Auto-evaluation of PE 221A1
Human Nutrition Requirements

Nutrition Planning, Assessment & Evaluation Service (ESNA)
Food and Nutrition Division
FAO

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1. EXECUTIVE SUMMARY
Since 1949, FAO has convened groups of experts to evaluate the current body of scientific knowledge in order to define the energy and protein, and other nutrient requirements of humans and to in turn propose nutrient requirement recommendations for populations worldwide. The World Health Organization joined this initiative in the early 1950’s with the United Nations University following in 1981. The first director of the Food and Nutrition Division (ESN), Dr. Wallace R. Aykroyd, in the foreword of the report of the first meeting of experts on nutrition requirements observed that “even tentative recommendations would be of immediate practical value to FAO but also to its member countries.” He continued, expressing that these resulting recommendations would be of value to “nutrition workers and others concerned with the problems of food requirements.” These insightful words form an important rationale for ESN’s program of work under Program Entity (PE) 221A1 and are echoed in the results of this auto-evaluation.

The prevailing themes throughout this auto-evaluation exercise have highlighted issues such as objectivity, transparency, the need for harmonization and neutrality of the processes and outcomes of the expert consultations, all which are essential to the normative function of this programme entity in ESN. These issues have received the greatest attention throughout the many discussions and interviews conducted, the feedback generated from questionnaires sent to stakeholders, and are further supported by the review of over 25 archive files.

The overwhelming impression, based upon the respondents’ feedback, confirmed that all the work on human nutrition requirements and its related reports are of crucial and strategic value in their work. There were a number of requests by respondents for 1) a more complete scientific description of how the requirement values have been derived; this could be done primarily through the publication of the background papers and related documents; 2) additional simplistic or user-friendly publications in the practical application of the recommended nutrition requirements; 3) computer programs or software to enhance practical application of the materials; 4) and the possibility of courses of instruction based regionally to aid in removing many of the over-extrapolation of data boundaries. In the opinion of the External Consultant, this is no doubt, a reasonable request and hopes that such training programmes will be introduced taking into consideration financial and staffing implications that need to be considered.

There are many improvements that can be made to the structure of the expert consultations and its related processes in order to ensure credibility, objectivity, neutrality, independence, transparency, and validity of the reports resulting from the future expert consultations. Included in this are mechanisms that will hold the process and those involved, accountable. In an effort to bolster such improvements, a formal manual of instruction and procedures for guiding and executing the expert consultation process, something which to date has not existed, should be the developed.

Another key point raised throughout this auto-evaluation is one of growing concern regarding the increasing influence of industry and the private sector on the development of food and nutrition policy, which threatens the primacy of good nutrition and health of populations. The clear and accurate identification and the clarification of the role of private sector partners/participants in the future are vital to maintaining the integrity of the work and mandate of this program of work and budget. The need for additional extra budgetary funding to meet the demands of this program of work should not be the impetus for forging new relationships; otherwise there is a risk that this support may potentially influence the judgment and the outcomes as a result of such relationships.
ESN must ensure that private interests have no decision making influence in the Organizations governance or in this case the planning, organization, convening, and the resulting reporting of expert consultations and in the provision of scientific advise to members. The neutrality and integrity of ESN and hence of the Organization is dependent upon this point alone. The importance of this principle is clearly reflected, as highlighted in the FAO Basic Texts, Article VIII, section 2: “Their [FAO employees] responsibilities shall be exclusively international in character and they shall not seek or receive instructions in regard to the discharge thereof from any authority external to the Organization.”

With the increasing demand, both expected and demonstrated, for scientific advice from FAO and WHO in the future, ESNA feels that ESN and the Organization should make the implementation of the following formal recommendations a priority in meeting this need. All of the issues here mentioned will be addressed in the body of the report.

It cannot be overstated that this auto-evaluation has been an invaluable experience for ESNA. This type of exercise should be highly encouraged across the Organization in an effort to gain crucial feedback on other programs of work and budget and further insight as to how to bring about improvements constantly in the working of the Organization.

This document, submitted on behalf of ESNA and the External Consultant, is a step towards the adoption of a formal, functioning, transparent, neutral, and independent framework under which to conduct the provision of scientific advice related to food and nutrition in future expert consultations.
2. INTRODUCTION

This auto-evaluation process was initiated by ESNA in November 2003, in conjunction with PBEE, and in collaboration with Dr Roger G Whitehead, the external consultant and facilitator of this process. The Terms of Reference for the auto-evaluation was approved by PBEE in January 2004 (see Annex 8.1). The resulting report attempts to reflect accurately the views of both ESNA and the facilitator and where appropriate, specific additional comments from the external consultant only are provided.

A formal process of consultation followed by a workshop jointly with WHO as a follow-up to the recommendations of a Codex evaluation in 2002 resulted in a document titled, “The Food Safety Consultations, Provision of Scientific Advice to CODEX and Member Countries: Report of a Joint FAO/WHO Workshop.” The workshop was held at WHO Headquarters in Geneva, Switzerland from 27 to 29 January 2004. This publication and its resulting recommendations are a harbinger for change in the processes governing the provision of scientific advice and for the convening of expert consultations related to food and nutrition. It has provided guidance to the writing of this report.

The overall objective of the Programme Entity (PE) 221A1 is to update the estimates of human nutritional requirements (both macro and micro) for use by Member Nations for example in national policy formulation and by other stakeholders by promoting their use and understanding. While this evaluation focused primarily on the last 10 years of the Program Entity 221A1, it was broadened to encompass work completed in the 10 years prior to that, in part to give additional perspective on the overall entity. The following list of publications are the major outputs of the expert consultations during this time period and will be discussed in further detail in sections 4.1 and 5.1:

The following two publications have not been included in the scope of this auto-evaluation, but are recent additional outputs from this project entity:


**History of the Programme Entity 221A1**

The history of this programme entity (Human Nutrition Requirements) extends back to the earliest days of FAO, although it appeared under a number of administrative titles such as program activities, elements and entities. FAO recognized that knowledge of human energy and nutrient requirements is essential for the complete assessment of food supplies and nutritional needs, enabling governments to monitor nutrition programmes and plan development activities in general. In 1948, the FAO Standing Advisory considered that "the problem of assessing the calorie and nutrient requirements of human beings, with the greatest possible degree of accuracy, is of basic importance to FAO." Providing this crucial information has been an important part of the work of FAO since its founding five and a half decades ago.

The primary purpose of these early expert meetings or consultations on requirements was to advise the Directors-General on scientific issues related to energy and nutrient requirements so that appropriate recommendations for action could be formulated. For both FAO and WHO, the resulting nutrition requirement reports rank among their most popular publications (see Annex 8.2 for a complete list of the expert consultations and their resulting publications).

**Purpose of the Auto-evaluation**

Auto-evaluation (AE) differs from other assessment exercises in that it reviews programme achievements over a longer period of time, generally six years but can be longer, and examines a broader scope of activity including results against planned outcomes and programme objectives. The aims of a auto-evaluation include 1) the enhancement of a managers’ capacity to ensure the effectiveness, efficiency and relevance of a programme by facilitating corrective action as necessary and using the assessment of programme achievements as a basis for future consideration; 2) the implementation of a systematic and transparent process, using a set of common criteria and procedures which can support programme planning and evaluation; and 3) the provision of a strong basis for independent evaluation by the Evaluation Service and external evaluators.

The goals of the current auto-evaluation process are hence 1) to analyze the strengths, weaknesses and opportunities that a given programme possesses leading to a set of recommendations on how to strengthen it and 2) to assess how much resources the programme should receive; 3) to provide lessons learned that are valid over and beyond the evaluated programme, thus helping in the planning and management of future projects or programmes; and 4) to emphasize accountability, as public institutions and projects funded with public money must review and report openly about their contribution to the public welfare and to public goods within their mandate.

This auto-evaluation is intended, as this programme entity draws to a close, to provide recommendations to ESN on its benefits as a project entity and what steps and changes may be necessary to consolidate progress and ensure the enhanced achievement of the objectives in a changing environment of scientific investigation.
3. RELEVANCE TO PRIORITIES AND NEEDS OF MEMBER NATIONS

The overall objective of Program Entity 221A1 is to update the estimates of human nutrition requirements for use by Member Nations in national policy formulation and for other stakeholders while facilitating their use and understanding.

In addition the global scientific community has embraced the advice on requirements, and these "FAO/WHO recommendations" are now utilized or referred to in virtually all countries. These recommendations have not only reflected the state of knowledge at a particular point in time but additionally they have influenced research agendas and the development of methodologies over the years. The various expert consultations have contributed a set of principles for determining nutritional requirements that have been adopted worldwide.

4. ASSESSMENT OF PROGRAMME ENTITY 221A1

While it was originally thought that this program entity was a P-entity, a continuous activity of work, it was in fact originally an A-entity or a fixed-term project. It has recently been changed to a P-entity. From the biennium 2004-05, this programme of work is included within the entity 221P1 titled, Nutrient Requirements and Dietary Assessment for Food Safety and Quality. Considering the significance of this program of work and budget in support of the FAO mandate, its importance cannot be overemphasized for its continued inclusion under a P-entity, thus recognizing the necessity for it to remain a continuing program.

4.1. Evaluation of activities

The following is a summary of the activities executed under the program entity and were derived from the interviews, meetings and archive research conducted during the course of the auto-evaluation. It is however, not a complete or full account of what ESNA has learned throughout this process. While the positive impact and high value of these related reports cannot be underplayed, it should be noted that in some instances valid concerns had been raised. It is our hope that through attention and action these situations can be rectified and constructive changes made to improve upon future expert consultations.

Within the summaries of each activity under this programme certain standard information can be provided such as the number of experts, number of secretariat members, etc. All this information is available in the consultation reports. However, mere details of the number of experts or the mention that the experts represented a good geographical representation do not reveal the true quality of the group that met and deliberated on a topic. Regarding the secretariat size and design, different criteria have been used from consultation to consultation. Sometimes any one staff member or consultant who has simply attended a few sessions of the consultation are included amongst those in the secretariat where as in actual fact the truly active secretariat members number no more than three to four persons.

The last expert consultation convened was a joint FAO/WHO/UNU meeting on Human Energy Requirements held in Rome from 17 to 24 October 2001 (see Annex 8.2 for a complete list of the expert consultations and meetings).

- **Energy and Protein Requirements**

  Background

  The Joint FAO/WHO/UNU Expert Consultation on Energy and Protein Requirements took place in Rome from 5 to 17 October 1981. At this time, more then 10 years had elapsed since the Joint FAO/WHO Ad Hoc Expert Committee on Energy and Protein Requirements met in 1971. This 1971 meeting was the first of its kind at which the requirements for energy and protein were considered together. Subsequently, the 1981 consultation was convened to give a much needed update of the research and technical information available since.
Context and Content
This report remains one of the best received publications perhaps because it is the longest standing, and has clearly stood the test of time. This consultation brought together a geographically balanced committee and was supported through the ESNA program of work and budget, conducted in a fully transparent manner. Several post-consultation activities resulted in a delay in the publication of the report, but aided in enhancing the important role this report has played worldwide over the last two decades.

Concerns
The results of this 1981 consultation were published by WHO over 3 years later, in 1985, as an expensive costed-publication in their Technical Report Series (No. 724). This may have been a limiting factor, to some extent, in making this publication widely disseminated. However it should be noted that both WHO and FAO distributed a significant number of free copies from their inventories. A second publication was produced post-consultation by FAO to assist in applying the practical application of these recommendations to member countries and other interested parties. This was also a priced publication but produced in collaboration with Oxford University Press (OUP) with FAO retaining the copyright but OUP having the publication rights. This publication and the accompanying software was the first example of a requirement-related publication being produced under such conditions.

- Requirements of Vitamin A, Iron, Folate and Vitamin B\textsubscript{12}

Background
The Joint FAO/WHO Expert Consultation on the Requirements of Vitamin A, Iron, Folate and Vitamin B\textsubscript{12} took place in Geneva from 13 to 22 March, 1985. With the wealth of knowledge that had accumulated in the interim two decades since the last review of these vitamins were held, FAO and WHO considered it appropriate to convene another consultation for this purpose. The theoretical model that was developed for limits and safety factors of vitamins and minerals did not seem to apply to iron. Hence, unique to this consultation was the fact that an agreement could not be reached on the requirement for iron. For this reason a second meeting was convened in Washington DC from 16 to 21 September 1985, during which the section of the report concerning iron was finalized. The resulting report was published in the FAO Food and Nutrition Series (No. 23) in 1988.

- Protein Quality Evaluation.

Background
The Joint FAO/WHO Expert Consultation on Protein Quality Evaluation was held in Bethesda (Maryland, USA) from December 4 to 8, 1989. The special feature of this consultation was that it had not been planned by FAO but instead was initiated by the United States Department of Agriculture (USDA). Its purpose was to review various options for laboratory analyses involving the methodologies of rating and expressing the quality of protein. This consultation was not directly involved in determining human energy requirements and therefore was not included in the broader review within this auto-evaluation. The resulting report was published in the FAO Food and Nutrition Paper series (No. 51) in 1991.

- Fats and Oils in Human Nutrition

Background
The Joint FAO/WHO Expert Consultation on Fats and Oils in Human Nutrition was convened in Rome from 19 to 26 October 1993 to consider the latest scientific evidence regarding dietary fats and oils. This consultation was only the second such meeting to be held on fats and oils, with the first being held in 1977. The participating experts discussed the many crucial and varied roles that dietary fats and oils play in human nutrition, including their associated health effects, and their many technical factors associated with its production, processing, marketing and utilization. The report included a discussion of the issues and evidence considered, the conclusions and recommendations of the group and a bibliography.
As is stated in the introductory chapter to this report, “The findings of these investigations have wide-ranging implications for consumers, health-care providers and nutrition educators, as well as food producers, processors and distributors”.

Context and Content
The consultation also brought together a geographically balanced committee of global experts, in addition to reviewers and contributors to the background papers and a secretariat consisting of UN staff. This report was published as a FAO Food and Nutrition Paper (No. 57) in January 1995 one year and 3 months after the consultation was convened. This was the first report of an expert consultation to be published under this series.

Concerns
This consultation marked the first instance of private sector involvement in an expert consultation, including providing financial support. ESN had made a definite decision to include industry representatives in the process since many aspects of the topics were influenced by industry and relate to it. Thus, two industry representatives were selected as experts yet both were evidently included for their strong scientific expertise. However, up to this time, there was no evidence of the inclusion of individuals from the private sector with probable conflicts of interest. It appears that the culture of inclusion of private sector experts as well as the soliciting of formal support from the private sector was a feature noted soon after the International Conference on Nutrition (ICN) in 1992 where the involvement of the food related private sector and FAO apparently began. As evidenced in the archive files (see section 5.3 for more details) that are remaining from the several that have been disposed of it appears that the industry did in fact influence the text of the report of this meeting. Because of the lack of archival materials, the evidence of influence of the private sector is at best tenuous.

- Archival materials indicate that advice was sought and received from private sector parties, i.e. Unilever; also non-profit worldwide foundations such as the International Life Sciences Institute (ILSI); and international scientific research organizations such as the World Sugar Research Organization (WRSO).

