Strengthening public health nutrition research and training capacities in West Africa: Report of a planning workshop convened in Dakar, Senegal, 26-28 March 2009

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- UNICEF West and Central African Regional Office, Dakar, Senegal

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A three-day workshop was convened in Dakar, Senegal, to provide participants
from West African and international academic and research institutions, public
health agencies, and donor organisations an opportunity to review current public
health nutrition research and training capabilities in West Africa, assess needs for
strengthening the regional institutional and workforce capacities, and discuss
appropriate steps required to advance this agenda. The workshop included
presentations of background papers, experiences of regional and international
training programmes and small group discussions. Participants concluded that
there is an urgent need to: (1) increase the throughput of public health nutrition
training programmes, including undergraduate education, pre-service and in-
service professional training, and higher education in public health nutrition and
related research skills; and (2) enhance applied research capacity, to provide the
evidence base necessary for nutrition program planning and evaluation. A Task
Team was appointed to inform the regional Assembly of Health Ministers of the
workshop conclusions and to develop political and financial support for a
regional nutrition initiative to: (1) conduct advocacy and nutrition stewardship;
(2) survey existing training programmes and assist with curriculum development;
and (3) develop a plan for a regional applied research institute in Public Health
Nutrition.

Keywords: public health nutrition; nutrition research; nutrition training; nutrition
institutional capacity; West Africa

Introduction

The West African Health Organisation (WAHO), the West and Central African
Regional Office of UNICEF (UNICEF WCARO) and the Africa Regional Office of
Helen Keller International (HKI) jointly convened a workshop in March 2009 to
review the current situation and future needs concerning the public health nutrition
research and training capacity in the West Africa region. The original objectives of
the workshop were to: (1) review the current situation regarding regional expertise in
applied human nutrition research in West Africa and the need for a regional applied
nutrition research and training institution; (2) discuss the ideal characteristics of such
an institution, where it might be located, and how it could be supported financially
and scientifically; and (3) if deemed appropriate, prepare an action plan for next
steps towards establishing such an institution. The workshop organisers felt strongly
that this was an opportune time to refocus attention on nutrition capacity
development because of heightened awareness of the importance of nutrition for
child survival and development (Black et al. 2008), and increasing commitments to
nutrition by national governments, international agencies and academia (Bezanson
and Isenman 2010).

A broad range of stakeholders were invited to participate, including faculty
members of West African universities with strong nutrition research and training
programmes, representatives of European and North American academic and
research institutions that currently support such activities in West Africa, adminis-
trative and scientific staff members of regional research and training institutions
in other fields of science, representatives of public health and technical assistance
agencies that are active in West Africa, and members of relevant donor organisations.
The workshop planning committee received financial and/or technical support from
UNICEF WCARO, WAHO, HKI, the HarvestPlus project of the International Food
Policy Research Institute, Wageningen University and the University of California,
Davis. The workshop facilitators were Dr Milla McLachlan (Full Circle Connect)
and Ms Miren Bengoa (UNICEF WCARO).

The workshop format included presentations on the current health and nutrition
situation in West Africa and progress towards achieving the Millennium Develop-
ment Goals (MDGs), background reviews on the current higher educational training
capacity and research publications in public health nutrition, descriptions of existing
training and research programmes in the region and external technical support for
these programmes. These presentations were followed by descriptions of different
models of regional research organisations in health or agricultural sciences. Finally,
the workshop participants met in smaller groups to develop consensus on the need
for an enhanced regional applied nutrition research and training capacity, the
institutional arrangements that might be promoted to achieve such progress and the
specific actions that would be required to advance these plans. The workshop agenda
and list of participants are available in Appendix 1. The remainder of this report
describes briefly the current health and nutrition situation in West Africa, the
conclusions of the two background papers, which are being published separately as
part of the current supplement, the conclusions of the working groups and the final
consensus statement of the workshop participants and plans for future actions.

