Three effective interventions of the Danish 6 A Day Programme have been workplace fruit (free fruit to employees), school fruit snack (parent paid) and catering initiatives at worksite restaurants. Areas for improvement include evaluation, more focus on increasing the availability of fruit and vegetables, partnership-building skills, networking, transfer of ownership, and fundraising.

2.7 SETTING UP A FRUIT AND VEGETABLE PROMOTION INITIATIVE IN A DEVELOPING COUNTRY

Dr Carlos A Monteiro, Centre for Epidemiological Studies in Health and Nutrition, School of Public Health, University of Sao Paulo

Establishing a fruit and vegetable promotion initiative in a developing country requires the consideration of feasibility, potential partners and settings, and enabling and constraining factors. Enabling factors in developing countries can include the high value placed on fruit, and to a lesser degree vegetables, as healthy food; a climate conducive to year-long production; and potential benefits for small-scale farmers. Constraining factors can include the high cost of fruit and vegetables, the need for an abundant water supply, over-use of pesticides, inefficient distribution and commercialization systems which lead to waste, misleading advertising and health claims on processed foods, and misconceptions about malnutrition (e.g. obesity being perceived as a disease of affluence). Partners for a fruit and vegetable initiative should include both public and private sectors, and NGOs. Fruit and vegetable initiatives in developing countries should be integrated into national intersectoral food and nutrition policies, and should be consistent with the predominant stage of the nutrition transition in each country. The nutrition transition refers to the movement from a “famine” stage (scarce, monotonous, low energy-dense, cereal-based diets) through a “receding famine” stage (less scarce, less monotonous, but still low energy-dense, minimally processed, cereal-based diets) to a “westernized, mass consumption” stage (low fibre, high energy-dense, fatty, salty, sugary diets with increasing animal products). Most low-income countries are situated between the “famine” and “receding famine” stages where undernutrition disorders prevail, while most low-middle and high-middle income countries are quickly moving into the “westernized, mass consumption” stage. For these countries, initiatives should emphasize replacing unhealthy foods with fruit and vegetables, rather than simply adding fruit and vegetables to the existing diet.

2.8 HEALTH PROMOTION THROUGH THE PROMOTION OF FRUIT AND VEGETABLES IN THE REPUBLIC OF KOREA

Dr Cho-il Kim, Korea Health Industry Development Institute

In the last 20 years, per capita income has increased in the Republic of Korea, fruit consumption has increased 10-fold, rice consumption has halved and vegetable consumption has remained stable. In the last decade, meat and poultry consumption have risen while fish consumption has fallen. Fat consumption today is 250% higher than in 1969, accounting for 20% of daily energy intake in the general population. Fat accounts for more than 30% of daily energy intake in younger age groups, but less than 10% in older age groups. Fruit accounts for approximately 5% of daily energy intake, and vegetables account for approximately 4%. In parallel with this transition in nutrition, the Republic of Korea is experiencing a rise in diet-related NCD risk factors such as hypertension and overweight: approximately 27% of Korean adults, and 14% of children, were overweight in 2001. While fewer people are engaging in vigorous physical activity, nearly half of the population engages in light physical activity as part of daily life.

The Korean Health Plan 2010 includes several activities in the area of nutrition, including the revision of dietary guidelines and the enforcement of mandatory nutrition labelling. Two important goals for 2010 are to increase the proportion of the population with adequate intakes of calcium, iron, vitamin A and vitamin B2 to 50%, and to increase the proportion of the population with a healthy weight to 75%.

The Korean dietary guidelines are depicted in a food pagoda; at the second level are fruit and vegetables. Potatoes are at the first level in the cereal group; beans and seaweed are also not considered to be vegetables. The 2002 Dietary Guidelines for the Republic of Korea specify eating “a variety of grains, vegetables and fruit, fish and meat, poultry and dairy products”. They also encourage the traditional, rice-based diet in which rice is often accompanied by various vegetables and small portions of meat or fish. Hence, it is hoped that by promoting the traditionally higher rice consumption, vegetable consumption will increase as well. Fruit is most commonly eaten as a dessert.