- ISLI and Unilever both provided input with regards to the formulation of the agenda, the proposal of experts for consideration, the drafting of background papers, and the funding of the expert consultation itself. It should be noted that these inputs were for the most part requested both by FAO and WHO.

- It appears from the archives that WHO’s contribution for this meeting was entirely provided for by ILSI though it was proposed at one time that funding from this source would “be divided fairly between FAO and WHO”.

- It should also be noted that, as per the agreement between FAO and WHO on the collaboration of this expert consultation, each organization was responsible for half of the experts and the other participants involved. This 50/50 split in providing support had become a precedent up to this time.

- In some instances, industry suggestions for contributors and of experts were sent through ILSI.

- A further review revealed that the consultant involved in the preparation for the expert consultation questioned whether an industry participant should prepare the text on the assessment of the same product that their company produced. Due to the subsequent files having been disposed of, there was no further documentation available to enlighten us as to how this concern was resolved.
Other comments noted by the consultant regarding the final report were that, the “conclusions concerning total fat and trans fatty acids have been substantially altered following the consultation” and that, “the linkage of trans fatty acids with saturated fatty acids from the final recommendations have been removed. My overall impression at the meeting is that there was a consensus that attempts should be made to decrease the intake of trans fatty acids in foods and that at the very least they should be linked with saturated fatty acids in terms of recommendations” (NU 7/53, Vol. IX & X).

In a related comment the principle consultant to the process stated that, “Some of the fats and oils industry are nervous about the trans issue and would prefer to see hydrogenation dealt with as just a processing step instead of a major issue on changing the composition of dietary fatty acids.”

These points highlight the undue influence that the private sector in this specific area of food and nutrition had in this process but there is also a strong indication, at least throughout the time of the consultation itself, that the FAO Secretariat was aware of the sensitivity of a number of the issues and the attempts from industry to protect its own interests.

**Trace Elements in Human Nutrition and Health**

*Background*

The Joint FAO/IAEA/WHO Expert Consultation on Trace Elements in Human Nutrition and Health was convened in Geneva from 18 to 22 June, 1990. Many far-reaching advances had been made in the knowledge relating to the significance of trace elements in human health and disease, as well as the discovery of new trace elements and their related analyses since the last expert consultation was held in 1973 by WHO, thus triggering the need for this consultation. Unique to this consultation was the increased level and diversity of the preliminary work that took place in the 2 years prior, i.e. advisory group meetings, pre-consultation small group workshops, etc. This consultation is also an example of why the publication had taken so long to be released, as WHO had published it under their highest publication series, i.e. costly, extensive time-consuming editing and layout process, etc. The final report was published as a WHO non-series title in 1996 (Geneva).

**Carbohydrates in Human Nutrition**

*Background*

The Joint FAO/WHO Expert Consultation on Carbohydrates in Human Nutrition was convened from 14 to 18 April 1997, in Rome at FAO headquarters. The previous joint consultation on this subject was held in Geneva in 1979. The consultation brought together a smaller, less geographically balanced committee of global experts, 5 of whom were from either Canada or the USA, and a secretariat consisting of UN staff and one outside consultant, with additional reviewers and contributors of background papers. As had become the practice, this report was published as a FAO Food and Nutrition Paper (No. 66) in March 1998, 11 months after the consultation was convened.

*Context and Content*

It is the only report of the several expert consultations reviewed here that was published in less than one year (see Table 2). Whereas there has always been a desire and an attempt to produce the report as quickly as possible, there is also concern if a report appears too quickly, particularly when a large number of controversial issues are addressed. It should be noted that with Carbohydrates in Human Nutrition the stated purpose of expert consultations on human energy requirements changed from its primary purpose of advising the Directors-General on scientific issues related to energy and nutrient requirements to, “part of a continuing commitment by both FAO and WHO to promote a reliable, nutritious and safe food supply and
to provide scientifically sound nutritional advise to member nations”, as is stated in the introduction of the resulting report (see also sections 1 & 2).

Concerns
As is evidenced in the archive files, this consultation marked the second instance of undue private sector involvement in an expert consultation with what appears to be an attempt to influence the outcome of the proceedings. This observation by the Auto-evaluation now takes on a greater significance with the release of the BBC Panorama programme, “The trouble with sugar” which was aired in October 2004, almost a year after the auto-evaluation process commenced.

The ESNA Auto-evaluation staff identified a number of issues:

- The consultation had been almost entirely funded by the private sector, who it was considered, may well have had a major vested interests in ensuring a favorable outcome. The parties included AIDGUM and also ILSI and WSRO.

- It was considered that these organizations had had an undue influence not only on the selection of experts but also on the running of the meeting and the final conclusions especially that encapsulated on page 36, paragraph 18 that, “There is no evidence of a direct involvement of sucrose, other sugars and starch in its etiology of lifestyle related diseases.” Such a statement expressed was at odds with the opinions of most health related experts prior to this meeting and was subsequently to be at the center of a controversy related to the recommendations of the WHO report on obesity (No. 894, 2000), the WHO technical report on Diet, Nutrition and the Prevention of Chronic Diseases (No. 797, 1990) and the Joint WHO/FAO Report on Diet Nutrition and the Prevention of Chronic Disease (N. 916, 2003).

- ILSI had reviewed the agenda and proposal for the Carbohydrate in Human Nutrition Consultation in the spring before the consultation was announced.

- The expert consultation on Carbohydrate in Human Nutrition was not in the programme of work and budget for that biennium (1996-97) but was introduced at a later stage. Instead the PWB for 1996-97 scheduled a meeting on Calcium and Vitamin D. This scheduled expert consultation was never held but was substituted by the Carbohydrate consultation. Instead in October 1996 INRAN, along with FAO and WHO sponsored the First World Congress on Calcium and Vitamin D in Human Life which was held in the EUR in Rome. This meeting/forum was largely attended by the private sector and yielded no formal report, recommendations or guidelines. Correspondence on file and notes suggest that the overriding motive to hold the Carbohydrate consultation at such short notice was largely to undermine any recommendations limiting sugar intake or linking it with a putative role in obesity by WHO’s Expert Consultation on Obesity scheduled for 1997.

- The sponsors, i.e. ILSI and WSRO had oversight of the recommendations and the final report was not cleared by all experts resulting in subsequent concerns being expressed in writing by some of the experts of the consultation.

- Immediately following the consultation a senior FAO official made comments favoring the intake of sugar (see FAO News and Highlights, 1997). Other similar press releases are on record, as well as incidents of a FAO staff member’s presentations, which misrepresented the findings of the consultation regarding sugar which lead to written complaints being made to the ADG.
The interim report of the expert consultation was released on the FAO website on the Internet before the experts had finalized the text.

This report is the only one to have several documented complaints from the participating experts regarding changes in the text without prior clearance from the experts.

There is no indication anywhere in the archived files that the experts were notified that the principal source of funding was from the private sector and the extent of their involvement in the consultation process.

The background papers were not published.

The ESNA Auto-evaluation staff, in association with the external consultant resolved that the expert reports on scientific recommendations in this area were of central importance to human nutrition and health worldwide, and that the deliberations of experts must not only be beyond reproach but also seen to be so. While private sector involvement can be visualized in areas where scientific advice depends on information that may be forthcoming from the industrial sector, their involvement in deliberations on recommendations of nutrient requirements for health and nutrition of populations is questionable.

It was in the opinion of both ESNA and the external consultant that in the future no commercial or private sector support should be solicited or accepted for expert consultations meetings. Procedures for conducting expert consultations should be under the complete control of the FAO and counterpart UN agencies, principally the WHO in line with the recommendations and the subsequent procedures drawn up based on the Workshop on the Provision of Scientific Advice.

**Human Vitamin & Mineral Requirements**

**Background**

The Joint FAO/WHO Expert Consultation on Human Vitamin and Mineral Requirements was held in Bangkok from 21 to 30 September 1998. The report was published as a FAO interim report (non-series title) in February 2002. The agreement between the Agencies (FAO and WHO) was that the final report would be WHO’s responsibility and is still awaiting publication.

**Context and Content**

This expert consultation was the only meeting held outside of either FAO or WHO headquarters. The consultation brought together a geographically balanced committee of global experts, a secretariat consisting of UN staff and four outside consultants, with additional reviewers and contributors to the background papers, and two outside consultants. Much of the delay in publication was due to controversy relating to the final agreement about the recommendations for some of the micronutrients. This was largely due to the lack of data on specific health status indicators on which to draw conclusions. The resulting recommended intakes are largely based on the interpretation of the best available scientific information at the time, and this is recognized as certainly leaving the door open for differences in interpretation.

**Concerns**

The reasons or justification for the origins of this expert consultation are unclear. When originally proposed by the Director of ESN in April 1997, the stated purpose of the topic was “to update the Handbook on Nutritional Requirements from 1974.” However, later the title was “Human Vitamin and Mineral Requirements.” What concerns this review is that within a period of ten days (of which only seven were working days) thirteen vitamins, six minerals and two additional topics of 1) food-based approaches to meeting vitamin and mineral needs and 2) dietary antioxidants, were reviewed by the experts. In the past only a few (usually about 3) micronutrients have been considered during a single expert consultation. This specific
consultation was carried out with sixteen experts and seventeen contributors with an unspecified number of background papers. This broad review of nutrient requirements within a short period of time is a complete departure from the previous consultations. Normally the number of nutrients examined number no more then four and the reviews are carried out by several experts whose work concentrates on those nutrients. When the 1974 Handbook was produced, no consultation was organized but instead a group of five eminent experts reviewed the previous consultations and summarized the results. The final report of this expert consultation on Human Vitamins and Mineral Requirements has not yet been published although an interim report was released by FAO and posted on its website in April 2002. Many of the arrangements relating to the use of resources for travel, the accommodation of experts, and specific arrangements for the meeting were in the Regional Office (RAP) in Bangkok. After consulting the FAO/RAP staff, we were informed that money was provided from headquarters, although there are no records to indicate the exact source and to exclude with certainty the possibility of extra-budgetary funds contributing to this process.

• Food Energy- Methods of Analysis and Conversion Factors

Background
The FAO Technical Workshop on Food Energy: Methods of Analysis and Conversion Factors met in Rome from 3 to 6 December 2002. This workshop was convened based upon the recommendation made by the experts of the Joint FAO/WHO/UNU Expert Consultation on Human energy requirements held in October 2001. This activity was not a true consultation in that the rules and protocol governing an expert consultation were not observed. This included the prescribed rules for selecting and clearing the experts and respecting the normal guidelines for geographical diversity of the experts although every attempt was made to have balanced representation. It examined a number of topics related to the various methods of analysis of macronutrients in food and the energy conversion factors used, including close consideration of various options, as well as the implication on the food and nutrition sector of any changes that may be proposed by this group. The report was published as an FAO Food and Nutrition Paper (No. 77) in October 2003.

Context and Content
The technical workshop brought together a group of global experts, a secretariat consisting of FAO staff and additionally, two outside consultants. The expected adoption of new energy requirements values arising from the 2001 Expert Consultation on Human Energy Requirements based on energy expenditure raised the issue of how best to match requirements with food intakes. This topic was briefly introduced and discussed at this consultation but the participating experts felt that the topic was outside their area of expertise. This was the impetus for holding a separate technical workshop and to continue the efforts of pre-consultation Working Group 5 from the last expert consultation. To provide continuity, the chairman and one other participant from the original working group was part of this technical workshop. The recommendations of this report are tentative. “Although consensus emerged regarding the need to adopt changes as new scientific evidence emerges, the workshop participants also recognized that due consideration needs to be given to the practical aspects of implementing changes that would have an impact of a wide range of stakeholders in the food and nutrition sector.”

Concerns
During the past four expert consultations there seems to be a clear shift in the original mandate of providing sound technical and scientific advice to the Directors-General of FAO/WHO, to an enhanced awareness of the possible impact of any conclusions and recommendations on external stakeholders. Initially, expert representatives from the private sector were included in the recognition of their role in processing foods but increasingly, the ‘conflict of interest’ issues took precedence over their inclusion.
• **Diet, Nutrition and the Prevention of Chronic Diseases**

**Background**

The Joint WHO/FAO Expert Consultation on Diet, Nutrition and the Prevention of Chronic Disease met in Geneva from 28 January to 1 February 2002. This consultation was largely a reexamination of the topic of the WHO Study Group on Diet, Nutrition and Prevention of Non-communicable Diseases, which met in 1989 to formulate recommendations for the prevention of chronic diseases and to reduce their health burden. WHO had invited FAO to collaborate as there is an increasing recognition of the relationship between diet and chronic disease and since “food” is a central part of the review. The consultation recognized that the growing epidemic of chronic diseases afflicting both developed and developing countries was related to dietary and lifestyle changes and undertook the task of reviewing the considerable scientific progress that has been made in different areas, drawing on the latest scientific evidence available and updating recommendations for action to governments, international agencies and concerned partners in the public and private sectors. The resulting report was published in the WHO Technical Report Series (No. 916) in April 2003, one year and 2 months following the consultation.

**Context and Content**

The consultation brought together a geographically balanced committee of global experts, a secretariat consisting of UN staff and two additional consultants. The overall aim of these recommendations was to implement more effective and sustainable policies and strategies to deal with the increasing public health challenges related to diet and health.

**Concern**

The report came under heavy criticism from the food industry, in particular the sugar industry and private sector and raised the issue as to the transparency of the process and the validity of the scientifically-based findings. There was also genuine concern expressed that the experts did not deal with or have the competence to deal with the socio-economic, agricultural, and policy implications of these dietary recommendations. This is an issue, as is likely the case with many other expert consultations on nutrient requirements, which may suggest the need to follow up such technical meetings with meetings of other experts to look into the implications of such recommendations.

• **Human Energy Requirements**

**Background**

The Joint FAO/WHO/UNU Expert Consultation on Human Energy Requirements was held from 17 to 24 October 2001 in Rome. Working groups met from 27 June to 5 July 2001 at FAO headquarters in Rome, several months before the expert meeting in October 2001. Three of the working groups focused primarily on energy requirements throughout the life cycle and related to two important sub-populations – infants and children, and pregnant and lactating women – areas in which substantial scientific advances had been made. The working groups were on: 1) energy (and protein) requirements of infants and preschool children; 2) energy (and protein) requirements of pregnancy and lactation; and 3) analytical issues in food energy and composition: energy in food labeling, including regulatory and trade issues, which looked at food energy values. An additional working group was constituted to provide documentation on methodologies for energy balance and energy requirements, but it was felt that – given the nature of the task – there was no need for this group to meet, although their background documents were available to the expert consultation. The resulting expert report was published in November 2004 as a new series called, the FAO Food and Nutrition Technical Paper Series (No. 1). This new series was created because it was realized that the existing Food and Nutrition Paper series was too diverse and eclectic in content and that a specific series on technical reports should exist. This publication was not included in the scope of this auto-evaluation, but is mentioned here since it is the most recent output under this programme entity.
Context and Content
The consultation brought together a committee of experts, two Technical Advisors to the Secretariat, three observers, and a secretariat consisting of FAO staff and one additional consultant. The entire process leading up to the convening of this expert group and the resulting consultation is highly formalized. For the first time, FAO adopted a two-stage process, which started with the convening of working groups in those areas where it believed new scientific knowledge existed that might influence the recommendations for energy needs. The second stage of the process was the expert consultation itself. The rationale behind convening the working groups was that many of the scientific questions could be dealt with by experts in the areas concerned, even though the eventual participation of those experts at the consultation per se was uncertain owing to the need to provide a globally representative consultative panel. Working groups would also facilitate discussions, as any contentious issues could be debated and settled before the expert meeting, which would benefit from the results of such free and frank discussions. The chairpersons of all the working groups on energy were invited to the expert consultation to present a summary of the deliberations and recommendations of their groups and to advise the experts. Background papers were commissioned, peer-reviewed and made available to both the pre-consultation working groups and the experts who met for the consultation.

