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PII: S0308-8146(96)00154-9

Food Chemistry, Vol. 57, No. 1, pp. 171–173, 1996

0308-8146/96 $15.00+0.00

The FAO/UNU food composition initiative

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The need for food composition data was critical from the very beginning of the UN's establishment of FAO. FAO's early development of the World Food Surveys relied on food composition data. Then, as now, support for agricultural planning and production relied on knowledge about the content of foods in terms of nutrients to maintain health. Information about food components has always been important for quality control of processed and manufactured foods. Similarly, data on food composition are crucial when providing assistance to government departments that need to assess the nutrition status of populations and groups with special physiological needs. Copyright © 1996 Elsevier Science Ltd

The UN's publication and dissemination of tables of food composition began in 1949 when FAO issued its first table, *Food Composition Tables for International Use*. These early descriptions of the composition of foods met important needs at the time. With progress in the science of nutrient requirements, as well as a greater understanding of the reasons for variability in food contents, the need for more detailed data was evident. The organization went on to prepare regional food composition tables for Asia, Africa, Latin American and the Near East. FAO reduced its work in this area in the late 1970s upon completion of the series of tables for the developing world, but these publications continue to be widely used.

Other UN activities related to food composition have involved the establishment of INFOODS, the International Network of Food Data Systems. This network was created under the auspices of the United Nations University (UNU) in 1984. Since that time, it has worked to establish regional centres and provide technical support for food composition data generation and dissemination.

Now, in the 1990s, the importance of renewing efforts to promote food composition activities and programmes has been highlighted by expanded uses for information on food composition as well as the need for more and better data for formulating policy and addressing health concerns. There is now a global trend of increasing opportunities for food composition work coupled with a broader application of such data. Uses of the data go beyond the traditional and still critical applications that include evaluating the adequacy of diets and investigating diet-health relationships. They encompass areas such as world trade, food labelling, food product development and consumer information.

Renewed and collaborative efforts are clearly needed. Building on the global INFOODS network activities to generate, compile and disseminate good quality data sufficient for meeting a variety of user needs, FAO and UNU are working closely to promote food composition work.

To initiate the FAO/UNU collaboration, a meeting on food composition was held in Tunisia in March 1994 and was based on the recognition that international co-operation could facilitate better access to reliable, representative data and ensure data compatibility. Many issues were discussed at this meeting which was attended by participants from government, academia, industry and non-government organizations. The group expressed a strong consensus for a network of institutions collaborating on food composition activities, particularly the INFOODS blueprint for co-operation at national, regional and international levels, and advocated the continued regional orientation of joint work among collaborating institutions. FAO will promote inter- and intra-regional co-operation with the realization that such co-operation must be based on strong national capacities if it is to be effective. FAO will, thus, foster local control of food composition activities and encourage direct working relationships among regional institutions. INFOODS, based on goals related to data compilation and dissemination, has focused on developing regional centres and providing technical support.

OVERVIEW

The long-standing importance of food composition information in formulating policies and programmes to improve nutrition was recently emphasized by the

International Conference on Nutrition (ICN), jointly sponsored by FAO and WHO and held in Rome in December 1992. Food composition data were highlighted as essential to worldwide nutrition and health activities.

Moreover, newer emerging uses of food composition data have stimulated increased interest in the area. The newer uses include trade applications, international regulatory guidelines and marketing. There is unprecedented opportunity for wider support for food composition work ranging from the food industry to consumer groups. Consumers in all countries want more detailed information about the nutritional value of foods, and these interests have led to sweeping legislation to require nutritional information on foods. Food manufacturers have responded to this interest by seeking new formulations of foods consistent with current health recommendations, which in turn requires information on food and ingredient composition. At the same time, the global nature of food processing and the anticipated expansion of world food trade as a result of new trade agreements increase the likelihood of greater food trade and more exchange of foods and ingredients across international borders. Thus, the need for food composition data for labelling, regulatory and other purposes is clear and will undoubtedly require international bodies to assist in the development of programmes and guidelines for such activities.

Because it is recognized that food composition work can be a heavy financial burden, especially in developing countries or countries in transition where budget constraints are particularly acute, FAO supports regional collaboration as an effort to reduce costs as the need for food composition data expands. At the same time, the organization believes that such co-operation is best accomplished when effective national capacities are set in place. Therefore, instead of maintaining a central food composition database, FAO will promote national programmes in a variety of ways.

First, from the operational point of view, a broad approach to the potential uses and users of food composition information is needed as national programmes are established and strengthened. An endpoint that focuses only on highly sophisticated data management systems may not meet the requirements of many users in developing countries where such data systems are difficult to operate over time. Therefore, a mix of information collection, processing and dissemination systems will be necessary over the next several years.

Furthermore, while accurate data are needed to show associations between food and nutritional status and to design interventions, meet regulatory standards, properly label food and assist in product formulation, it is critical to balance the generation of new food composition data with value for cost because resources are very limited. The specific use of any new data, together with the costs to achieve the required data quality, should be examined. More detailed content description of a food does not always mean more accurate work, in which case cost may not be balanced by benefit. Only food composition information that is strictly needed to undertake the required activities should be sought, so that scarce resources can be well used. Improvements in the precision and validity of analytical methods over the last 20 years have been dramatic, often leading to questions about the accuracy and validity of previous analytical results. Given the broader application of food composition data as well as the continued public health concerns, re-analyses of foods using new procedures and methods to obtain more precise analytical values can be justified.