3. FRAMEWORK FOR A FRUIT AND VEGETABLE PROMOTION INITIATIVE

3.1 GOAL AND OBJECTIVES

The overall goal of the fruit and vegetable promotion initiative is to strengthen, promote and protect health in the context of an overall healthy diet by guiding the development of sustainable actions at community, national and global levels that, when taken together, will lead to reduced risk of NCD through increased fruit and vegetable consumption. For the purposes of this framework, the term

NCD refers to those chronic, noncommunicable diseases for which adequate fruit and vegetable consumption can play a role in prevention, such as heart disease, cancer, diabetes and obesity.¹⁹

The fruit and vegetable promotion initiative has four specific objectives:

- To increase the overall awareness and understanding of the role of fruit and vegetables in preventing NCD;
- To increase fruit and vegetable consumption through essential public health and agricultural action, particularly emphasizing environmental and policy change;
- To encourage and support the development and implementation of national fruit and vegetable promotion programmes which are sustainable, comprehensive, and which actively engage all sectors, including civil society and the private sector;
- To support research in a broad spectrum of areas relevant to the promotion of fruit and vegetable production and consumption and develop the human resources required to design and implement fruit and vegetable promotion programmes.

3.2 GUIDING PRINCIPLES

- Every person has the right to safe and nutritious food.²⁰ To this end, every person should be informed of the health benefits of fruit and vegetable consumption, and effective legislative, executive, administrative and/or other measures should be considered at the appropriate government level to ensure the availability and accessibility of adequate amounts of a variety of fruit and vegetables.
- Effective partnerships are necessary to develop and support, at national, regional and international levels, comprehensive multisectoral measures and coordinated responses. Partners should include, but not be limited to, researchers and policy-makers across the continuum of fruit and vegetable production, distribution, storage, marketing and consumption.
- There is a need to employ both environmental and policy-change strategies to address the supply of fruit and vegetables as well as the demand.
- Fruit and vegetable promotion programmes should be based upon the best available scientific evidence, and the fruit and vegetable research agenda should be promoted in order to consolidate the evidence base.
- The predominant stage of the nutrition transition should be considered in the development of national fruit and vegetable promotion programmes.
- Fruit and vegetable promotion programmes should be incorporated into current nutrition policies and frameworks.
- Priority should be given to activities that have a positive impact on the poorest populations and communities as NCD are emerging at an accelerated rate in poorer countries and in the poorer population groups in richer countries.

¹⁹ Diet, nutrition and the prevention of chronic diseases. Report of a Joint FAO/WHO Expert Consultation. 2003, op.cit.

²⁰ As stated in the Rome Declaration on World Food Security, World Food Summit, November 1996, Rome, Italy, http://www.fao.org/wfs/index_en.htm

- Measures should be taken to promote the participation of low-income and/or indigenous communities in the development, implementation and evaluation of fruit and vegetable promotion programmes that are socially and culturally appropriate to their needs and perspectives.
- To ensure both accountability and the ability to share best practices, surveillance, monitoring and evaluation are essential components of fruit and vegetable programmes.

3.3 DEFINITIONS OF “FRUIT” AND “VEGETABLE”

The definitions of “fruit” and “vegetable” vary from country to country. While fruit definitions are more homogeneous, vegetable definitions vary considerably and raise particular issues in terms of the inclusion/exclusion of starchy roots and tubers and legumes. Although standardized methodologies, including definitions, are required for cross-country comparisons of fruit and vegetable intake, further discussions are required to determine how best to achieve this comparability.

4. OUTPUT OF THE MEETING

4.1 WORKING GROUP 1: THE FRUIT AND VEGETABLE PROMOTION INITIATIVE

Working Group 1 prepared the following range of considerations to take forward the work on fruit and vegetable promotion, looking at useful strategies and activities at national and international levels.²¹ Detailed guidance was given on the most important aspects of planning and implementation with consideration of potential partners outlined.

The Working Group considered that fruit and vegetable promotion initiatives at both national and international levels should be based upon two complementary and interrelated strategies:

- Policies, programmes and campaigns to promote increased supply of, access to and consumption of fruit and vegetables. Examples include school or workplace fruit and vegetable programmes, social marketing campaigns, community horticulture projects, and mobilization of health and horticulture professionals through education and training.
- A prioritized research agenda and information dissemination plan to increase knowledge related to fruit and vegetable consumption, including its relationship to health and disease, supply and demand factors influencing consumption, and best practices for promotion programmes.

Coordination of international level activities

The Working Group suggested that the fruit and vegetable promotion initiative should be collaborative, with responsibility formally shared between WHO and FAO. The following structures should be put in place to coordinate international activities:

²¹ The membership of Working Group 1 is indicated in the list of participants in Annex I.



- **A project committee.** Proposed members include WHO, FAO, and representatives from existing fruit and vegetable promotion programmes.
- **A steering committee.** Proposed members in addition to WHO and FAO may include:
 - IARC, World Cancer Research Fund, World Heart Foundation, International Obesity Task Force and the National Cancer Institute (USA);
 - Representatives from existing fruit and vegetable promotion programmes; and
 - Representatives from countries interested in initiating a fruit and vegetable promotion programme.