The current nutrition and health situation in West Africa

Following introductory comments by Shawn Baker (Africa Regional Director, Helen
Keller International) and a general review of the workshop objectives, the first
session of the workshop set the stage by reviewing the current nutrition situation in
the region. Félicité Tchibindat, the Regional Nutrition Advisor for UNICEF
WCARO, presented a summary of nutrition and health statistics in relation to the
United Nations MDGs. This review highlighted the critical importance of underlying
poverty and civil disturbances in restraining regional progress in nutrition and

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United Nations MDGs. This review highlighted the critical importance of underlying
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health, despite the fact that many of the countries possess considerable wealth in the form of natural resources. Currently, 10 countries in the UNICEF WCARO region have a prevalence of moderate or severe wasting > 10% among under-five children, and all but two countries (Cape Verde and Senegal) have a prevalence of moderate or severe stunting > 20% (see Figures 1 and 2).

Even more alarming, perhaps, are the facts that only four countries (Congo, Ghana, Guinea-Bissau and Mauritania) are on track to meet MDG 1 (to reduce the prevalence of underweight) and none is on track to achieve MDG 4 (to reduce child mortality). Moreover, despite the limited progress that has been achieved in reducing the prevalence of undernutrition, the actual number of underweight children increased during the past decade because population growth outstripped the slight decline in underweight prevalence (see Figure 3). Dr Tchibindat concluded by noting that the major locus of childhood undernutrition is shifting from Asia to Africa, and she stressed the urgency of the situation because of the deteriorating conditions in West Africa in particular. She emphasised that the number of malnourished children in the region will continue to increase unless targeted strategic actions are implemented to improve the situation.

Dr Placido Cardoso, Director General of the West Africa Health Organisation (WAHO), reviewed the history of West Africa’s commitments to improving nutrition and described the role of the Economic Community of West African States (ECOWAS) in supporting regional initiatives in health and other sectors. Since 1996, WAHO has supported the ECOWAS Nutrition Forum, which provides an

![Figure 1](image_url)
opportunity for national focal points in nutrition to discuss issues of common interest. Dr Cardoso also emphasised the importance of nutrition for national economic development, and he noted the growing importance of overweight and

Figure 2. Prevalence of stunting (height-for-age < -2 Z-score) in countries of UNICEF’s West and Central Africa Region (source: UNICEF 2009).

Figure 3. Changes in prevalence of underweight (weight for age < -2 Z-score) from 1995–2005 in countries of UNICEF’s West and Central Africa region as compared to the continents of Africa and Asia.
obesity as future public health nutrition problems, especially in urban settings. Finally, he described the main components of the WAHO Strategic Plan for the period 2009–2013, which includes several items of particular importance for the current nutrition initiative, namely: development of human resources for health; development of research capacity and institutional development, as well as WAHOs roles in coordination and harmonisation of health policies and promotion; and dissemination of best practices. He further indicated that nutrition and non-communicable diseases and maternal and child health were priority areas within the WAHO Strategic Plan. Dr Cardoso concluded his remarks by recognising that nutrition is not only an issue for public health, but also a pillar for national development; so greater investments in nutrition and health should be fundamental actions for ECOWAS partners.

The foregoing background presentations were followed by a panel discussion on the perspectives of major technical assistance partners and donor agencies with regard to the importance of nutrition for their programmes. There was complete consensus among the speakers on the importance of nutrition for health programming and national development. Notably, several of the agency representatives described their frustration at not being able to recruit a sufficient number of well trained nutrition specialists in the region to manage their respective programmes and provide the necessary evidence base for scaling up these activities.

Background papers on nutrition training and research capacities

Dr Fré Pepping of Wageningen University presented the key findings of his review on existing nutrition training programmes in West Africa (Pepping 2010). In particular, he summarised the results of an informal survey of university-based undergraduate, Masters and Ph.D. training programmes in nutrition (with or without accompanying programmes in food science), and research training activities linked to independent research institutes in West Africa. Dr Pepping further examined the annual lists of applicants to the African Nutrition Leadership Programme to identify West Africans currently enrolled in nutrition training programmes in Europe, North America and elsewhere in Africa. Although the results of the survey were still incomplete at the time of the workshop, it was obvious that the number of individuals enrolled in nutrition training programmes and the available training capacity fall far short of the regional requirements for nutritionists with the respective levels of training (see Table 1 for estimates of regional training needs). Prof. Pepping concluded that there is an obvious need for dramatically expanding the nutrition training capacity at all levels (undergraduate, graduate, research and in-service professional training) in the West Africa region.