It is apparent that the desire of the FAO Secretariat was to ensure that the report of the expert consultation on human energy requirements be available within the shortest possible period after the experts met in Rome. The two-year gap before the interim report was available as a downloadable file on the FAO Web site, and a further period before it was available in hard copy were due to a series of post-consultation activities that were deemed essential before the release of the final report. Many of these post-consultation activities (please refer to the publication for further explanation) were in response to specific recommendations by the experts for a number of important pieces of work to be followed-up and completed for inclusion in the report. They included:

- to update and review the predictive equations for estimating basal metabolic rate (BMR) and to incorporate the updated equations into the new recommendations. These activities proved to be time-consuming, as they involved updating the global database on BMR that was originally obtained for the 1985 report, reanalyzing it with particular emphasis on looking at the influence of methodological biases and ethnic variations, and developing new BMR predictive equations with better predictive performance for international use;

- to convene a meeting to deliberate on food energy values. The Technical Workshop on Food Energy: Methods of Analysis and Conversion Factors met in Rome from 3 to 6 December 2002 (see related section);

- it was decided to produce an updated, Windows-compatible and user-friendly software application for the purpose of calculating population energy requirements and food needs.

Concerns
Some of the concerns regarding this consultation included the time lag between the convening of the consultation and the report’s publication (3 years, 1 month); and the recognition of the changing needs of the consultation process and resulting outputs and how best to address these needs.

- Protein and Amino Acids in Human Nutrition

Background
The Joint FAO/WHO/UNU Expert Consultation on Protein and Amino Acids in Human Nutrition was convened in April 2002 in Geneva. The report is in the process of being published as a
WHO Technical Report Series (2005) publication and could not be commented on within the remit of this auto-evaluation.

4.2. Auto-evaluation activities and outputs
The following outputs were produced as a result of the ESNA Auto-evaluation. The major activities consisted of the production of questionnaires, the conducting of interviews and meetings, archival research and exploring the use of citation analysis using an Internet search engine.

- **Questionnaires**
  A major activity conducted during the auto-evaluation was the preparation, drafting, distribution, and analysis of questionnaires. A list of in-house and external users and potential users of the consultation reports was prepared.

- **Interviews**
  Interviews or focus group discussions with current and past staff, active in or knowledgeable on the topic of nutrition requirements were conducted by the external consultant. Interviews or focus group discussions with selected “stakeholders” were also conducted both within FAO and with other UN agencies, including the WHO, UNU and IAEA. The opinions of WHO, UNU and IAEA were surveyed through email and a series of telephone conferences.

- **Research of archival files**
  To supplement these methods of evaluation, research was conducted within the archive and registry files. This included a review of the current and past procedures and mandates of expert consultations.

- **Citation analysis**
  As an alternative source of evaluating the impact of ESNA publications, in conjunction with the FAO David Lubin Library, a number of citation analysis search engines were investigated.

- **Meetings**
  The external consultant facilitated brainstorming sessions with ESNA staff members and held individual discussions, in addition to conducting a desk study of the documentation related to former consultations and related activities.

5. FEEDBACK FROM STAKEHOLDERS: RESULTS AND ANALYSIS

5.1. Questionnaires
- **Methodology**
  Questionnaires were sent out to 416 recipients via email and one recipient by post. Five separate questionnaires were designed in an effort to extract information on the specific use of and participation in activities related to human nutrition requirements. Of the potential end-users targeted, selections were made drawing from three general categories: 1) Academic/Research and Institutions/Government, 2) Industry/NGO and 3) UN Staff. A total of 373 questionnaires (416 emails originally sent minus 43 that were returned for insufficient addresses) were sent out via email through the internet, and one by post for a total of 374. Of these, a total of 80 questionnaire responses were received before the final deadline providing a 21% response rate. Note that a complete list of questionnaire recipients and the questionnaire data are available in the electronic depository of FAO and can be provided on request.
Five separate questionnaires were developed one each for Academics/Research Institutions, Government, Industry, NGO, and UN Staff. The respondent breakdown results were as follows: specifically for Academic and Research Organizations, societies and review bodies (47), selected government ministries (10), NGOs (1), Industry representatives (4), and UN Staff members (18). Certain questions were directed toward specific groups as appropriate, in an effort to extract valuable information regarding the process and usefulness of the responses. In the end, it was up to the individual respondent to decide under which category they wished to identify themselves. Questions regarding Priority Areas for Inter-disciplinary Action or PAIA did not receive an adequate response in the questionnaire and thus will not be analyzed in detail in this report due to the lack of representativeness of the answers.

The breakdown of male (40) and female (40) responses indicated an even-split, and thus reflects a balanced gender response. It is satisfactory to know that equal numbers of males and females replied to the questionnaire. Of the UN Agencies contacted, responses were received from WFP, UNU, WHO and FAO. Of the governments contacted, responses were received from the following countries: Bulgaria, China, UK, USA, Canada, Australia, Japan, and New Zealand.

<table>
<thead>
<tr>
<th>Type of Questionnaire</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>47</td>
</tr>
<tr>
<td>Government</td>
<td>10</td>
</tr>
<tr>
<td>Industry</td>
<td>4</td>
</tr>
<tr>
<td>NGO</td>
<td>1</td>
</tr>
<tr>
<td>UN Staff</td>
<td>18</td>
</tr>
<tr>
<td>Grand Total</td>
<td>80</td>
</tr>
</tbody>
</table>

- **Questionnaire limitations and shortcomings**

One staff member relayed an experience at a recent conference when some academic colleagues commented that they had decided not to respond to the questionnaire due to the fact that the responses were requested to be sent back to an FAO email account. They implied that they would have replied to the questionnaire if it would have been sent back to the external consultant directly. This indicates that some questionnaire recipients were hesitant about being candid in their replies. As a result, this may have introduced a bias in the questionnaire responses.

- **Lessons learned**

Regarding the questionnaire format, in future exercises inquiring about publication usage specifically, it is recommended to include an additional response that clearly takes into account those respondents that “have not read this publication”. With regard to the timeframe for the preparation, distribution and analysis of questionnaires; the drafting, revisions and approval of the report; and the overall completion of the auto-evaluation process, the time-line provided by PBEE gives a realistic assessment of the amount of time that is necessary to complete a thorough and useful analysis.

In view of the fact that ESNA only received a 21% response rate for the questionnaire component of the auto-evaluation, we consider it to be but a minor part of this overall report. Given the disproportionate amount of time and resources spent on questionnaires during the auto-evaluation process, PBE should seriously examine whether this component of the auto-evaluation process is essential.
**Blank responses**

There are a number of reasons why questionnaire responses may have been left blank, including: 1) the respondent specialized only in one area; 2) the respondent did not wish to express an opinion; 3) the respondent did not wish to express a negative view; 4) the respondent did not have access to the human nutrition requirements publications mentioned; or 5) the respondent did not read these publications.

In some ways it was surprising to note that so many respondents left so many of their answers blank or expressed no particular opinion. Our general conclusion is that this could reflect an over-specialization with respect to the use of nutrient-requirement recommendations, in other words those primarily interested in energy may not bother to become as conversant than perhaps they should about vitamins and minerals. Another reason could be that the general availability of energy requirements documentation as a whole (covering all important topics) leaves something to be desired and that this needs to be examined further. Here the point is again raised that FAO should certainly be more proactive in the adequacy of distribution of these reports, especially in the developing world. The strategic and practical importance of FAO and the UN Agencies, with regards to energy requirements and their publication is high and all of the effort that goes into them is worthwhile and essential. One cannot also rule out the possibility that some of the blank responses reflected uncertainly in the interpretation of the question.

**Zero responses**

Why would a respondent reply with a zero response (no view)? One could consider that the respondent did not have an opinion or the specialization to comment either way, or did not desire to make a comment.

**Summary analysis of questionnaire**

The following summary analysis is based upon the responses to the individual questions provided by respondents in the distributed questionnaires. Please see Annex 8.4 for the complete analysis by question from the questionnaire results. It should be noted that of the 80 respondents, 44% had been involved in past expert consultations while 56% had not, thus appearing to be a reasonable mix of individuals that have and have not been involved in the expert consultation process.

The major points and recurring themes that were prevalent throughout the questionnaire responses can be summarized as follows:

1. The majority of the UN staff responding said that the process is adequate in meeting the overall goals of the program entity.

2. In the necessity of adhering to a fair geographical distribution in selecting experts, academics primarily emphasized the importance of scientific expertise while UN staff and the External Consultant felt that the geographical aspect brought with it, special benefits in that many of the developing country scientists possess specialized skills and/or a broader perspective to the issue.

3. The great majority of respondents considered it quite unnecessary to seek government approval for any experts that might be invited by FAO (in their own capacity, i.e. the condition under which they are invited) to be involved in the expert consultation process.

4. An overwhelming number of respondents (academic and UN), 92%, believed that the process of expert consultations should be continual. As stated in numerous
comments, interviews, and historical accounts the complexities, costs, funding issues, staffing, etc. of conducting a formal expert consultation sometimes has prevented the more frequent updates to current information.

5. Of all respondents the majority agreed that the process should be more transparent. Results show that there is a need to address the issue of outside influences, i.e. lobby groups, etc.

6. When asked whether information on all guidelines and accompanying mechanisms resulting from expert consultations needs to be widely disseminated, 92% of the respondents either strongly agreed or agreed.

7. A majority of respondents agreed that the Joint FAO/WHO Expert Committee on Nutrition (JECN), formally endorsed by both organizations in 1952 with the original purpose of assisting in the collaboration between FAO and WHO and in advising the Directors-General of FAO and WHO on all technical matters related to nutrition, should be revitalized.

8. Seven out of ten responding government officials said that they had their own RDA tables or equivalents based upon output generated from this project entity. As can be seen in the additional comments (see Annex 8.5), the use of the human nutrition requirements information is important for member countries.

9. Seven out of ten responding government officials said that they were satisfied with FAO’s involvement.

10. Of those UN staff responding (15 out of 17), 88% agreed that this programme entity was relevant to the needs of Member Nations.

11. The majority of respondents believed that the time that elapses between the end of the expert consultation and the actual publication of the final report should be within 6-12 month period (see Annex 8.5 for related comments).

- **Response to Specific Publications**

This auto-evaluation, in part, has examined the principle dietary requirements advice as seen from the academic, government, industry, NGO, and UN staff perspectives. In addition, each of the respondents was asked to comment on the usefulness of the technical content, methodological content, periodicity (frequency of revision and release of the reports), format, and credibility of each of the 6 reports listed in the questionnaire by using a ten point scale, where 1 is very poor and 10 is excellent. During the analysis of these results, the responses were then condensed into three principle categories: good (8-10), moderate (4-7) and poor (1-3) reception.

Two additional categories are those respondents who had ‘No view’ (0 or zero response) and those respondents who left the section ‘blank’ (no response). These two additional categories in some cases greatly reduced the number of utilizable responses, i.e. those expressing a view. For comparison purposes and to provide an understanding of the validity of the following analyses, the percentages of utilizable responses are shown in Table 2. Highlighted (bold) in this table are the reports with the highest and lowest share of utilizable responses.
Table 2 Percentage of utilizable responses for publication section of questionnaire

<table>
<thead>
<tr>
<th>Publication</th>
<th>Content (T)</th>
<th>Content (M)</th>
<th>Periodicity</th>
<th>Format</th>
<th>Credibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy &amp; Protein Requirements (1985)</td>
<td>75%</td>
<td>75%</td>
<td>55%</td>
<td>72%</td>
<td>75%</td>
</tr>
<tr>
<td>Fats &amp; Oils in Human Nutrition (1995)</td>
<td>47%</td>
<td>46%</td>
<td>30%</td>
<td>46%</td>
<td>47%</td>
</tr>
<tr>
<td>Carbohydrates in Human Nutrition (1998)</td>
<td>51%</td>
<td>51%</td>
<td>32%</td>
<td>49%</td>
<td>50%</td>
</tr>
<tr>
<td>Human Vitamin &amp; Mineral Requirements (2002)</td>
<td>52%</td>
<td>47%</td>
<td>29%</td>
<td>49%</td>
<td>52%</td>
</tr>
<tr>
<td>Food &amp; Energy- Methods of Analysis &amp; Conversion Factors (2003)</td>
<td>35%</td>
<td>36%</td>
<td>14%</td>
<td>35%</td>
<td>36%</td>
</tr>
<tr>
<td>Diet, Nutrition Prevention of Chronic Diseases (2003)</td>
<td>66%</td>
<td>64%</td>
<td>36%</td>
<td>64%</td>
<td>66%</td>
</tr>
</tbody>
</table>

- **Energy and Protein Requirements**
  This report remains one of the best received publications perhaps because it is the longest standing, and consequently best known; this could be in part the reason for this publication having the highest percentage of utilizable responses. Also, energy and protein are the two cornerstones of good nutrition. Of the academic respondents replying, 92% considered the content to be *good* and overall (including all respondents), the percentage was 88%. The greatest concern was with periodicity or the frequency in which the issues of energy and protein requirements were subject to reconsideration. As many as 30% of all utilizable responses fell in the *poor* category, while 55% rated periodicity as *moderate* and only 16% as *good*. A second consideration where criticism was voiced was in the format of the report. Both academic and total responses were only 49%, and 52% respectively, scoring as *good*. This probably reflects the age of the document and the fact that people are now used to larger print publications (A4 versus A5). Also, as discussed previously there may very well have been a feeling that the publication was not user-friendly enough in terms of practical application. However, the credibility of the report remains high with 89% of academic and 87% overall considering it *good*.

- **Fats and Oils in Human Nutrition**
  This publication received the second lowest percentage of utilizable responses overall. Regarding the zero (‘No view’) and blank (no response) responses in this report, it may be a reflection of inadequate distribution rather than a lack of interest in this important area of nutrition. Of the academic respondents expressing a view, 80% considered the content to be *good* and overall (including all respondents), the percentage was 79%. None considered the technical and methodological content or credibility of this report to be *poor*. Indeed, in terms of credibility, 92% of the academics expressing a view and 87% of the overall respondents rated it to be *good*. Frequency or periodicity was rated to be *poor* by 13% of those expressing a view, *moderate* by 71%, with only 17% rating this aspect as *good*.