The role of the steering committee should be to advise the project committee. The terms of reference for the steering committee should be developed by the project committee.

Working groups should advise the project committee on the following topics:

- The evidence base, including definitions;
- Best practices, including a summer school and an exchange programme whereby countries interested in initiating a programme can learn from the experiences of existing programmes;
- Supply: production, distribution and access at all levels;
- Demand: campaigns, advocacy and social marketing, and increasing consumption; and
- Fund-raising (in line with WHO/FAO guidelines).

The roles of WHO and FAO

WHO could:

1. Foster the fruit and vegetable promotion initiative as part of the implementation of the proposed global strategy on diet, physical activity and health; and
2. Strengthen existing surveillance systems to monitor and evaluate NCD risk factors, including fruit and vegetable intake.

FAO could:

3. Promote fruit and vegetable consumption as a component in programmes for poverty alleviation, food-security initiatives and the promotion of small-scale production; and
4. Maintain and develop databases and information management systems on fruit and vegetable production, consumption, distribution and trade.

Both agencies will collaborate to:

5. Bridge scientific and knowledge gaps related to fruit and vegetable production, distribution, consumption and to their role in the prevention of NCD.
6. Facilitate United Nations interagency collaboration for planning and implementing the initiative.
7. Assist Member States in incorporating the promotion of fruit and vegetables into their existing policies, strategies and programmes (health, agriculture, education, nutrition, etc.) for the promotion of health and, more specifically, for the prevention of NCD.
8. Encourage the active involvement of both the private and civil society sectors in planning and implementing the initiative.

9. In collaboration with existing fruit and vegetable promotion programmes, develop a toolkit on the steps and processes necessary to design, implement, monitor and evaluate fruit and vegetable promotion programmes. The toolkit should be flexible and allow for local adaptation where appropriate.
10. Provide technical assistance and disseminate information to address the need for capacity-building at all levels (global, regional, national). Capacity-building should help to implement the steps and processes described in the toolkit, including public policy change, advocacy, effective campaigns, public-private partnerships, social marketing, environmental and social change, training, monitoring and evaluation and increasing the availability of and access to fruit and vegetables (production and trade).
11. Promote the fruit and vegetable promotion initiative through communications activities such as campaigns with specific themes (e.g. workplace fruit month, school vegetable gardens, special theme campaigns, or annual fruit and vegetable promotion day).

Activities at national level: fruit and vegetable promotion programmes

National fruit and vegetable promotion programmes should be incorporated into existing national food and nutrition policies and should be based on and promote national food-based dietary guidelines (in countries where these already exist). Programmes must consider both the supply and demand side together from the outset, and take into account the context of national food security and the need to reduce health disparities/ inequalities.

Preparatory stage

Key activities should include:

- Conducting a rapid needs assessment, including the collection of baseline data related to fruit and vegetable consumption (production, supply and accessibility) and health status;
- Building coalitions and partnerships;
 - Identifying key stakeholders and operating organizations, including civil society organizations from the health and agricultural sectors;
 - Identifying key leadership and supportive “champions”, including public health authorities, health professional associations, and health and consumer NGOs;
 - Building shared ownership (e.g. establishing a multisectoral project steering committee, ensuring that the programme is relevant for all partners and utilizing differences);
- Building a national consensus on the scientific evidence base and culturally appropriate key messages (e.g. the recommended daily intake, definitions of fruit and vegetables, portion sizes);
- Advocacy
 - Obtaining political support for the programme at both national and local levels e.g. through a Memorandum of Understanding;
 - Utilizing governmental reports on priority health issues e.g. childhood obesity, to make the case and gain support;
 - Creating a critical mass of supporters among stakeholders from the governmental and private sectors;
 - Involving the target community in the preparatory process from an early stage (e.g. through community leaders, local organizations, “town hall” meetings);

- Evaluating the successes and challenges of existing programmes to identify relevant regional and local examples;
- Conducting professional education activities to raise awareness and build support (e.g. articles in newsletters of organizations of health or education professionals), including work with Ministry of Education to include the issue of fruit and vegetables to promote health into learning curricula at all levels;
- Developing and initiating a fundraising strategy.