As national food composition programmes are initiated and strengthened, linkages to existing and complimentary systems should be encouraged. Specifically, there are clear resource benefits to link such programmes as much as possible to on-going food control system activities, including laboratory facilities. This is especially true where materials and human resources are limited. In many instances the generation of food composition data is considered to be a research function limited to universities and research institutions. However, in many developing countries such institutions are often poorly equipped and funded, while food control systems are relatively well established and often have wide technical expertise available. FAO has provided significant levels of assistance to food control programmes over the years. Since 1986 it has distributed over US$ 7 million for improving facilities and analytical capacities in more than 20 countries. The organization has also produced a range of manuals and guidelines that cover most aspects of food control and related laboratory analysis of foods. Much of this capacity can be utilized for food composition work and represents an important resource in strengthening food composition programmes.

At the international level, increased co-ordination and standardization is necessary to harmonize the different systems dealing with food composition data in order to improve sharing of data. Compatibility of databases is essential to reduce the expenditures associated with generating and maintaining composition data on a global basis and to assist the developing countries in lessening the costs of producing reliable food composition data. FAO/UNU collaborative work can provide the framework for ways to co-ordinate activities in future programmes.

FAO ACTIVITIES

The strategy envisioned by FAO is a regional model for action, a model that allows local control of food composition activities and promotes direct working relationships. It is based on communication and quality control and has the goal to generate, disseminate and promote the use of high-quality food composition information by a wide range of practitioners, researchers and policy-makers. Overall, the model should: (1) promote the generation and distribution of data; (2)

provide for the establishment and revision of standards and criteria; and (3) support a structure of committees of government and institutional representatives that will oversee procedures and priorities. FAO intends to promote and expand activities at national, regional and international centres in order to increase analytical capacity, including linkages with food control programmes. It also plans to assist in formulating technical standards, to promote dissemination and appropriate use of data, and to promote training to strengthen and sustain institutions and individuals.

FAO, in revitalizing its work in food composition, will fulfil a co-ordinating role. The organization is well positioned to function in this capacity for several reasons. FAO has the United Nations mandate for activities that span all sectors related to food at the international level and include food trade, food quality and the Codex Alimentarius guidelines. FAO also has a broad international mandate for food-related issues that require food composition data and has published widely used data tables for use in developing countries. Just as importantly, FAO has an established system of communication with national governments and regional agencies, and is well versed in shaping actions on interdisciplinary problems which require an open forum to find solutions.

Currently, FAO-supported regional meetings are being held to identify needs relative to strengthening national data generation programmes and to encourage regional collaboration and linkage with food control activities. Obstacles to work and collaboration are also being identified. Several of these meetings will be held jointly with UNU in order to simultaneously promote the INFOODS network. Workshops have recently been held in Anglophone Africa, Eastern Europe, Francophone West Africa, South America, China and the Arab region.

FAO is also producing a guidelines manual to be used in establishing food composition programmes in developing countries. The manual is a guide to initiating and sustaining both analytical activities and management. Therefore, the target audience is staff as well as policymakers and administrators in developing countries where systems for generating and using data need strengthening and where resources are often very limited. The intent is to provide information on planning, organizing, implementing and sustaining activities by identifying issues and required decisions on data and information needs, resources, workplans and project management. Appropriate protocols in sufficient detail to guide the analyst to produce accurate and reliable data will be included. Linkage of local objectives for food composition to appropriate strategies and methods will be stressed.

Longer term plans for FAO involve providing assistance in formulating and applying guidelines on terminology, sampling, analytical methodology and data quality to ensure accurate data and to make data more compatible across regions. The organization also intends to promote training opportunities as well as cost-effective generation, dissemination and appropriate use of data.

UNU/INFOODS ACTIVITIES

INFOODS works under the auspices of the UNU. The UNU provides and manages a framework for bringing together the world's leading scholars to tackle the 'pressing global problems of human survival, development and welfare'. It does not have the structure of a conventional university, but instead carries out its work through a network of research and training centres and programmes. UNU has given special status to the essential area of food composition with the creation of INFOODS.

The goal of INFOODS is to stimulate and co-ordinate efforts to improve the quality and availability status of food composition data around the world and to ensure that anyone around the globe would be able to obtain adequate and reliable food composition data. INFOODS has provided leadership and an administrative framework for the development of standards and guidelines for the collection, compilation and reporting of food composition data. It is establishing and co-ordinating a global network of regional data centres directed toward the generation, storage and dissemination of accurate and complete data on food composition. It is also the generator and repository of special international databases and serves as a general and specific resource for persons and organizations interested in food composition data on a worldwide basis. The necessary software for the electronic storage and interchange of data has been developed.

The ultimate objective of INFOODS is to have every developing country in the world associated with a regional database that can supply them with the best available food composition data and assist them to develop national databases adapted to various specific uses. The goal is universal coverage of developing countries in close co-operation with the databases in the industrialized countries of Europe, North America and other regions.

Other on-going activities include a UNU/FAO-sponsored International Union of Nutritional Sciences (IUNS) working group charged with developing quality codes to be applied to all food composition database entries. Another UNU-sponsored IUNS group is examining food identifiers.

In conclusion, the collaborative efforts underway between FAO and the UNU are intended to encourage and stimulate more extensive sharing of data and additional analyses of foods in different parts of the world. This collaborative work is based on the recognition of diminishing resources for food composition programmes in the face of the ever-increasing importance of food composition data for formulating policies and understanding the role of nutrition in health and disease as well as the their expanded role in world trade and in meeting consumer demands for information.