Prof. Kenneth Brown of the University of California, Davis, presented the results of a bibliometric analysis of scientific articles on key public health nutrition issues in West Africa that were published during the period 1998–2009 (Aaron et al. 2010). A total of 412 articles were published on nine selected topics, such as infant and young child feeding, specific micronutrient deficiencies, nutrition and infection, and overweight and obesity, which were deemed to be key issues for public health in the region. Although there was a slight increase in the number of publications during the 11-year interval, the mean annual output of just 40 papers was interpreted as being relatively meager, considering the population size of the region and the
Table 1. Estimated human resource needs for trained nutritionists in West Africa.

<table>
<thead>
<tr>
<th>Country</th>
<th>Population (millions)</th>
<th>BSc needs</th>
<th>MSc needs</th>
<th>Ph.D. needs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Total a</td>
<td>Annl</td>
<td>Cap</td>
</tr>
<tr>
<td>Benin</td>
<td>9</td>
<td>180–900</td>
<td>18–90</td>
<td>10</td>
</tr>
<tr>
<td>Guinea</td>
<td>9</td>
<td>180–900</td>
<td>18–90</td>
<td>?</td>
</tr>
<tr>
<td>Liberia</td>
<td>4</td>
<td>80–400</td>
<td>8–40</td>
<td>?</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>6</td>
<td>120–600</td>
<td>12–60</td>
<td>?</td>
</tr>
<tr>
<td>Togo</td>
<td>7</td>
<td>140–700</td>
<td>14–70</td>
<td>?</td>
</tr>
<tr>
<td>All West Africa</td>
<td>296</td>
<td>5920–29600</td>
<td>592–2960</td>
<td>&gt;120</td>
</tr>
</tbody>
</table>

aBased on recommendations from the Manila report (UNU and IUNS 1997), 100–500 Bachelor-level, 10–50 Masters-level, and 5–25 PhD (researcher)-level nutritionists are needed per 5 million population.

Note: Annual (‘Annl’) training needs refer to replacement requirement if median professional life span is 10 years. Capacity (‘Cap’) refers to current annual output of trainees. Cells with ‘?’ indicate that no information was available; these countries likely do not have relevant training programmes.
magnitude of the nutritional problems. Notably, 44% of the articles were written by a first author whose institutional affiliation was outside the region. Many of the articles published from West African institutions were submitted to relatively low-impact journals, and most received fewer than three citations. The authors concluded that greater efforts are needed to increase the research productivity and likely impact of publications relevant to public health nutrition in West Africa.

Drs Issiaka Sombie and Kabba Joiner provided comments on the two background papers, generally agreeing with the findings of these documents and concluding that new approaches are needed to support nutrition training and research in the region.

Examples of West African research and training programmes and foreign institutions providing external scientific support

Following these background presentations, representatives of several of the leading academic nutrition programmes in West Africa (Université Cheikh Anta Diop, Dakar, Senegal; University of Ghana, Legon; Université d’Abomey-Calavi, Benin; and University of Ibadan, Nigeria) highlighted some of the key features of their programmes. Each of the presenters described the composition of their faculties, the general curricula for the different training programmes and numbers of students graduating each year, and the available research infrastructure and research topics of primary interest. Prof. Guiro of the Université Cheikh Anta Diop (UCAD), Dakar, noted that the nutrition team within the Department of Animal Biology currently employs four full-time faculty members, who provide courses in nutrition and food sciences for both undergraduate and graduate students. During the past decade, 29 students have graduated with a Masters degree, and nine students completed studies leading to a Ph.D. The Department has an active research programme that focuses mostly on clinical nutrition issues and nutritional status assessment, and it collaborates with multiple other research groups both within and outside the University and with research programmes abroad.