Planning stage: “Translating science into action”

Key activities should include:

- Working with key stakeholders to design effective interventions:
 - Defining a geographic area for intervention, potentially including pilot site(s);
 - Translating the agreed scientific message into messages for the programme partners and target groups;
 - Identifying realistic target group(s) and targets, utilizing the existing infrastructure (e.g. information networks and distribution channels) ;
 - Identifying the implementing organizations, including a core/lead organization;
 - Establishing a multisectoral steering committee that includes community participation;
 - Considering “institutional readiness” (commitment and capacity) in the selection of the intervention;
 - Modelling interventions on successful, effective programmes/projects;
 - Designing a monitoring and evaluation component, including indicators for process and impact evaluation;
 - Developing a programme name and logo;
- Conducting fundraising activities, including promoting the re-allocation of existing resources to support the programme to acquire resources necessary for intervention: staff, supplies, etc;
- Consolidating and publishing successes and coalition work to build support (e.g. through newsletters, websites);
- Continuing to build consensus for necessary and culturally sensitive action, e.g. through continued support from research institutions, local and national government and the analysis of cultural barriers and opportunities;
- Aiming for some quick successes to keep motivation high, but ensuring delivery of any promises that were made.

Implementation stage

Implementation activities will vary considerably depending on the nature of the programme, however key activities should include:

- Initiating national, regional and/or local levels of intervention;
- Focusing on sustainable environmental changes that can lead to long-term improved access to fruit and vegetables e.g. at school, at the workplace or in hospitals;
- Raising awareness of the programme e.g. initiating promotional campaign, promoting media coverage, holding a public launch and continuing to build awareness and support among partners and stakeholders, publishing progress reports in newsletters, updating websites,

promoting continued media coverage (raised awareness does not necessarily result in increased fruit and vegetable intake – issues such as availability and access need to be taken into account as well);

- Training key personnel (e.g. teachers, canteen workers, general practitioners, public health nurses) to support programme activities;
- Developing, producing and distributing public and professional educational materials (e.g. posters, fact-sheets, websites, cookbooks);
- Undertaking project-management activities including staffing, budgeting, monitoring and reporting;
- Conducting process and impact monitoring and evaluation, including troubleshooting (anticipating and addressing conflicts of interest/challenges).

Building sustainability

Activities to ensure the sustainability of the programme should be ongoing through programme development and implementation. Key activities should include:

- Using the results of evaluation to adjust and expand the programme, publishing good results and giving credit to all involved to keep partners motivated;
- Institutionalizing programmes and transferring ownership to the implementers i.e. letting the programme become an “everyday task” for caterers, health and/or consumer NGOs etc. This should include capacity-building, technical support and advocacy to ensure institutional commitment at all levels;
- Maintaining community participation (e.g. enlisting community members/organizations in all aspects of programme planning and implementation, building programme elements into existing community resources);
- Encouraging the incorporation of programme elements into relevant intersectoral policies (particularly health and agriculture) by promoting programme successes to policy-makers at both local and national levels;
- Continuing with fund-raising and developing a long-term strategy to ensure sufficient resources are available to sustain the programme;
- Updating the scientific base and consensus.

Partnerships

Partnerships are crucial to the success of fruit and vegetable promotion programmes at all levels: subnational, national, regional and international. Partnerships should include the public sector (including research institutions), the private sector and civil society, as each play a unique and critical role in such programmes. Although the health and agriculture sectors are paramount in the partnership, any such initiatives should also try to involve other sectors and disciplines. In designing national programmes, each Member State should consider which partnerships are most appropriate and feasible within its national context.

A list of potential partners is outlined below.

Health sector

- Government/Ministry - national and subnational;
- Health NGOs (e.g. cancer, heart and stroke, diabetes, and obesity associations);



- Health care providers (e.g. hospitals, primary health care centres, private health care clinics);
- Health research institutes;
- Professional societies and associations (e.g. society of nutritionists and dieticians, association of family physicians, public health association);
- Health insurance companies.

Agriculture sector

- Government/Ministry - national and subnational;
- Fruit and vegetable producers (commercial and small-scale), traders/importers, wholesalers, retailers, and processors;
- Farmer and related associations (e.g. farmers' wives association, country women's associations);
- Agricultural trade associations;
- Agriculture NGOs (e.g. NGOs promoting sustainable agriculture and/or small-scale gardening);
- Food cooperatives.

Education sector

- Government/Ministry – national and subnational;
- Schools – public and private, including pre-schools and kindergarden;
- School authorities (e.g. school boards);
- NGOs in the areas of education and/or consumer and health education;
- Professional associations (e.g. teacher's associations);
- Parent-teacher associations;
- Higher education institutions.

Food service sector

- Restaurants;
- Catering/cafeteria/canteen services;
- Vending machine suppliers.

Communications sector

- Government/Ministry;
- TV, radio, print media, Internet;
- Social marketing organizations.