- **Carbohydrates in Human Nutrition**
  It was interesting that of the respondents, the UN staff were much more critical of this report than the academic community, in terms of the technical and methodological contents. Once
again, concern was expressed about the frequency in which the topic of carbohydrates were reviewed; considered as poor by 4% of those expressing a view, moderate by 69% and good by only 27%. The format of the report was rated as good by only 70% of academics and 67% of all respondents expressing a view. While 88% of academic respondents considered the credibility of this report to be good, only 2 out of 12 UN Staff believed this to be the case. However, the External Consultant considered the scientific content of this report to be good, except for the treatment of sugar. It is possible that the fairly high proportion of zero and blank responses may reflect overall unease over this report.

- **Human Vitamin and Mineral Requirements**
  The technical and methodological content of this interim report was well-rated by the academics (90% and 80% of utilizable responses being good, respectively). However, one of the industry respondents from an organization dealing with vitamin and mineral supplements did request more attention be paid to the establishment of upper-safe levels of intake, i.e. when possibilities of toxic effects may begin to appear. Periodicity again did not fare well with 9% of those expressing a view rating this as poor, 57% moderate and only 35% good (overall). No respondent who wished to express a specific comment on the format of the report rated it as poor, 44% rated it as moderate and 51% as good. In the opinion of the External Consultant this most likely reflected a lack of editorial control on the report with different sections adopting different definitions for the RDAs, certainly raising the important issue of harmonization. This report, in view of the increased importance of micronutrient malnutrition both in the industrialized and developing worlds, is being finalized by WHO and will be published soon in its final format.

- **Food and Energy- Methods of Analysis & Conversion Factors**
  Despite the importance of the topic discussed, it should be noted that this report had the highest number of ‘No view’ and blank responses of the 6 reports reviewed. This is a relatively new publication and the data could reflect a lack of familiarity and accessibility to the publication. This matter of dissemination requires immediate attention. However, the report scored well in terms of technical and methodological content with 92% and 85% of the academics expressing a view considering these good, respectively. Of all the respondents who expressed a view, none considered the technical and methodological content, credibility or format of this report to be poor. While in terms of format impressions were fairly good with an overall 71% response, the credibility of the report remains high with 92% of academics and 90% of all utilizable responses considering it to be good. Periodicity was scored as poor by 9% of those expressing a view, moderate by 36% and good by 55%.

- **Diet, Nutrition and the Prevention of Chronic Diseases**
  Apart from Energy and Protein Requirements (1985), this report generated the most “utilizable responses” despite its recent publication date (2003, i.e. the same year as the above publication); 90% of the academic and 83% overall considering this to be good in terms of technical content even though the scoring values dropped somewhat in terms of methodological content (73% and 71%, respectively). This presumably reflects concern that the database needs to be improved and regularly reviewed. Seven percent of overall respondents expressing a view considered periodicity to be poor, 48% moderate and 45% good. However, 90% of the academics and 81% of all respondents expressing a view rated credibility as being good.
Table 3 Delays in publication of expert reports

<table>
<thead>
<tr>
<th>Name of Report</th>
<th>Date of Consultation</th>
<th>Date of 1st Publication</th>
<th>Length of Delay</th>
</tr>
</thead>
</table>
• **Questionnaire comments**

The following are a series of comment summaries which were gleaned from the 80 completed respondent questionnaires. In some cases multiple respondents raised the same concerns or recommendations in response to the questions or statements provided. The authors of this report have edited these comments, where appropriate, striving to maintain the integrity of all of the responses. Please see Annex 8.5 for a more complete sample of individual comments.

- **Respondent uses of information**

*Please provide an example of how the data on human nutrition requirements were used in practice.*

**Summary:** In practice, the data on human nutrition requirements are used for a wide range of purposes. Highlighted in the responses is the recognition of their use in nutrition education as a basis for local feeding programs, updating national nutrition recommendations, policy formulation and the revision of individual country RDAs. Clearly, this wide range of use is a testament to the importance of the work on human nutrition requirements and how nutritionists, public health specialists and governments alike have come to rely on this valuable information.

- **Information made more useful**

*In your view, how can the information on human nutrition requirements be made more useful?*

**Summary:** Respondents have made it clear that the information on human nutrition requirements can be made more useful in a number of achievable ways. This includes increasing the accessibility of the information, the expansion of reports into other UN languages and by making the materials more user-friendly and practical. It was further supported that these publications should be produced more frequently and much sooner following the end of an expert consultation. The increased involvement of developing countries in this work should be a priority.

- **Harmonization**

**Summary:** Through the unification and harmonization of approaches in the analysis and calculation of data, and in the refining of methodologies and definitions, a greater exchange of information can be achieved improving upon the quality, clarity and efficiency by which future works can be produced.

- **Transparency**

*What are some of the pros and cons of further opening up this process?*

**Summary:** Scientific knowledge and its resulting publications must remain free from political processes and can be done so through increased transparency further providing the user with adequate information as to the justification for methods and approaches utilized and guidelines and recommendations made.

- **Strengths of process**

*What are the strengths of the current process (e.g. efficient, transparent, etc.)?*

**Summary:** Some of the strengths of the current process that were identified included that the interests of public health are paramount; that technical competence is assured; international perspective is upheld; and that the experts involved give credibility to the reports.
- **Weaknesses of process**

  *What are the weaknesses of the current process (e.g. unorganized, cumbersome, etc.)?*

  **Summary:** Some of the weaknesses of the current process that were identified include that expert consultations do not meet frequently enough for updating knowledge on nutrition requirements; that there is insufficient preparation for the consultation process; the process for expert consultation is not widely disseminated; little research is done in developing countries; and there are long delays in the publication of the expert reports causing concern as many scientific concepts have changed thus reducing the credibility of the recommendations themselves and the resulting applications.

- **Respondent recommendations**

  *Please list any recommendations you have in regards to this subject.*

  **Summary:** Clear concern exists around the proper organization and execution of the expert consultation processes, especially in keeping these activities “secure” from outside influences (primarily government and private sector) which may have a vested interest in its outcome.

- **Additional comments**

  *Please include any additional comments or issues relevant to this subject that were not mentioned here.*

  **Summary:** Dominating the comments were issues concerning adequate dissemination of information and sound scientific research and advice. The high value of the work in human nutrition requirements is apparent.

**5.2. Interviews**

A number of telephone and personal interviews were conducted (see Annex 8.9). From these interviews a number of important issues were raised, some of which highlight the usefulness of this work and also identifies areas of concern. The lack of coordination in departmental efforts was cited as an obstacle in improving all methodologies when considering nutrition requirements. There is clearly a great need for additional data: 1) information is not actualized and is outdated; 2) the use of different approaches; and 3) there is a lack of complimentary information. A clear desire exists for closer working relationships, in house, with ESNA. The work of this project entity has been noted to be of the utmost interest to the member countries and serves as a very important input in the work being done in other services within the Organization.

**5.3. Research of archive files**

Research was conducted within the archive and registry files, including a review of the current and past rules and mandates of expert consultations. Approximately 25 files were reviewed. Within the Archives Unit, it should be noted that 1) records were kept in the Archives for a period determined jointly by the originating office and Records and Archives Unit. As agreed with ESN Division, the retention period for records is generally 5 + 1 years from closing date of the file (5 years + 1 extra year assigned by Archives); 2) files must remain for 2 years from the closing date with the originating division before sending them to Archives. This means that generally records are retained for 3 + 1 year before requesting their disposal; and 3) the chief archivist makes the final decision for disposition and may choose to retain selected records for historical purposes. In the case of the Fats and Oils in Human Nutrition Consultation, seven of the ten related files were approved for final disposition of records by the ESN Director in 1998; and the first was retained for historical purposes by the Archivist. The remaining two files were retained in archives. Under the circumstances, the present process for the final disposition of records may need to be
reviewed as it were the files that were retained, in this case, that provided some of the most valuable information. It should also be noted that throughout many of the archived folders there is direct reference to either additional correspondence or documents that are not to be found in the folder.

Regarding what is reflected in the archive files in the way that the expert consultations have operated in the past, there is a clear distinction between the earliest consultations examined under this project entity (Energy and Protein Requirements, 1985) and the Carbohydrates in Human Nutrition consultation. There appears to be a transition from the earlier efforts to uphold a transparent, scientific process involving only UN staff and identified scientific experts towards a process that primarily involved the private sector and a process that raised concerns over questions of funding sources and outside interests influencing the outcome of the related expert consultations. At the height of this transition it appears from archival research that there seemed to be a close working relationship between WHO and private sector organizations such as ILSI, which in specific instances provided the bulk of the funding for their involvement in the expert consultations on Carbohydrates in Human Nutrition and Fats and Oils in Human Nutrition.

5.4. Citation analysis

Another mode for reviewing the impact of publications is through the use of a Citation Analysis tool such as The Web of Science. It is a type of publication search engine which accesses a multidisciplinary span of topics from nearly 8,700 research journals dating back as far as 1945. It is the standard authoritative mechanism used by universities to assess the use of journals and to compile core collection lists, as well as to do this type of citation work.

This process may be worth exploring for future auto-evaluations where publications are a part of the review. When considering this method of measuring publication impact it can provide the evaluator with an additional and objective perspective on usage. However, certain limitations should be noted: 1) results are of course limited to citations traced in the Web of Science database, which is mainly composed of scientific journals and which does not include many more development-oriented journals in which FAO publications are cited; 2) it does not include books, which are often a rich source of citations of FAO materials; 3) this tool works better for older publications as it takes some time for publications to be read and then cited in scholarly journals; it is therefore inappropriate for recent publications; 4) Web of Science's journal coverage is largely Anglophone; this is of course a further problem in finding citations of FAO publications; 5) the search engine is quite complex and the method of citing varies, so a thorough search is time-consuming.

To illustrate briefly the use of this method of citation analysis, the FAO David Lubin Library conducted an analysis of Energy and protein requirements. Report of a Joint FAO/WHO/UNU Expert Consultation. WHO Technical Report Series No. 724. Geneva, WHO, 1985; using the Web of Knowledge (Citation Index feature). This report is the longest standing publication being reviewed under this project entity. After numerous attempts, a final count of 1,422 citations was amassed. It should be noted that this is a positive result considering the limitations of this method, mentioned above and a further indication that these reports are widely used in the nutrition science community. The scientific journals that most frequently cited this publication included the American Journal of Clinical Nutrition, the European Journal of Clinical Nutrition, the Journal of Nutrition, the American Journal of Physiology Endocrinology and Metabolism, and the International Journal of Obesity.

Other possible methods of Citation Analysis include CiteSeer, Scopus, Google Scholar and ProQuest, which are currently being assessed by the library in this context. A simple Internet search can also be useful to a certain extent, particularly for newer publications; indeed recent research has shown that download impact on the Internet can be used as an early
indicator of citation impact, i.e. those publications with a high rate of downloads had a correspondingly high rate of citations later.

5.5. Problems, concerns and emerging issues
The protocol and *modus operandi* for examining scientific questions and issues was formulated in the late 1940’s. At that time the issues were less complex, there were fewer experts working in the field of human nutrition, particularly those with an international perspective, and the interest from outside stakeholders were relatively non-existent. Since that time a growing number of external bodies, primarily from the private sector, view themselves as entitled to participate in as well as to review the results of expert consultations and there is a call for increased transparency in the process which ironically is lacking in private sectors’ own functioning. In addition, there is much more scientific evidence to review and the issues have grown increasingly more complex. It also must be recognized that many of the decisions and recommendations resulting from expert consultations carry economic implications and thus, an additional reason for enhanced interest from outside bodies to FAO. The activities and pronouncements of FAO are viewed intently by not only Member Nations but now by the growing number of NGO’s and industry interests. Against this changing environment for investigating scientific issues, it is necessary for ESNA/FAO to re-examine carefully and closely the procedure and mechanisms currently used to address these issues.

Historically, until the International Conference on Nutrition (ICN) in 1992, to the best of our knowledge and based on the review of available archival materials, the private sector had little influence on the provision of scientific advice through expert consultations on nutrition requirements. Close private sector involvement in nutrition activities apparently appeared in the participation and support of the organization of the ICN. This is further substantiated from the archive records that suggest a close and significant collaboration. This is later reflected in funding and influence over several expert consultations such as the Fats and Oils in Human Nutrition and the Carbohydrates in Human Nutrition Consultations. However, since this evidently raised concerns, at the express instruction of Mr. de Haen, ADG, ES, an evaluation was conducted from 5 to 10 April 1998. The resulting draft report, *Evaluation on work of FAO and FAO/WHO expert committees and consultations*, was prepared by two outside consultants, and only a draft is available on file. The report highlights many of the existing issues of concern that have been addressed in this auto-evaluation. The copy of this draft is available in ESNA.

It should be further noted that all technical workshops and expert consultations held after 2000: *Food Energy- Methods of Analysis and Conversion Factors; Diet, Nutrition and the Prevention of Chronic Diseases; Human Energy Requirements; and Protein and Amino Acids in Human Nutrition* were held with no involvement of the private sector.

The work of Program Entity 221A1 is an activity that should not and cannot be funded or influenced by external stakeholders or those that have clear financial, corporate or political gains to be made by its resulting recommendations and reports. To invite industry and related NGOs to contribute its opinion or input is outside the current procedures and processes governing expert consultations. To date, the procedures for conducting an expert consultation are not documented in any manual or guide, leaving the process open to both inconsistencies and potential manipulation. There is thus an urgent need for FAO to formulate clear guidelines for the conduct of expert consultations in the future.
6. RECOMMENDATIONS

The following conclusions and recommendations are based upon ESNA’s experience and review of this program entity as well as the feedback of its stakeholders.

6.1. Overall Program Entity 221A1 (Human Nutrition Requirements)

This program entity has only been hitherto considered an A-entity, although it has constituted a continuous activity of work. It was recently designated a P-entity (2002 – 2007 Medium Term Plan). It cannot be overemphasized that this specific program entity, based upon the results of the questionnaires and interviews should be a P-entity demonstrating a continuous role for this programme of work as a part of FAO’s mandate.

6.2. Expert consultations

There is a need to develop clear guidelines and processes that ESNA/FAO should develop and finalize before future expert consultations are undertaken. The revised process might consist of the chairman of each relevant working party, plus other senior people (JECN) necessary to give the consultation an appropriate international perspective. This will become a 3-layered process, i.e. a revitalized JECN, Working Groups, Experts.

- **Updates**
  
The function of the expert consultations should be thought of as a dynamic exercise as should its resulting publications. Instead of adopting the original *modus operandi* of convening a new expert consultation when it is decided to again review the topic, perhaps due to the availability of new scientific research, an update to the existing report could be made i.e. 2nd edition, 3rd edition, etc. The expert consultation will primarily adapt and modify the report as necessary and give final approval to its revised content.

- **Biennial review**
  
Arrange for a group of the experts, those most active in the fields of research, to provide updates on nutrients, groups of nutrients, energy requirement-related subjects on a biennial basis based upon the new information and research emerging throughout the year. This could be in the form of a report, working paper, etc.