Other sectors

- Environment;
- Commerce and trade;
- Consumer protection.

4.2 WORKING GROUP 2: THE RESEARCH AGENDA FOR THE FRUIT AND VEGETABLE PROMOTION INITIATIVE

Working Group 2 provided the suggestions and advice on which the following research agenda is based, in an attempt to look systematically at the many issues involved and to bridge gaps in knowledge where required. The suggested conceptual framework for a systems approach to considering fruit and vegetable promotion looks at the continuum from production to consumption with ensuing benefits to health and the prevention of disease, in particular noncommunicable diseases. The topics raised by Working Group 2 include those for review in the short term, as well as issues for longer-term investigation. A scientific meeting on fruit and vegetables is planned to take place in March 2004 in Kobe, Japan, at which evidence will be reviewed, current experience in the effectiveness of interventions assessed, and the research agenda outlined below will be prioritized with responsible parties agreed for the work involved (discussed in section 5. "The road map for the fruit and vegetable promotion initiative").

Standardizing scientific methods

- Definition of fruit and vegetables
A clarification of definitions should be jointly prepared by WHO and FAO with specific reference to:
 - standard definitions for fruit and vegetables in relation to health benefits;
 - classifications that relate to health aspects and those relating to agricultural production;
 - how to make these definitions regionally and/or nationally relevant.
- Data collection and monitoring methods for fruit and vegetable intake
A summary is needed of the methods, limitations and availability of tools and resources to assess fruit and vegetable consumption in both developed and developing countries (i.e. nationally or regionally validated tools that could provide comparable data at household, individual or other levels). The review should also identify future needs to standardize data collection and scientific approaches to compare existing data obtained by different methods in different countries.

Ongoing work in the area of NCD risk factor surveillance should integrate fruit and vegetable intake information and include methods to measure how changes in environment affect consumption (in order to monitor nutrition transition). It is important to link this work with the WHO STEPwise approach to surveillance of NCD risk factors.

- Portion size
The problems of standardizing measurement of portion sizes globally for comparative research purposes need to be reviewed. Serving sizes are internationally identified, which facilitates comparative research. However, serving sizes should be translated nationally into portion sizes for the consumer.

Links between fruit and vegetable consumption and health and disease

- Protective effects

A short critical summary is needed of the overall findings from existing scientific reviews of the evidence for the protective effects of fruit and vegetables for specific diseases including CVDs, cancers, diabetes and obesity. The review should specify where evidence is strong or weak, which countries or regions it applies to/ is based on and ideally estimate effect size. This paper should include evidence of the comparative health advantages of different combinations of fruit and vegetable intakes. It should review:

- The benefits of combinations of fruit and vegetables in different diet types (e.g. Japanese, Mediterranean);
- The scientific evidence on the importance of variety, different combinations, and the benefits of specific types of vegetables and fruit.

- Food processing and preparation

- A literature review is required to identify the existing technologies for processing fruit and vegetables so as to preserve their nutritional value;
- The benefits should be defined of fruit and vegetables in composite cooked foods (i.e. the national styles of cooked meals which include fruit or vegetables) in order to examine evidence that fruit and vegetables are still protective when cooked with other foods which may have (high) salt, sugar or fat content.

- Nutrition transition

A summary is needed of trends in fruit and vegetable consumption and the effects of this on health as part of the nutrition transition.

- Food safety

A review of food-safety aspects related to fruit and vegetables is proposed, focusing on pesticide residues, other chemical contaminants such as heavy metals and mycotoxins, and microbiological contaminants (bacteria, parasites and viruses). The following issues should be included in the review:

- The health implications of exposure to contaminants as a result of increasing consumption of fruit and vegetables (real risks);
- The impact of the presence of these contaminants on the choice of consumers to eat/not eat fruit and vegetables (perceived risks);
- The trade implications of the presence of contaminants in fruit and vegetables;
- The interventions which are effective in reducing levels of contaminants in fruit and vegetables.

The determinants of fruit and vegetable consumption

Working Group 2 suggested that papers on determinants of fruit and vegetable consumption should be reviewed in the short term to document the current state of knowledge and evidence. Several of the issues raised below are already being examined by WHO and others. Through the reviews already being prepared and the additional areas suggested below, knowledge and research gaps will be identified for long-term future research collaboration.

Supply side

- What affects the consumer price of fruit and vegetables in different world regions?
 - Collect evidence for how specific factors affect consumer price, such as the cost of production (seed, pesticides, labour), distribution, marketing, subsidies (from within a country or from elsewhere);
 - Consider the relative influence of the specific factors in different regions on consumer price and how these factors can be influenced to reduce consumer price.