- **Choosing experts**
  
While there should clearly be adequate geographical representation, this should not come at the expense of real expertise in identified areas of review. It is also important that those selected can contribute to the review as a “team player”. Expert consultations and their participants should be cleared by the Office of the Director General.

As is stated in the *Food Safety Consultations, Provision of Scientific Advice to CODEX and Member Countries: Report of a Joint FAO/WHO Workshop*, this report supports the collaboration of FAO and WHO in developing a means for actively recognizing contributions of scientists who provide expert advice and to their employing institutions. It is understood that scientists benefit primarily through this level of recognition in addition to individual publications that are derived from this work.

6.3. Define principles

- **Transparency**
  
  - **Management**
    
There is a paucity of managerial resources to aid this transparent and neutral process and to prevent external influence in the expert consultation process. There is also an absence of a functioning and supportive framework.
Declaration of Interest

All individuals wishing to take part in future JECN committees, expert consultations and technical meetings, working groups, related meetings, including observers and the secretariat itself must disclose in writing any and all involvement (including name and place) in professional, industrial consultancies, academic, research, government and international affiliations/organizations/committees/memberships over the past 3 years. This should include actual or potential conflicts of interest. It should be understood that while declaration does not debar an individual from potential participation it is important that it is stated clearly to the benefit of all involved and the process itself. These declarations of interests of each of the participants in the expert consultations should be posted on the section of the FAO Food and Nutrition website that is designated to provide all related information on future expert consultations on human nutrition. It should be kept in mind that it is the duty of responsible scientists to provide ethical and objective scientific advice to both governing bodies and to all stakeholders who rely on the outcomes of this process.

What is a conflict of interest?

A number of definitions are provided here to gain an understanding of the importance of this issue and the prevalence of its influence in an ethical scientific arena.

- In its instructions addressed to its authors, the Lancet states, “the conflict of interest test is a simple one. Is there anything that would embarrass you if it were to emerge after publication and you had not declared it?”

- “Public trust in the peer review process and the credibility of published articles depend in part on how well conflict of interest is handled during writing, peer-review and editorial decision making. Conflict of interest exists when an author (or the authors institution), reviewer, or editor has financial or personal relationships that inappropriately influence (bias) his or her actions...Editors should publish this information if they believe it is important in judging the manuscript” (International Committee of Medical Journal Editors. Uniform requirements for manuscripts submitted to biomedical journals; Writing and editing for biomedical publication. 2003.)

- “It is anything, be it personal, financial, academic, religious or political, which, when revealed later, would make a reasonable reader feel misled or deceived.” (Committee on Publication Ethics. Guidelines on good publication practice. 2003.)

- “The potential for conflict of interest exists whether or not an individual believes the relationship affects his or her scientific judgment.” (International Committee of Medical Journal Editors. Uniform requirements for manuscripts submitted to biomedical journals; Writing and editing for biomedical publication. 2003.)

Selection process

A suggested proposal is one where experts are solicited openly and following their selection by an approved process the composition of the expert consultations is published beforehand on the internet. This should be accompanied by the declaration of interests of all those involved with the consultation process.

Preparations and procedures

Those involved in the expert consultations are typically renowned scientists from around the world who have great demands upon their time. Their input and involvement is obviously crucial to the success of the process and it must be kept in mind that their time is very limited. FAO should make further efforts to encourage and support the submission of data from developing countries and its direct participation in expert consultations. This further
supports the need for the entire process of the consultation to be extremely organized and well structured. The proposal is that with inputs from relevant staff members, FAO review all of the logistics involved in the existing process, institute improvements and in a final form develop a procedures manual for guiding the entire expert consultation process, including the publication of the final report. This would serve as the institutional memory for the process and provide an organized review to allow for greater efficiency, consistency, transparency, accountability and success of future expert consultations.

To avoid and to reduce future risks/liabilities and potential conflicts/confusion in regards to the public sector it would be beneficial for the UN to have one general approach that is further tailored to the needs of the individual agencies. The fear of constraining freedom in the development of outside relationships cannot be the driving force behind an absence of a formal, clear, procedural structure and selection criteria. This would aid in addressing issues of transparency, neutrality and independence within this process.

As recommended in the Food Safety Consultations, Provision of Scientific Advice to CODEX and Member Countries: Report of a Joint FAO/WHO Workshop, FAO, along with WHO, should harmonize all procedures for the selection of experts with the establishment of a set of clear criteria made available to the public. As discussed, this process should be transparent, adequately addressing the issues of conflict of interest, striving for 100% neutrality and independence to ensure an unbiased and credible result. As it is a key part to the proceedings, consideration should also be given to the ability of individuals to participate in group dynamics and consensus building, which may bring in a degree of subjectivity. Expert panels should reflect these principles.

While we advise that the entire process be opened up, it must be kept in mind that ultimately, the resulting decisions of the expert consultations in the form of recommendations lie with the experts themselves as this serves as formal advice to the Organization.

- **Background Papers and related documents**
  This evaluation supports the publication of all background papers and related documents in a recognized peer-reviewed journal. This should be budgeted for appropriately into the expert consultations, with an increase in funds to meet this need. This should be done immediately following the expert consultation or meeting and should precede the release of the final report.

- **Resulting recommendations and publications**
  All experts must officially clear the final reports or draft for external consultation should this be required before they are released either temporarily on the internet or for its final report before publication. It is the responsibility of each individual participant to do so. All reports should be made publicly available as soon as possible with every effort made for the widest possible dissemination, within the limits of financial constraints. In addition, in response to many of the comments given through the questionnaires, support should be given to the development of a plain language summary of all expert consultation findings to increase the dissemination of information to those individuals outside of the scientific/technical arena.

- **Press releases**
  All press releases must be officially cleared by each of the involved experts before they are given approval to be published.

- **Applications**
  Every effort should be made to develop programme applications and ensure that they are widely disseminated.
• **Funding**  
ESN should be transparent in the disclosure of all of its funding sources before the selection of the consultation or committee. All related processes should be open and accountable.

  - **Harmonization**  
The scientific approach must be the same with related terminology agreed upon. The uniformity of the scientific approach and the uniformity of its presentation are highly important. Harmonization is about scientific approaches; not merely harmonization of values or recommendations.

  - **Neutrality and independence**  
In an effort to preserve and maintain its credibility, the process and outcomes of expert consultations must remain neutral and kept free from outside influences, external funding, support, and free from conflicts of interests and be strictly non-partisan in nature.

  - **Periodicity**  
Far too much is expected in the short period of time available for convening an expert consultation. Demands on staffing are a problem. Typically many questions and issues remain after the consultation has taken place which contributes delays in the final publication of the report. Overall, the procedures could be better organized before beginning the actual consultation. There is a need for a technical editor, general editor, and proofreader to help expedite the efficient publication of the resulting report.

  - **Interim reports**  
In lieu of a delay in the publication of the final report an interim report should be produced and placed on the website on the Internet. The release of the interim report is dependent upon an acceptable level of agreement being reached between participants of the expert consultation, with any further revisions to the report not affecting its content. This process is an issue that the Service needs to address in developing thorough criteria which would need to be met before the release of the interim report.

6.4. **JECN**  
The Joint (FAO/WHO) Expert Committee on Nutrition should be revitalized or reinstated in some form. It should be a regular structure which prioritizes the areas of nutrition which are in need of research or updating. The revitalization of this body must be done jointly by both the FAO and WHO. There should be very tight, concise definitions and Terms of Reference regarding the criteria for selecting members for this and all related committees. The qualifications for members of the JECN should include: 1) has been responsible for providing expert advice to international and national bodies (listed in detail); 2) has held a senior position in academia or government service.

  - **History of the JECN**  
First established as the FAO Standing Advisory Committee in 1948, the Joint FAO/WHO Expert Committee on Nutrition (JECN) was renamed in 1949. In 1952, the Executive Board of WHO was established and the Joint FAO/WHO Expert Committee was formally endorsed, with The Council of FAO endorsing this body in November of that same year. The purpose of the JECN was to assist in the collaboration between FAO and WHO and to advise the Directors-General of FAO and WHO on the problems of nutrition which might receive the attention of the two organizations, and to assist in coordinating their respective programmes in this field and on any technical problem concerned with nutrition which they may submit to it. The first session was held in December 1949 even though the Expert Committee was not formally endorsed by either FAO or WHO until 1952. The membership consisted of 10-12 experts and the working language was in English. The rules of procedure were guided by the general rules of the Organization and sessions were held in 1949, 1951, 1952, 1954, 1957,
1961, 1966, 1970, with the last formal meeting being held in 1974. It should be noted that all Joint FAO/WHO Expert Consultations on various aspects of macro- and micro- nutrients fall under the legal umbrella of this expert committee and that in its original form, the JECN was not mandated to set policy or to give direction to these activities.

Originally under the auspices of FAO, scientific and technical recommendations were made by expert groups comprised of individuals who were appointed by FAO to serve in their personal capacity. The FAO Constitution states that expert groups, such as those dealing with nutrient requirements, can be established by the FAO Conference and Council or at times, at the discretion of the Director General. It should be noted that originally the issue of which expert committee or consultation was being held was reviewed and passed by the Conference or Council. Later, this process was initiated by the nutrition division proposing such a meeting in its programme of work (PoW) and as a result of its inclusion in the PoW it was accepted and endorsed by the Council and FAO Conference.

The Terms of Reference for the JECN were: 1) to advise the Directors-General of FAO and WHO on the problems of nutrition which might receive the attention of the two organizations and to assist in coordinating their respective programmes in this field; 2) to advise either Director-General or both on any technical problems concerned with nutrition which they may submit to it. It should be recalled that in the late 1940's and 1950's and well in to the 1960's FAO and WHO were the only UN Organizations dealing with nutrition and thus, de facto, played the role of the later groups such as the ACC/SCN and the Protein Advisory Group (PAG).

In the initial meetings, the committee operated under the mandate of the first term of reference and indeed tried to review world problems and advise the agencies. Progressively the emphasis shifted to the second term of reference and the committee addressed questions put to it by FAO and WHO, in that sense it became like any other technical committee and probably was superseded in time by technical committees convened singly or jointly to address specific technical issues. As FAO grew from its early days, the prominent role of nutrition slowly diminished over time as other aspects of FAO’s work changed or increased. This would appear to be the primary reason for the JECN not being convened since 1974, though clearly its value was realized by FAO in that the committee continues to exist today, although largely inactive.

- **Issues to consider**

  - **Public criticism**
  How much of the process and results of the expert consultation should be open to public review and comment? The JECN would develop specific means, procedures to address this issue, which of late has gained prominence. A possibility could be for the formation of a task force which would address comments received and decide on whether to reject or accept them in part or as a whole. It should be noted that the results of the expert consultations are not always going to be non-controversial; in fact just the opposite is likely. Controversial results do not necessarily indicate or translate into that something has been done wrongly or that there is a flaw in the process.

  - **Reports**
  A number of questions can be posed. Should a draft report be written before the consultation has been convened or afterwards? Would the JECN be responsible for at least providing an outline for the basis of the report? The lapses in time between the convening of the expert consultation and the publication of the final report have been one of the major points of concern raised by the respondents in the process of this auto-evaluation. This
matter needs to be given greater consideration to decide on the best plan of action for a structured, yet neutral and scientifically based publication free from bias.

6.5. Expert reports
Any report produced becomes the responsibility of the expert consultation until the final report has been published. FAO neither accepts nor rejects the resulting report. FAO only facilitates the process and takes on sole responsibility for the process alone.

- **Feedback**
ESN should initiate a process to ensure that users and stakeholders have an opportunity to provide comments that are limited to identifying the difficulties in application, the usefulness of the information provided, and suggestions for improvement. This does not imply the invitation of comment as to the technical content of the publication itself.

- **Practicality of publications produced**
Governments need to be provided advice and support to adapt the resulting information from these consultations and be encouraged to develop their own country-specific recommendations to meet the needs of their individual populations.

6.6. Funding
It is concluded through this auto-evaluation that there is a need for increased resources for this program of work. The future structure of the expert consultations must be such that extra-budgetary resources and participation of the private sector are issues that need careful scrutiny. All activities in this programme need to be as far as possible supported from programme funds.

- **Lack of resources**
The involvement of the private sector (industry or industry-supported organizations) may be an indication of a greater need and urgency for additional resources, a situation that needs to be remedied.

- **Role of industry**
All industry-related NGOs, organizations, etc. must be kept at a distance from exerting influence on the proceedings and outcomes of expert consultations. Involvement should be strictly limited to indirect support of projects. They should not have any influence on meeting agendas, selection processes, recommendations, and policy outcomes. While we support collaborative relationships with the private sector they cannot allow any outside organizations to unjustly influence the consultation process or its resulting conclusions as this would compromise the neutrality, independence and unbiased stance of the Organization. Therefore all roles must be clearly defined and limitations must be discussed. Industry can be appropriately consulted, but only for technical information and as long as it is clear that the leadership role comes from within the UN system. An obvious benefit of including industry would be the access to scientific data and research and that it will hopefully encourage companies to gain more empathy towards nutrition and public health related issues in-turn impacting and improving their practices. As previously stated, Industry experts/scientists are as eligible to participate as non-industry, but all persons must undergo the same transparent process of selection before such participation is approved.

It is this divergence in approaches that demands the need to maintain the integrity of the consultation process and resulting reports. What will be the enforcement mechanisms in place for this to happen? If a potential participant or partner from the public sector is shown to have questionable ties, then the value of such a relationship needs to be carefully reviewed. In the interest of wanting to maintain a level of flexibility in establishing/managing relationships, relationships with the private sector have come at the cost of sound,
transparent, neutral, interactions. This can leave potential loop-holes in the process and the system which may compromise the mandate of ESN/FAO. There is a place for flexibility, but it is not in the structure or framework of this engagement with stakeholders that the flexibility need manifest. A clear example is defining the private sector companies, i.e. for-profit enterprises, whether large or small, privately owned, employee owned, state owned or stock-market listed, legally registered (formal) or unregistered (informal) and private sector business interest groups/NGOs, i.e. organizations which may or may not be registered as not-for-profit, with or without charitable status, may or many not assert an explicit public purpose, but which report over half of their income in the past year coming from the private sector (as donors, members or clients), including the Government Organized NGOs (Bendell report 2004). Charitable foundations should fall under the same level of scrutiny as private sector. A clear, hard line should be taken here in ensuring complete transparency.

- **FAO Mandate**

The need for support of this program of work through adequate resources is enshrined in FAO’s mandate ‘to raise the levels of nutrition for all people’. This view is supported through the response obtained during this auto-evaluation.

FAO cannot compromise its integrity and/or the mandate of the Organization in an effort to solely increase financial opportunities and support. New collaborative relationships should be forged in an effort to develop positive, mutually beneficial working relationships that work towards a common goal that is not compromised by financial gains or the personal interests of the private sector.

**6.7. Dissemination**

FAO Regional representatives should check periodically on the availability of the full set of ESNA publications in area universities, research institutions, etc. Consideration should be given to the fact that Internet resources are not accessible by all people and greater efforts should be made to ensure wider dissemination in developing countries with reports and publications.

**6.8. Relationship between WHO and other UN Agencies**

It is necessary to put into place a very specific mechanism so that the individual responsibilities of the UN Agencies involved in the convening of the expert consultations and its resulting reports are respected, upheld and completed to ensure future collaborations. The IAEA has expressed that they would be very much interested in participating in future collaborative efforts on human energy and protein requirements and related topics, with FAO. Also, to avoid situations which might potentially compromise the technical integrity and credibility of the future expert consultations and their resulting reports/recommendations, FAO should take steps to have complete harmonization with participating UN agencies with regards to their relationships with the private sector, industry, scientific organizations, etc.

**6.9. Future work**

The UN/FAO should produce a global position paper outlining where relevant, when precise requirements may differ from country to country; then it would be up to individual countries to apply these recommendations appropriately.
6.10. Summary of recommended actions

With the increasing demand for scientific advice from FAO and WHO in the future, the Auto-evaluation Team feels that ESN and the Organization should consider the implementation of the following recommendations a priority in meeting this need.

1. Based upon the results of this auto-evaluation and further supported by the related documentation, Program Entity 221A1, should be a P-entity or a continuous activity of work. The Auto-evaluation Team recognizes that this has now been incorporated into such an entity, i.e. 221P1, although it is the view of this auto-evaluation that it should continue to function as an independent programme of work.

2. The same UN Agency must take responsibility for the expert consultation process from the beginning through to its completion; preparation to the process to the publication of the final reports unlike currently when the process and outcome are separated and shared.

3. Contributions and sources of funding to joint activities from other UN Agencies must be clearly identified and transparent; and as far as possible come from public program funds alone. In the event that extra-budgetary funds are utilized (in any form), they should be fully disclosed to all participants and clearly stated in the report. In addition, there is a need for increased funds from ESN’s program of work and budget to carry out this much needed activity.

4. Revise the guidelines and processes governing expert consultations, based upon the recommendations in section 6 of this report; they should be further developed, finalized and documented by FAO before any future expert consultations are undertaken. Discussions should ensue with relevant staff members to review all of the logistics involved in the existing processes. As a result, a procedures manual should be developed for guiding the entire expert consultation process, including the publication of the final report.

5. All individuals wishing to take part in future committees, expert consultations, technical meetings, working groups, related meetings, including observers and the secretariat must fully disclose their interests through a Declaration of Interest.

6. FAO should make further efforts to encourage and support the submission of data from developing countries and its direct participation in expert consultations.

7. This auto-evaluation supports the publication of all background papers and related documents in a recognized peer-reviewed journal. This should be budgeted in appropriately into the expert consultations, with an increase in funds to meet this need.

8. In an effort to preserve and maintain its credibility, the expert consultations and its processes and their resulting reports must remain neutral and kept free from outside influences (including the private sector), funding and support, keeping free from conflicts of interests and those of partisan nature. ESN/FAO should be transparent in the disclosure of all related processes, remaining open and accountable.

9. The Joint FAO/WHO Expert Committee on Nutrition (JECN) should be revitalized or reinstated in some form.

10. All expert consultation reports should be made widely available and if possible, at no cost to its users.

11. It should not be necessary for experts that might be invited by FAO (in their own capacity, i.e. the condition under which they are invited) to seek government approval to be involved in the expert consultation process, as it will keep the process free from all levels of political/government influence.

12. All industry-related NGOs, organizations, etc. must be discouraged from engaging with the FAO with regard to expert consultations. Involvement should be strictly limited to indirect support of projects. They should not have any influence on meeting agendas, selection processes, recommendations, and policy outcomes.
7. CONCLUSION

There was a system that existed in governing the nutrition-related expert consultations which consisted of unwritten rules and procedures, but it was understood that it retained a high level of objectivity and transparency. It appears that for FAO/ESN private sector involvement began with the ICN, and was supported by an existing culture of such involvement in the 1990’s. This further spread to influence the normative work of ESN through the direct involvement of private sector organizations. In 2000, with growing concerns of maintaining the credibility and neutrality of related work, issues of transparency began to surface. Currently, there is a much greater emphasis on public health considerations which now tend to supersede economic considerations thus underscoring the importance for continuous and independent work involving human nutrition requirements.

The level of importance of FAO’s work in this area is clear as it has increasingly gained international recognition and is widely considered influential. The overwhelming impression, based upon the respondents’ feedback, confirmed that all the work of human nutrition requirements and its related reports are of crucial and strategic value in their work. The very fact that the private sector had attempted to manipulate the processes governing the expert consultations and its resulting reports is a testimony to the importance of this normative work.

This auto-evaluation has been an invaluable experience for ESNA. This type of exercise should be highly encouraged across the Organization in an effort to gain crucial feedback on other programs of work and budget and further insight as to how to bring about improvements constantly in the work of the Organization.

This document, submitted on behalf of ESNA and the External Consultant, is a step towards the adoption of a formal, functioning, transparent, neutral, and independent framework under which to conduct the provision of scientific advice related to food and nutrition in future expert consultations. Our conclusion is that there are many areas where the processes and procedures governing the convening of expert consultations can be improved upon. Paramount is ensuring that these processes are free of potential influence from the private sector or outside bodies that might compromise the integrity, neutrality and legitimacy of these efforts. Finally, with its measured level of success, the resulting reports and publications must continue to be more widely disseminated.
8. ANNEXES

8.1. Terms of reference

Auto evaluation of 221A1 (Human Nutrition Requirements)

1. Background

The objective of the Programme Entity (PE) 221A1 is to update estimates of human nutritional requirements for use by Members in national policy formulation and other stakeholders while facilitating their use and understanding. The major outputs during the last six years (1998-2003) were the following expert consultations and their reports:


The budgets for the three biennia were: 1998-99: Unknown; 2000/01: $1,275,000; 2002/03: $1,061,000. Inputs included funding for consultants and contracts to prepare background papers, travel and DSA for the experts, meetings and publications.

The history of this activity (human nutrition requirements) extends back to the earliest days of FAO, although it appeared under a number of administrative titles such as program activities, elements and entities. From the earliest days of FAO it was recognized that knowledge of human energy and nutrient requirements is essential for the complete assessment of food supplies and nutritional needs, enabling governments to monitor nutrition programmes and plan development activities in general. In 1948, the FAO Standing Advisory considered that "the problem of assessing the calorie and nutrient requirements of human beings, with the greatest possible degree of accuracy, is of basic importance to FAO." Providing this crucial information has been an important part of FAO's work since its founding five and a half decades ago.

The primary purpose of these early expert meetings on requirements was to advise the Directors-General on scientific issues related to energy and nutrient requirements so that appropriate recommendations for action could be formulated. In addition the global scientific community has embraced the advice on requirements, and these "FAO/WHO recommendations" are utilized or referred to in virtually all countries. This was foreseen by the first Director of the Nutrition Division when he observed, "even tentative recommendations would be of immediate practical value to FAO but also to its member countries and nutrition workers and others concerned with the problems of food requirements". The FAO/WHO recommendations have not only reflected the state of knowledge at a particular point in time; they have influenced research agendas and methodologies over the years. The various groups have contributed a set of principles for
determining and applying general requirements that have been adopted worldwide. For both FAO and WHO, the nutrition requirement reports rank among the most popular publications. A complete list of the Expert Consultations and their publications is attached.

Problems and emerging issues:
The protocol and modus operandi for examining scientific questions and issues was formulated in the late 1940’s. At that time the issues were less complex, there were fewer experts field working in the field of human nutrition (particularly with an international perspective) and the interest from outside stakeholders were relatively non-existent. Since that time a growing number of outside players see themselves as entitled to participate in any review and there is a call for increased transparency. In addition there is much more scientific evidence to review and the issues are more complex. It also must be recognized that the some of the decisions from an expert consultation carry economic implications and thus, an additional reason for enhance interest from outside FAO. The activities and pronouncements of FAO are viewed intently by not only member nations but the growing number of NGO’s and industry interest. Against this changing environment for investigating scientific issues, FAO should re-examine the complete procedure currently used to examine these issues.

2. Purpose of the evaluation

The evaluation is intended, as this programme entity draws to a close, to provide recommendations to the Department on its benefits as a PE and what steps and changes may be necessary to consolidate progress and ensure enhanced achievement of the objectives in a changing environment of scientific investigation.

3. Scope of the evaluation

The following issues and questions will be addressed during the evaluation, although others will likely be added:

a) The relevancy of the programme entity to the development priorities and needs of Member Nations;

b) Review the FAO protocol and rules regarding an expert consultation and assess their possible impact on carrying out an effective scientific investigation. These would include:

   i) effect of adhering to geographical distribution in selecting experts;
   ii) possible constraint in needing to seek government clearance for experts;
   iii) constraint of limiting the review to a one-off meeting as opposed to another format;
   iv) advantages and disadvantages of the current format – preparing working papers leading to discussions in one meeting leading finally to preparing a report based on the discussions;
   v) If an expanded process is deemed necessary what at the financial implications?
   vi) Is the original purpose of “advising the DG on a nutritional issue” no longer realistic or valid, i.e., has the group of stakeholders, real and perceived, increased and expanded?
   vii) Should a different criterion be adopted for determining the periodicity of investigating an issue, given that new findings and research are continually being published and it may not be practical to look at all aspects of an issue at one time?
d) What are the pros and cons in “opening up” the process for selecting experts? Should it be more “transparent” such as issuing an invitation on the Web for experts to apply?

e) From the 1960’s the consultations have been held in partnership with WHO and in a few instances with UNU and IAEA. What are the strengths and weaknesses of the partnerships with these other agencies, particularly WHO? Should these partnerships be revised and if yes, how? More broadly speaking, with which other organizations or FAO divisions is ESNA liaising in this endeavor? Is ESNA contributing to the work of other divisions or to any PAIA? If yes, what is the value of this collaboration with internal and external partners for ESNA and for partners?

f) What is the status of the report:

   i) an internal FAO report from the experts to the DG? If so what should FAO do with it?
   ii) a statement of the Organization once published, i.e. a public document subject to public comment, either before or after publication?

g) How are the consultation and its report viewed in the House? How are they perceived outside FAO and what are its expectations?

h) What have been the outcomes of the PE in the past 4 to 6 years, i.e. the typical uses that the data on human nutrition requirements were put to, both internally in FAO and WHO and externally in governments of member nations? How popular are PE publications and with which sort of readership? Can a few examples be provided of how the data were used in practice, either as a basis for nutritional projects or as a reference for national recommendations and policy?

i) Another changing issue - academic experts want (insist on) to publish background papers in peer reviewed journals, i.e., to build academic credentials. How should this be handled?

j) Should a greater effort be made to collaborate with other major reviews of nutrient requirements (e.g., the Food and Nutrition Board of the IOM)?

k) Should the process be more of a continual study of the issues?

l) Should the selection and timing of the review of a particular macro or micronutrient (or other nutrition issue) come from the advice of a group of experts, i.e., should it be more systematic?

m) Is time lag for publication of a report acceptable? If not, can it be reduced?

n) Is the current consultation process trying to be too much to too many users?

Based on the above analysis the evaluators will draw specific conclusions and make recommendations for any necessary further action by FAO to ensure a successful implementation of the programme entity, including opportunities that may be grasped and issues that should be resolved. The evaluation will also draw attention to any lessons of general interest.
4. Roles in the Auto-evaluation

The evaluation will be overseen and coordinated by the ESNA Service Chief and Nutrition Officer responsible for nutrition requirement reviews. The evaluation process will be assisted by two consultants:

- a senior nutrition scientist familiar with the FAO expert consultation review process as well as other similar review processes outside FAO. It is preferable that the consultant has participated in past FAO expert consultations;

- a junior nutritionist with some familiarity with FAO procedures and structure.

This section should describe:

5. Methodology

The consultants will facilitate brainstorming sessions with ESNA staff members and hold individual discussions, in addition to conducting a desk study of the documentation related to former consultations and related activities. This will include a review the current rules or mandate of expert consultations as well as a review of some of the past Consultations.

A list of in-house and external users and potential users of the consultation reports will be prepared. Typical uses made of the PE data will be highlighted, and examples provided.

Interviews or focus group discussions with current and past staff active in or knowledgeable of the nutrition requirement field will be conducted by the consultant and selected ESNA staff members (e.g., the auto-evaluation manager). Interviews or focus group discussions with selected “stakeholders” in the House will also be conducted by the consultants and ESNA staff members.

The opinions of WHO will be surveyed through emails and telephone exchanges.

Selected end users will be identified drawing from:

- Academic institutes in Developing and Developed countries
- Other review bodies
- Academic societies
- Selected Government ministries
- Industry representatives
- NGO’s

A questionnaire will be prepared for either putting on the Web with an invitation for responding or for sending to selected stakeholders for completion. Some follow-up by telephone may be necessary.

6. Evaluation outputs

The consultants will provide a written report on the process, constraints experienced, evaluation of the results and analysis and finally, recommendations.
### 8.2. List of Expert Consultations & meetings

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8.3. The External Consultant

The External Consultant, Dr Roger G Whitehead, has skillfully lead the auto-evaluation process in conjunction with ESNA and brings with him vast experience of having served on a number of expert consultations at FAO and WHO over the past 20 years. Dr. Whitehead has served as the Director of the MRC Dunn Nutrition Centre at the University of Cambridge in the United Kingdom, and Keneba, The Gambia from 1973-1998; Director of the MRC Child Nutrition Unit in Kampala, Uganda from 1968 to 1973; a Fellow at Darwin College in Cambridge from 1973 to the present and Vice-master from 1990 to 1997. Other accomplishments and positions include his role as a Visiting Professor at Kings College in London from 1991 to 2002; an Honorary Professor at the Chinese Academy of Preventive Medicine in Beijing, China from 1995; an Honorary Professor at Shenyang Medical College in China from 1995; a Visiting Professor at Oxford Brookes University from 2003; and a member of the International teaching staff at Makerere University in Uganda since 2003. Additional affiliations and honors include: President of the Nutrition Society from 1989 to 1992; Chairman of the British Nutrition Foundation Council from 1994 to 1996; an International Union of Nutritional Sciences Fellow; a Fellow of the Institute of Biology; a Fellow of the European Academy of Nutritional Science; an Honorary Fellow of the Royal College of Physicians; an Honorary Fellow of the Royal College of Pediatrics and Child Health; and an Honorary DSc at the University of Ulster. Awards include: the UNESCO Science Prize in 1983; the British Nutrition Foundation Prize in 1990; and the Nutricia International Award in 1994. Dr. Whitehead has served as a member of numerous UK and international committees from 1973 to the present; and as the Chairman for the Panel on Dietary Reference Values of the Committee on Medical Aspects of Food Policy (COMA).

Included in his declaration of interests during the past 3 years are the following:

- Council member of the Nestle Foundation, an independent registered charity in Switzerland, devoted to the development of nutritional research in the developing world, especially in Africa.

- Member of a British Dental Association food product accreditation committee. This committee no longer exists but individual food companies who developed products which were designed to improve oral health could apply to the BDA for its approval.