- How can production meet the requirements of fruit and vegetable programmes?
 - Provide insight into the implications for regional and world production of the recommendations to increase fruit and vegetable intake, considering water supply, climate and land use among others;
 - Conduct an analysis of fruit and vegetable production and availability by region over time with an analysis of differences between countries;
 - Consider the issue of irrigation water consumption in future research e.g. the selection of fruit and vegetables to be grown in relation to the evidence of their micronutrient content per cubic metre of water.

- What affects availability and access?
 - Provide a review of the current state of evidence, to include:
 - > the constraints to access at various levels and how they affect fruit and vegetable consumption; how this affects inequalities/disparities in access to fruit and vegetables;
 - > the evidence of increasing availability and access leading to increased fruit and vegetable consumption.

- Distribution
 - Review the incentives and constraints to small fruit and vegetable producers and how these differ in supplying supermarkets or local markets.

- What effect do agriculture and trade policies have?
 - Provide a summary illustrating which international agricultural and trade policies are relevant to fruit and vegetable production, distribution and consumption, including the effects of these policies on fruit and vegetable production, distribution and consumption;
 - Review the effect of agricultural policies on supply and consumption, both in the same country and in other countries. Include the effects of agricultural subsidies and trade policies such as the European Union Common Agricultural Policy and World Trade Organization policies. Consider specific evidence for how fruit and vegetable trade policy in developed regions impacts developing countries.

Demand side

Literature reviews are needed on the physiological determinants, cultural, social and psychological determinants as well as the broader environmental determinants of fruit and vegetable consumption.

More specifically, the following issues should be addressed:

- How do consumer prices of fruit and vegetables affect consumption?
- What evidence is there of which are the most effective (social) marketing techniques in promoting fruit and vegetables?
- Collect evidence of the effects on fruit and vegetable purchasing and consumption of limiting fast-food marketing (e.g. through restricted marketing to children, health claim regulations).
- Cultural determinants
 - Why are vegetables more culturally acceptable in certain countries and cultures? Provide evidence for benefits of traditional practices (local markets, home growing, dietary habits, cooking skills) and whether and how community-based interventions support increased consumption;
 - Examine taste preferences by collecting evidence of their importance in different regions and of whether an early formation of the habit of eating fruit and vegetables helps to establish long-term intake.

Literature review of the evaluation of existing fruit and vegetable promotion programmes

- A review should be prepared, including “grey” literature, collecting evidence from current evaluations of interventions and programmes which promote fruit and vegetable production and/or consumption, and recommending a set of standard parameters for future evaluations. The literature review should consider the evidence for the health advantages and disadvantages of each type of intervention. It should also discuss the implications for regions where data are lacking, e.g. developing countries, and suggest ways of filling this information gap e.g. by conducting small fruit and vegetable promotion intervention studies in selected countries.
- Review topics should be classified according to the objectives of intervention programmes, which will include interventions aiming at:
 - Increasing fruit and vegetable production and availability;
 - Increasing fruit and vegetable intake;
 - Reducing rates of NCD and risk factors (such as blood pressure);
 - Increasing income;
 - Process issues of running interventions.
- Various forms of intervention programmes and projects in different settings should be included in the review:
 - Large-scale fruit and vegetable promotion, e.g. “5 A Day”-type campaigns in various countries;
 - Nutrition education and information approaches;
 - Small-scale scientific intervention studies, e.g. randomized controlled trials for primary and secondary prevention of chronic conditions;
 - Food-based approaches for micronutrient deficiencies;
 - Production interventions including:
 - > Mechanisms for promoting and facilitating production such as national subsidies, differential taxation (of both inputs to fruit and vegetable production and sale of fruit and vegetables) and;
 - > Local interventions such as urban and periurban agriculture initiatives, home garden programmes and school garden programmes.

5. THE ROAD MAP FOR THE FRUIT AND VEGETABLE PROMOTION INITIATIVE

The proposed global fruit and vegetable initiative has two pillars:

- To promote production and consumption of fruit and vegetables so as to promote and improve health and to help prevent noncommunicable diseases;
- To advance science in the areas of fruit and vegetable production, distribution, increased consumption, and benefits for health.