- Fritolay, Europe, the Middle East and Africa: Member of the Scientific Advisory Panel for Nutrition. This panel is concerned solely with giving scientific advice to company staff. It has no executive role. Fritolay is part of Pepsico International.

- Honorary Senior Scientist at the Medical Research Council (UK) Resource Centre for Human Nutrition Research in Cambridge.

He can be contacted at: rogergwhitehead@aol.com.
8.4. Full questionnaire response analysis

The following analysis is based upon the responses to the individual questions in the distributed questionnaires and is further gleaned from comments provided by respondents. For ease of presentation the results are given in three sections highlighting the question posed, the category of respondents and the response results.

- **Participation**
  
  *What did you participate in any of the Expert Consultations on updating the estimates of human nutrition requirements?*

  This question was only posed to academics and government respondents. Only two academic respondents and one government respondent did not reply to this question.

  Of the 80 respondents, 44% had been involved in expert consultations in the past while 56% had not. It would appear to be a reasonable mix of individuals that have and have not been involved in the expert consultation process.

- **Process is adequate**
  
  *This process is adequate in meeting the overall goals of the program.*

  Only one academic and two UN staff respondents did not reply to this question.

  Of the remaining 62 responses, 76% either strongly agreed or agreed to this statement.

- **Geographical distribution**
  
  *Adhering to a fair geographical distribution in selecting experts is important.*

  Only three academic and one UN staff respondents did not reply to this question.

  Here academics primarily emphasized the importance of scientific expertise, though ESNA staff and the External Consultant felt that the geographical aspect brought with it, special benefits in that while many of the developing country scientists and officials have not been involved in scientific research in the development of the Recommended Dietary Allowances (RDA), they possess specialized skills in terms of the application of such data, often under difficult circumstances. It is important that the more academic scientists are aware of these difficulties and therefore encouraged to present data in a more user friendly manner. Many academics believe that technical competence is paramount. They are not as concerned with geographical distribution while the UN staff, because of their work, has a heightened understanding of its multi-lateral role and value and therefore are more tuned to it.

- **Government clearance**
  
  *It is necessary to seek government clearance for experts.*

  Only three academic and one UN staff respondents did not reply to this question. This question was not posed to government respondents as it was assumed that they would agree.

  The great majority of the academic and UN staff respondents considered it quite unnecessary to seek government approval for any experts that might be invited by FAO (in their own capacity, i.e. the condition under which they are invited) to be involved in the expert consultation process, thus keeping it free from all levels of political/government influence. Ideally, this opinion reflects sound common sense, however it must be remembered that some national governments insist upon government clearance, including the United States.
ESNA Auto-evaluation of PE 221A1 Human Nutrition Requirements

(UN Wire Report, 2004). Should this part of the process also demand a high level of transparency? Although obviating government clearance should be the ultimate goal, it may not be possible for FAO to comply immediately. Of those respondents answering this question, 84% either disagreed or strongly disagreed to this statement.

- **Process of continual study**
  
  Since expert consultations focus on one issue at a time in all of its aspects, and given that new findings and research are continually being published, the process of updating the human energy and nutrient requirements should be more of a continual study of the issues.

  Only two academic and one UN staff respondents did not reply to this question.

  Of the academics and UN staff replying, an overwhelming number of respondents (92%) believed that the process of expert consultations should be continual. As stated in numerous comments, interviews, and historical accounts the complexities, costs, funding issues, staffing, etc. of conducting a formal expert consultation sometimes has prevented the more frequent updates to current information. An interim measure may be to update existing recommendations by mentioning new and relevant scientific findings in revised versions of the report.

- **Advice from experts**
  
  The selection and timing of the review of a particular nutrition issue should come from the advice of a group of experts, such as the once Joint FAO/WHO Expert Advisory Committee on Nutrition (JECN).

  Only three academic and one UN staff respondents did not reply to this question.

  ESNA and the External Consultant consider that if a more frequent assessment of the human nutrition requirements is desirable, there has to be an organizational framework through which to identify priorities. The JECN is still on the Statute Books in FAO but has been inactive for some time now. The majority of respondents (84%) replying to the question felt that the JECN could serve a very useful purpose in this regard. It is possible that some of the respondents who had no view on this issue (7 people) may have answered in such a way because of a lack of knowledge on this committee since it predates (last session met in 1974) most peoples' involvement.

- **Publication of background papers**
  
  It is appropriate for academic experts to be permitted to publish the background papers concerning expert consultations in peer-reviewed journals, i.e. to build academic credentials.

  Only three academic and one UN staff respondents did not reply to this question.

  The vested interests of some may influence who is involved (disadvantage) in the expert consultation process. This question touched on the important issue regarding transparency. One way that criticism could be satisfied or avoided would be to publish all of the background papers for the expert consultations and technical workshops before the release of the final report. This is supported by the responses from academics (86%) though the UN staff disagreed (71%). An important feature here is to encourage the publication of higher quality documents with the question of whether or not to provide stipends to authors as incentive. It should be noted that increasingly experts quasi-condition their involvement in an expert consultation on the freedom to publish their contribution paper or assurance that publication will occur. What will be the editorial procedure? How many months in advance to the consultation would these documents be published and made available? In any case, the necessary funds first need to be provided by FAO so as to support such a venture. ESNA
should come to an agreement with 1 to 3 reputable journals that would agree to the publication of the background papers in advance of an expert consultation. FAO should consider making representation to the editorial boards of a number of reputable journals to see if in principle they would agree to the expeditious publication of position papers prior to an expert consultation. Again, it should be noted that there would be both time (staff) and financial (funding) implications here.

There is a concern that if ESN does not change its policy on publishing that it will not be able to attract the best consultants. Experts insist that FAO provide resources for publication costs. This was apparent during the Energy and Protein report (1985) which generated a great deal of pressure on FAO to do so. With the *Diet, Nutrition and the Prevention of Chronic Disease* report (2003), the background papers were published in *Public Health Nutrition* (February 2004). It is recognized that there is intense pressure to publish on the part of academics though FAO cannot provide adequate compensation to produce these papers. Another point raised, is that it is impossible to refer to publications in a report if it is not published. Many of the UN staff seemingly does not realize that the process for permitting the publication of background papers had changed (reflected in the fact that 11 staff members disagreed with this question/statement).

- **Collaboration with other reviews**

 FAO expert consultations should be made to collaborate with other major reviews of nutrient requirements (e.g. National Scientific Committees of countries such as the US, Europe, UK, Canada, Philippines, Mexico, China, and India).

Only two academic and 1 UN staff respondents did not reply to this question.

Of the respondents, 71% agreed or strongly agreed that collaboration should exist. While the UN provides the basic information for the expert consultations, some countries have access to other resources that could prove very helpful. That is speaking specifically of the best available scientific information to aid in producing recommendations that cover global conclusions. This is not so to influence decisions and/or outcomes but to for FAO to have access to ALL information, resources, etc.

- **Transparency**

 The entire process of soliciting interest and the accompanying mechanisms for selecting expert consultations should be communicated in a more transparent manner (i.e. such as on the Internet).

This question was posed to all groups with only one of the government respondents not replying to this question.

Of all respondents in the questionnaire, 82% either strongly agreed or agreed that the process should be more transparent. Results show that there is a need to address the issue of outside influences, i.e. private sector, etc. This issue is thoroughly addressed in the publication, *Food Safety Consultations, Provision of Scientific Advice to CODEX and Member Countries*. Also, please see sections 4.1, 6.6 and 6.10 for further analysis and recommendations.

- **Dissemination**

 The guidelines used for the mechanism, process and conduct for expert consultations must be widely disseminated.

This question received full responses from both academic and UN staff respondents.
Clearly this response sends a strong message as 92% of the respondents either strongly agreed or agreed that information on all guidelines and accompanying mechanisms needs to be widely disseminated.

- **JECN**
  
  The JECN should be revitalized by FAO to oversee the role of UN Organizations in conducting expert consultations.

Only two academic and two UN staff respondents did not reply to this question.

A majority (59%) of respondents either strongly agreed or agreed that the JECN should be revitalized. A high number of respondents had no view (34%) possibly indicating that those individuals did not know that the JECN had a prior existence and/or might not know enough about it. Two big questions remain as to how the JECN should be selected and how often they would meet? By placing all related information on the internet, it would enter into the public domain.

- **Maintain involvement**
  
  Do you wish to continue to maintain involvement in the selection of experts for the consultation process?

This question was only posed to the government group and one respondent did not reply to this question.

The majority (78%) of respondents wished to continue its involvement in the selection of experts for consultations. It is agreed that the involvement of member states would be valuable in this capacity but only as long their involvement does not imply that there must be acceptance of government clearance for experts to participate which is in fact the current situation. Clearly, government would like to be involved.

- **Importance of involvement**
  
  If you wish to continue to maintain involvement, how important is this?

This question was only posed to the government group, in relation to the question prior, and 4 respondents did not reply to this question.

Of those that did respond, all said that it was very important or important for them to maintain involvement. Of the countries responding here, the governments of Canada, Bulgaria, New Zealand, Australia, and UK believe that this role is important.

- **National RDA tables**
  
  Do you have your own national RDA tables or equivalent?

This question was only posed to the government group, and one respondent did not reply to this question.

Of those responding, 78% said that they had their own RDA tables or equivalents. As can be seen in the additional comments (see Annex 8.5), the use of the human nutrition requirements information is important for member countries. It should again be noted here that these recommendations are not meant to be relied upon blindly. There are certainly existing related issues that are country-specific that should be reflected in the dietary tables of individual countries appropriately.
• **Satisfied with FAO involvement**  
*I am satisfied with FAO's role or involvement in this important area.*

This question was only posed to the government group, and one respondent did not reply to this question.

Of those responding, 78% said that they were satisfied with FAO's involvement.

• **Programme Entity 221A1**  
*The programme entity, 221A1 (Human Nutrition Requirements) is relevant to the development priorities and needs of Member Nations.*

This question was only posed to the UN staff, and one respondent did not reply to this question.

Of those staff responding, 88% either strongly agreed or agreed that this programme entity was relevant to the needs of Member Nations.

• **Stakeholders**  
*The number of stakeholders has increased and expanded negating the original purpose of “advising the Director General on a nutritional issue.”*

This question was only posed to the UN staff, and 2 respondents did not reply to this question.

While the original purpose of the report of the expert consultations has been indeed to solely advise the Directors-General (FAO & WHO) on nutritional issues, it is clearly viewed as a formal report. It should be noted that if these resulting reports were to indeed become a formal view or statement of the Organization, then it would need to have formal approval from all Member Nations. Here the respondents may be agreeing that this has happened in the past, not that it shouldn't have necessarily. Perhaps, the full understanding of the issue is not fully known, i.e. have the reports of the expert consultations now evolved into something else?

• **View of final report as internal to FAO**  
*Which of the following two statements accurately expresses your view of the status of the final report of an Expert Consultation? An internal FAO report from the experts to the Director General.*

This question was only posed to the UN staff.

The few responses indicate that this point needs to be clarified for the staff, as to the exact status of the final reports of the expert consultations.

• **View of final report as formal statement**  
*A formal statement of the Organization once published. (Related to the above question.)*

This question was only posed to the UN staff.

The majority of respondents (87%) either strongly agreed or agreed with this statement. The reports seem to have evolved into having become a formal statement even though there is a line in the report stating that it is not endorsed by the Member Nations. The members have neither the need to endorse the report or the right to reject it. In light of the discussion that took place, it doesn’t necessarily mean that the organization agrees with it.
• **Acceptable period for publication**

*What is an acceptable period of time for the publication of a report following an expert consultation?*

This question was only posed to the UN staff, and 2 respondents did not reply to this question.

In this aspect of periodicity we are given a clear message regarding the time that elapses between the actual expert consultation and the publication of the report. The majority of respondents (89%) believed that the report should be published within 6-12 months following the expert consultation (see Annex 8.5 for related comments). What are the implications to publishing the resulting report of an expert consultation in one year? One of the impeding factors to its publication is the experts wanting to have post-consultation research/work undertaken. Such efforts must be practical, viable and realistic. The reports may lose their impact and possibly their usefulness if published after a 12-month period.
8.5. Questionnaire comments

The following comments were gleaned from the 80 completed respondent questionnaires. In some cases multiple respondents raised the same concerns or recommendations in response to the questions or statements provided. The authors of this report have edited these comments, where appropriate, striving to maintain the integrity of all of the responses.

- **Respondent uses of information**

*Please provide an example of how the data on human nutrition requirements were used in practice.*

- To update national nutrition recommendations, policy and the formulation and revision of RDAs.

- To develop policy, standard setting and regulations for nutritional assessment of sole source foods such as infant formulas and enteral-nutritionals for the elderly.

- To develop Codex international food composition and nutrition standards for vegetable protein products.

- To develop regulations for health claims of functional foods and nutraceuticals.

- To advise consumers about the safety and nutritional quality of dietary proteins (especially those derived through biotechnology) and amino acid supplements.

- To calculate food gaps and food needs in low-income countries. The results were used to inform policymakers and the public about what countries are unable to fulfill nutritional requirements.

- Used as the “bible” in human requirements. Every time that you do work in nutrition where requirements are used, the report is used as a reference.

- For training and information systems monitoring in food security.

- As an adjunct to clinical care.

- To determine poverty lines.

- To analyze the prevalence and depth of undernourishment at national and sub-national levels.

- As a reference in publications, e.g. in the form of tables.

- To interpret food balance sheet data, as guidance for interpreting micronutrient data.

- As a basis for calculations of food rations in disaster relief.

- Nutrition country profiles, to compare dietary energy supply and population energy requirements.

- For the analysis of household food consumption data and the evaluation of surveys. Further, energy requirements are used to check for underreporting in food surveys.

- Check recommendations in relation to labeling, for energy requirements.
• Technical advice to National Nutrition Programs, e.g. school-aged children, pre-
school children, pregnancy and lactation, adult feeding programs and the elderly.

• Presented as standards of reference in Public Health Nutrition classes, for use in
nutritional epidemiological studies as well as policy development.

• Teaching purposes at the graduate and post graduate level and in master and
doctoral degree programs on courses related to human nutrition and nutrient
requirements, the elderly, pregnancy and lactation, infancy.

• As a basis for nutritional projects at local level; Setting up programs for child feeding
based on local foods.

• Reference to propose basic food baskets.

• Nutrition education.

  • **Information made more useful**
  
  *In your view, how can the information on human nutrition requirements be made more
  useful?*

• Provide rough estimates for any population, as reference values, using some
appropriate and simple variables such as age groups and lifestyles. In addition, it
should provide clearly stated instructions as to the limitations of the information and
current methodology for future revision.

• Present the information in a user-friendly manner to enable non- technical individuals
to interpret and use it properly, along with additional introductory materials on the
topics covered in the consultation.

• Increase the involvement of experts, especially from developing countries who rely
heavily on the work carried out by FAO and WHO. Make this information accessible
to a wider group via the Internet, for developed countries and the wide dissemination
of hard copies of reports to developing countries or where Internet is inaccessible.