The following activities are planned:

1. The fruit and vegetable promotion initiative will be announced in November 2003 at the Third Meeting of the WHO Regional Networks on NCD Prevention in Rio de Janeiro.
2. A scientific meeting on the production and consumption of fruit and vegetables and the implications for health and disease will be held at the WHO Kobe Centre in Japan in March 2004. This meeting will be organized in collaboration with FAO. Objectives for this meeting include:
 - To review the existing evidence on the role of fruit and vegetables for health in different regions of the world;
 - To review the effectiveness of existing interventions to promote fruit and vegetables, considering the range of issues determining fruit and vegetable consumption from both the supply and demand sides;
 - To prioritize the research agenda presented in this report and to reach a consensus on the organizations and partners responsible for moving the research agenda forward.
3. A toolkit will be prepared to provide hands-on information on the steps and processes necessary to design, implement, monitor and evaluate a national campaign to promote the production and consumption of fruit and vegetables in various settings and for different target groups.
4. Pilot projects for the promotion of fruit and vegetable consumption in developing countries will be launched in Spring 2004. Mexico and Thailand are currently being considered as pilot countries. Mexico has recently started a new fruit and vegetable promotion campaign targeting women and children. Thailand is focusing on the promotion of fruit and vegetables among young schoolchildren.
5. FAO and WHO will jointly develop and promote the proposed "Good Morning Horticulture" website. This website will facilitate access to information and provide online training on horticulture, its benefits for food, income and health. The idea is to bring animated presentations which farmers and their families as well as consumers can view and listen to each day in their homes at whatever time is convenient to them. It will be set up as a log-on website for registered customers. The ultimate goal of "Good Morning Horticulture" is to make people grow and eat more vegetables and fruit.
6. The Fourth "5 A Day" International Symposium will be held in August 2004 in Christchurch, New Zealand, cosponsored by WHO.
7. The Fifth "5 A Day" International Symposium will be held in September 2005 in Durban, South Africa as a satellite meeting of the International Union of Nutrition Science 18th International Congress of Nutrition "Nutrition Safari for Innovative Solutions".

ANNEX 1

LIST OF PARTICIPANTS

Dr Wael Al-Delaimy, Scientist, International Agency for Research Cancer, Lyon, France (Group 2)

Mr Wilfried Baudoin, Senior Officer, Horticultural Crops Group, Food and Agricultural Organization of the United Nations, Rome, Italy (Group 2)

Mr Laurent Damiens, Interfel, Paris, France (Group 1)

Dr Lorelei DiSogra, Director, National 5 A Day for Better Health Programme
National Cancer Institute, Bethesda, United States of America (Group 1)

Ms Paula Dudley, General Manager, 5+ A Day/United Fresh, Auckland, New Zealand (Group 1)

Dr Somchai Durongdej, Head, Department of Nutrition, Faculty of Public Health, Mahidol University, Bangkok, Thailand (Group 1)

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Department of Nutrition and Centre for Epidemiological Studies in Nutrition, Sao Paulo, Brazil (Group 2)

Dr Marie Ruel, Senior Research Fellow, International Food Policy Research Institute,
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Mr Morten Strunge Meyer, Project Manager, Danish Cancer Society, Copenhagen, Denmark (Chair,
group 1)

Dr Frances Taccone, Director of Development, Produce for Better Health Foundation, Wilmington,
United States of America (Rapporteur) (Group 1)

Professor HH (Este) Vorster, Director of Focus Area 9.1, Health Research Faculty Health Sciences,
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Dr Kunal Bagchi, Medical Officer, Regional Advisor in Nutrition, WHO Regional Office for the Eastern Mediterranean, Cairo, Egypt (Group 2)

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Dr Lucimar Coser Cannon, Medical Officer, Regional Advisor for Prevention of Noncommunicable Diseases, WHO Regional Office for the Americas/ Pan American Health Organization, Washington, United States of America (Group 1)

Dr Rukhsana Haider, Medical Officer, Regional Advisor in Nutrition, WHO Regional Office for South-East Asia, New Delhi, India (Rapporteur, Group 1)

Dr Enrique Jacoby, Medical Officer, Regional Adviser Diet and Physical Activity, WHO Regional Office for the Americas/ Pan American Health Organization, Washington, United States of America (Group 2)

Dr Aristide Sagbohan, Medical Officer, Regional Adviser in Nutrition a.i., WHO Regional Office for Africa, Brazzaville, Congo (Group 1)

WHO HEADQUARTERS

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Ms Ingrid Keller, Technical Officer, Global Strategy on Diet, Physical Activity and Health, Department of NCD Prevention and Health Promotion, WHO, Geneva, Switzerland (Group 2)

Dr Pekka Puska, Director, Department of NCD Prevention and Health Promotion, WHO, Geneva, Switzerland

Dr Ruitai Shao, Medical Officer, Department of NCD Prevention and Health Promotion, WHO, Geneva, Switzerland

Ms Amalia Waxman, Project Manager, Global Strategy on Diet, Physical Activity and Health, Department of NCD Prevention and Health Promotion, WHO, Geneva, Switzerland (Group 1)

Dr Derek Yach, Representative of the Director-General, WHO Geneva, Switzerland

ANNEX 2

MEETING AGENDA

DAY 1			
9:00 – 9:10	Welcome and introduction of participants		
9:10 – 9:30	Introduction to the topic and to the goals of this meeting Dr P Puska, Director, NPH		
9:30 – 9:45	Preliminary results of the WHO fruit and vegetable review Ms I Keller, Technical Officer, NPH		
9:45 – 10:00	FAO's endeavour to meet future needs for horticulture produce Dr Wilfried Baudoin, Senior Officer, Horticultural Crops Group, FAO		
10:00 – 10:15	Qs and As		
10:15 – 10:45	Coffee and fruit		
10:45 – 11:00	Fruit and vegetable consumption and cancer prevention Dr W Al-Delaimy, IARC		
11:00 – 11:15	WHO surveillance activities to measure fruit and vegetable intake Dr R Bonita, Director, CCS		
11:15 – 12:00	General discussion		
12:00 – 13:30	Lunch break		
13:30 – 17:00	Working groups (coffee served to working groups separately)		
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17:00	Plenary		

DAY 2					
9:00 – 9:20	5 A Day in the USA Dr F Taccone (Produce for Better Health Foundation) and Dr L DiSogra (National Cancer Institute)				
9:20 – 9:40	5 A Day in Europe Mr M Strunge Meyer (Danish Cancer Foundation)				
9:40 - 10:00	Qs and As				
10:00 – 10:20	Setting up a programme to promote fruit and vegetables in a developing country – ideas Professor C Monteiro (University of Sao Paulo)				
10:20 – 10:35	Health promotion through promotion of fruit and vegetables in the Republic of Korea Dr Cho-il Kim (Korea Health Industry Development Institute)				
10:35 - 10:45	Qs and As				
10:45 – 11:00	Coffee and fruit				
11:00 – 12:30	Working groups				
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12:30 – 13:30	Lunch break				
13:30 – 16:30	Working groups (coffee served to working groups separately)				
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16.30 – 17.30	Plenary – working groups to present their results				

DAY 3	
9:00 – 9:15	The WHO fruit and vegetable initiative: objectives and ideas Ms A Waxman, Project Manager, NPH
9:15 – 9:30	Qs and As
9:30 – 12:30	Working groups (coffee served to working groups separately)
GROUP 1	GROUP 2
<p>Taking lessons learnt from other fruit and vegetable campaigns into account, make recommendations to WHO on how to move the initiative forward with regard to:</p>	
<ul style="list-style-type: none"> • overall scope, short- and long-term goals • key messages to be disseminated • ways to involve the private sector at global and national level • ways to promote the initiative and the information and advocacy tools needed. 	<ul style="list-style-type: none"> • overall scope, short- and long-term goals • key messages to be disseminated • ways to involve the agricultural sector • accompanying research (monitoring and evaluation) for the WHO initiative and for national / local initiatives.
12:30 – 13:30	Lunch break
13:30 – 15:00	<p>Final plenary, agree on products and steps forward</p> <p>Products anticipated:</p> <ul style="list-style-type: none"> • reviews to be commissioned for the Kobe meeting, the names of experts for those reviews, the draft content / structure of Kobe meeting • framework for toolkit for countries which would like to start a fruit and vegetable promotion campaign, recommendations to WHO on the proposed global fruit and vegetable initiative.
15:00	Coffee and tea



ACKNOWLEDGEMENTS

WHO gratefully acknowledges the financial contributions from the Swedish International Development Agency and the Winterthur Swiss Insurance Company in support of this meeting.









Fruits and vegetables are important components of a healthy diet, and daily consumption of sufficient fruits and vegetables could help prevent major diseases such as cardiovascular diseases and certain cancers. According to *World Health Report 2002*, low fruit and vegetable intake is estimated to cause about 31% of ischaemic heart disease and 11% of strokes worldwide. All in all up to 2.7 million lives could potentially be saved each year if fruit and vegetable consumption were sufficiently increased. A recently published WHO/FAO expert consultation report on diet nutrition and the prevention of chronic diseases recommends the intake of a minimum of 400 g of fruits and vegetables per day (excluding potatoes and other starchy tubers) for the prevention of chronic diseases such as heart diseases, cancer, diabetes and obesity.