• Provide practical scientific information and its practical application; every publication
on the topic of human nutritional requirements should be coupled with a manual for
the respective user; ensuring that there is a clearly identified section of each report
dealing with practical applications.

• Make the report and related publications available with the shortest possible delay.
The rather long intervals of time between the convening of the consultation and the
publication of the resulting report has caused harm as many scientific concepts have
changed, thus reducing the credibility of the requirements and recommendations, and
in turn the estimates they are based upon (e.g. undernourishment prevalence).

• Publish the resulting consultation reports in Spanish and other official UN languages.

• Release on the FAO website a short, practical and updated document with all the
data on nutrition requirements that facilitate their use.

• Take an approach that provides a measure of continuity in regards to updating the
consultations reports so that all investigations remain dynamic.

• Increase ESNA’s profile in the work of the Organization.
• Create an email forum of experts on addressing identified issues, coordinated by FAO and WHO, with regular information releases.

• Devote some reports on the subject of “hot topics” i.e. controversial issues such as focusing on disease prevention, as relevant information becomes available, and without delaying its release until a new formal consultation takes place.

• Change the discussion from talking simply about nutrition, as has been classically known based only on growth, and turn to a more modern approach to nutrition, one of sustainability that can guarantee good health throughout the years.

• Propose optimal recommendations.

• Provide more illustrations.

• Create a computer program in which personal data can be inserted which can be linked to your requirement data in order to calculate the nutrient requirements for a specific person or for a group of people.

• Provide more indication of the individual variability and the shape of the distribution of nutrient requirements so that probabilistic techniques can be used to assess the adequacy of the diet.

• Offer a workshop to introduce the reports to the regions especially those who do not have their own document.

• Disseminate all publications more widely.

• Expand upon the scientific justification for each estimate, within appropriate limits.

• Publish all background papers to reflect a balance in the opinions of the experts, with all publications available on the Internet in PDF format.

• Take into account the factors affecting available nutrients (i.e. cooking, processing, etc.) by linking the nutrient requirement recommendations to tables of the available nutrient content of foods.

• Update the information on topics regarding human nutrition requirements in order to consider the available scientific knowledge.

• Provide more information on basic definitions and concepts, highlighting distinctions.

• Give greater attention to micronutrient interactions.

• Include micronutrient supplies in food balance sheet calculations.

• Provide a range of age/sex categories and recommendations based on activity levels, including information that would assist in the interpretation of this information.

• Connect databases on human nutrition requirements with other country databases (population growth, socio-economic developments, physical activity, etc.).

• Provide a downloadable excel spreadsheet which would calculate requirements on the basis of wt, age, sex etc.
• **Harmonization**

- Unify the approaches for the analysis and calculation of data and assess the ground for their inclusion in the exchange network, i.e. sampling, analytical quality, parameters of validated methods, etc.

- Conduct a critical assessment of points of variance between FAO and other authoritative reports, as has been a part of the FAO/WHO report process, and help to provide a framework for obtaining consensus in the scientific community. Industry might be able to recommend particular, outstanding questions of a practical nature that could also be addressed. For example, bioavailability of food forms of nutrients (or supplement forms) helps manufacturers apply requirements to food composition. Similarly, variations of forms of nutrients, e.g. folate conjugates; various tocopherols; menadione form of vitamin K; suggested that clinical markers of nutritional adequacy are imprecise and that multiple surrogate markers may be needed.

- Use more consistent principles to determine the needs of children, adolescents and adults, i.e. specific linear growth curves for children based on breastfeeding (exclusive up to 4-6 months) and actual physical activity measured by DLW. Specify weight-for-height for children based on some adaptation of BMI for children.

- Present the variation of requirements according to recommended range of BMI and range of actual height for adults, using an approach similar to that used for different levels of physical activity.

- Estimate adolescent requirements according to height, not height-for-age or weight-for-age, to allow for variation in the timing of adolescent growth. Alternatively, show range of variation in requirements by age according to the timing of adolescent sprout.

- Elaborate on the RDI or NDA based upon representative studies and not borrowed from different sources.

- Incorporate possible variation of BMR by climate (lower in tropics) and improvements on predictive equations.

- Quantify risks associated with different values of BMI for adults, allowing for different definitions of minimum intake. Use similar approach for evaluation weight-for-height in children, not just using cutoff points at -2SD and +2SD (cutoff points are not necessarily associated with increased risks).

- Integrate new views on the paradigm of nutrition requirements (e.g. including the prevention of chronic diseases, which has been done in some country specific nutrient requirements) and new developments in methodologies assessing nutrient requirements.

• **Transparency**

*What are some of the pros and cons of further opening up this process?*

- Scientific knowledge should be public and transparent. The FAO publications should uphold the credibility of the experts and that of the entire process. Disagreements between experts should not to be hushed away, but publicly discussed.

- *Openness* is labour and time intensive. However, such transparency does add a wider perspective and can improve the overall outcome of the process.
• To provide clearer documentation on the framework on which recommendations are based, the methods used to derive estimates for specific subgroups, criteria used for selecting evidence on which estimates are based, and guidelines for their appropriate uses.

• Given the increasing politicization of food and nutrition issues, it is important that we find mechanisms to separate the scientific from the inevitable political processes as much as possible.

• The publication of background papers in peer-reviewed journals should provide additional checks on the quality of the analysis.

• The processes through which the data are analysed and reviewed should be stated explicitly and agreed upon.

• **Strengths of process**

  *What are the strengths of the current process (e.g. efficient, transparent, etc.)?*

  - Public health interest is paramount.
  - International perspective is upheld.
  - Technical competence is assured.
  - Careful editorial review is undertaken.
  - Detailed editorial review is carried out.
  - Global issues are discussed.
  - The experts involved give credibility to the reports.
  - The selection of experts is based upon scientific accomplishments.

• **Weaknesses of process**

  *What are the weaknesses of the current process (e.g. unorganized, cumbersome, etc.)?*

  - Insufficient preparation for the consultation process.
  - Insufficient consultation with key stakeholders.
  - Insufficient definition of key issues in relation to implementation and user’s need.
  - Insufficient strategy to address key implications of recommendations that affect private and possible national interests.
  - Lengthy process.
  - One-hundred per cent ‘neutrality’ is not guaranteed.
  - The process for expert consultation is not widely disseminated and some people very qualified cannot apply.
  - Lack of firm control of the process by either FAO or WHO and poor communication between them.
  - Chairmen may be selected as technical/scientific experts with little experience of the process and will therefore need additional guidance.
  - Currently, there is very wide confusion about the nature of the process and how best to effectively utilize the information generated – even amongst those most directly involved in the process. This means that there is wide and unacceptable opportunity for misuse and mischief which does not serve the community or the public well.
  - Expert consultations do not meet frequently enough for updating knowledge on nutrition requirements and making new recommendations.
  - It is time that the expert committee be composed of the best available experts, rather than filling it with people to meet geographical representation.
  - Little research is done in developing countries (i.e. in varied living conditions).
• Long delays in the publication of the expert reports have caused harm as many scientific concepts have changed thus reducing the credibility of the requirements themselves and the resulting estimates.

**Respondent recommendations**

*Please list any recommendations you have in regards to this subject.*

- FAO must continue with its expert reports as they are very important in underpinning international nutrition policy.

- The current process in very slow, there is a lack of manpower to carry out the process rapidly. More means are necessary to ensure that FAO can follow the scientific progress of identified topics and convene expert consultations when new science requires revision of existing norms and recommendations.

- Organize a reasonably sized staff planning group, including the secretariat and expert consultation chairperson, to adequately address the needs of the entire process.

- Develop a clear and effective conflict of interest policy. Secure the expert consultation process (both financial and technical) so that it is free from conflict of interests, real or perceived, from the pressure by interest groups and that potential concerns are addressed from the outset.

- Consider a strategy to address policy and political implications of the technical consultation.

- Make the science-based information used in the consultation available electronically and promote dialogue on key issues before the consultation.

- The technical report should maintain its original purpose in the process, the agency should then provide its view on the practical and policy implications as it deems appropriate.

- Develop a policy and procedure to assure the wide participation of stakeholders without compromising the scientific integrity of the process.

- FAO and WHO should identify an individual project manager from one of their own staff to take charge of the process and each report.

- The task of preparing a background paper is becoming increasingly onerous. This process should be carried out systematically, according to generally accepted guidelines. It is imperative that this information be placed in the public domain. FAO should be able to say that it “does not necessarily endorse the content”. Background papers should be published in a peer-reviewed journal before the release of the final report, so that the reader can examine the evidence on which the report is based.

- The expert consultation has the responsibility to weigh the scientific evidence and determine the relative strength of the available information thus arriving at a clear conclusion. The process by which it is discharged should also be completely transparent. These two steps would ensure that the objective basis of the process is not undermined, and subject to both justified and unjustified criticism.

- Suggestions for future process: 1) circulate widely an agenda, with requests for views on any of the items, 2) appoint a small group (no more then 10) of experts, each to cover one item, review all the material sent, ensure its relevance to their item and
incorporate it along with their own views in a working paper, 3) the experts would then meet (physically) to consider jointly all of the working papers and produce a report.

- In addressing the difficult issue of which candidate endpoints are to be included in a review, it would be useful for FAO to set thresholds for types of scientific information that when met, would trigger a review. FAO needs to set guidance for scientists to develop the right types of information to trigger a FAO report, and perhaps even set up a formal petition process to set the wheels in motion.

- There is an acute need for the FAO/WHO RDA process to be expanded to include Tolerable Upper Intake Levels (UL values). There is much international difference of opinion on UL for some nutrients, and WTO trade disputes seem inevitable. In a dispute resolution, the World Trade Organization would have no genuinely international authoritative value to utilize. The Codex nutrition committee is developing guidelines for maximum values for a variety of products, including vitamin and mineral supplements. An international set of UL values is needed for use within these guidelines to calculate maximum permissible levels in products.

  - **Additional comments**
  
    Please include any additional comments or issues relevant to this subject that were not here mentioned.

- Both FAO and WHO need to develop a strategic approach to document various topics of key priority in an integrated plan that should not be done on an ad hoc basis. This work should include work done in support of the Codex Nutrition Committee, overseen perhaps by a revitalized Joint Expert Committee on Nutrition (JECN).

- Experts should be loyal to science, not to governments or industry. Experts and governments should not be considered as linked. Their expertise should not be biased by government policy.

- Many countries look to FAO as a source of sound, unbiased information. The reports of these consultations are considered by some, most especially from developing countries, to be the final word on the matter.

- Agree on deadlines for comments during the meeting and preparations for scientific publication of background papers along with an agreement that these are only to be published after the finalization of the report.

- The background papers should be complemented with systematic reviews when appropriate.

- Policy alternatives require greater discussion and emphasis.

- The implications of the recommendations for policy should be specifically addressed.

- The FAO and UN organizations should define the background papers that will serve as core support for the report and publish this under the author’s responsibility before the final report is released. The scientific basis for the recommendations should be widely disseminated.

- The authors should be permitted to independently publish material that is not used in the final report.
• Release an encapsulated findings (1-2 pages) first, followed by the more extensive published report.

• FAO/WHO should start assembling groups to discuss the accession of the naturally occurring “new” bioactive substances contained in foods.

• When considering the dissemination of information, remember that not everyone has access to internet services.

• Create an editorial committee from the experts which will continue the work after the consultation has completed, providing a stipend for formal time committed.

• Experimental studies are needed to establish new concepts of requirements.

• Allow all nutritionists/scientists to register an interest in the process and submit a position paper for each consultation on the FAO web site for a month and then registered individuals may comment in an internet-style forum. This would provide a very broad consensus and the experts could consider this useful criticism and comments into account in the final process.
8.6. Traditional Expert Consultation Schematic (through 1960’s)

- **ESN/FAO Secretariat**
  - Selects topic for consultation
  - Generates list of experts
  - Develops the agenda
  - Assigns topics of background papers to experts

- **Consultation is convened**
  - Same selected experts participate in consultation

- **Background Papers are produced**
  - Papers are reviewed?
    - Contents discussed

- **Rapporteur organizes and drafts report at end of the consultation**
  - Theoretically becomes the draft of the report

- **Report is cleared by all participating experts at the end of the consultation**
  - Consultation ends
  - Report is edited and formatted
  - Report is published
8.7. Evolved Expert Consultation Schematic (to present)

- Selects topic for consultation
- Background research is decided
- Develops the agenda
- Chief consultant is chosen
- Contact for availability
- Final list approved by DG or delegated authority
- Papers are circulated to the experts
- Draft report is written
- Draft is completed
- Final report is approved by experts
- Secretariat publishes final report

- Draft chapters written, read and discussed
- Discuss issues
- Identification of post-consultation activities
- Discuss Program of Work
- Select Chairperson and rapporteur (honorary title; takes notes)
- Consultation ends (loose agreement towards approval of final report)
- Expert Consultation is convened
- Background papers written by recognized experts (no balance)
- Evolve into Working Papers for the expert consultation
- Gender and geographical balance
- Working Groups are created and convened ahead of formal consultation
- List of experts formulated and are selected
- ESN/FAO Secretariat (In ad hoc capacity)
- Identifies a potential chairperson and rapporteur

End Users → ESN/FAO

JECN (To advise on new issues/review of old; composition of WG and EC; Filter)

Selection of experts

Expert Consultation Process

Selection of chairman & rapporteur

Draft report/Interim (60 days for feedback)

Redraft of report

Report published within 1 year of consultation

Press Releases drawn up in consultation with experts

End Users

Not sufficient information

Background Papers (Leading Scientists produce distillation of best research) → Peer-reviewed → Published in scientific journal → Post on Website?

Identification of post-consultation activities → Press Releases, as necessary, drawn up in consultation with experts → Cleared and signed by experts → Published in scientific journal → Post on Website; available as a PDF file

Selection criteria: Invitation to nominate Geographic representation Level of expertise Declaration of interest

Clearance by ODG

Biennial exercise; agree on topic, location, costs and process responsibility

Funded solely by UN Program of Work budget

Summary Reports

Working Groups

Expert Consultations & Technical Workshops

Selection of experts

ESN/FAO

WHO

UNU

IAEA

Other UN Agencies

End Users

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8.9. Persons met or interviewed

United Nations
- Bruno DeBenoist, Graeme Clugston, WHO
- Nevin Scrimshaw, UNU
- Venkatesh Iyengar, IAEA

FAO
- Kazuaki Miyagishima, (ESNC) Secretary—Secretariat Codex Alimentarius Commission
- Jorge Mernies, (ESSA) Chief—Statistical Analysis Service
- Lourdes Costarrica, (ESNS) Senior Officer—Food Quality and Standards Service
- Ricardo Sibrian, (ESSA) Senior Statistician—Statistical Analysis Service
- Selma Doyran, (ESNC) Food Standards Officer—Codex Alimentarius Commission
- Isabella Pontecorvo, (GICO) Correspondence Officer—Conference Council and Government Relations Branch
8.10. Documents consulted

- Preparation meeting on the elaboration of a common framework for the functioning of joint FAO/WHO expert bodies and consultations. FAO. Rome, Italy. 3-4 September 2001.