Prof. Lartey described the activities of the Department of Nutrition and Food Sciences of the University of Ghana. The Department has eight full-time faculty members in nutrition and nine in food sciences. Undergraduate and graduate degrees are offered in both fields. The graduating class is comprised of approximately 40 undergraduates and four Masters-level students each year. The Department houses modern laboratory facilities for food analysis, food processing and microbiology, and data analysis facilities to support the ongoing field studies. The Department has a strong reputation for conducting community-based research of nutritional conditions in both rural and urban areas, and controlled intervention trials. The group enjoys robust collaborative links with several foreign universities. Prof. Houhouigan of the University of Abomey-Calavi, Benin, summarised the activities of the Department of Nutrition and Food Sciences at this institution. There are 11 faculty members in the Department, nine of whom specialise in food sciences. There are currently 12 Ph.D. students, of whom five work primarily in the area of nutrition. The research programme focuses mostly on the processing and nutritional quality of local foods. The Department is closely affiliated with several Dutch universities, and is currently embarking on a series of studies of nutrient bioavailability from local foods.
Prof. Akinyele described the nutrition-related training and research programmes at the University of Ibadan. There are a total of 15 active and emeritus professors who have guided 76 Masters students and 15 Ph.D. students to degree completion since 2001. The Department owns laboratory equipment for nutritional biochemistry, analysis of food composition and a variety of clinical assays to support an active research programme. Research is conducted primarily in the areas of clinical nutrition and public health nutrition, including studies of infant and young child feeding, control of micronutrient deficiencies, and nutrition planning and policy.

These programme reviews were followed by brief presentations by members of foreign academic or research institutions, including the Université de Montréal, the Institute of Research for Development, and Wageningen University, which carry out collaborative research or training activities with West African universities. Factors that contribute to the success or failure of these programmes and their impact on human resources and research capacity in West Africa were discussed.

Examples of regional research and training institutions in other sectors

Representatives of three international research and training centres described their institutions’ administrative structure, staffing, financing and research activities. Dr Alejandro Cravioto, the Executive Director of the International Centre for Diarrheal Disease Research, Bangladesh (ICDDR,B), explained the history of the institution and described its administrative structure, major research themes, related clinical, laboratory, and other physical facilities and field sites, and amounts and sources of financial support for the annual budget, which is currently about US$36.5 million. ICDDR,B is an international health research organisation that focuses on child health, nutrition, reproductive health, population sciences, infectious diseases, poverty and health, safe water and HIV-AIDS. The institution boasts a well developed research management capability, including a Research Review Committee, an Animal Research Review Committee and an Ethical Review Committee for projects involving human subjects. The Centre also supports data safety monitoring boards and has recently developed an institutional data ownership and sharing policy. A particular advantage of the multi-disciplinary research team and wide-ranging research infrastructure is the ability to offer donors and collaborating scientists a comprehensive range of in-house expertise for their research needs.

Ms. Bonnie McClafferty described the organisation of the Consultative Group on International Agricultural Research (CGIAR), which supports 15 international agricultural research centres that focus mainly on specific food commodities, usually in lower income countries. Collectively, the alliance of CGIAR centres harnesses more than 2000 scientists in 100 countries, with approximately US$500 million invested per year for research, or an average of nearly US$35 million per centre annually. Some of the factors leading to the success of these centres are their international status (which provides protection from changing political priorities within a particular country and facilitates personnel decisions and importing of supplies and equipment), organisational flexibility in rules and regulations to fit specific circumstances, their involvement with multiple research partners and donors, and their ‘product-oriented research’ which fosters inter-disciplinary collaboration, rather than research for its own sake. Ms. McClafferty finished by providing more details about the HarvestPlus project, which links agriculture and nutrition by...
developing staple food crops that have higher micronutrient content to achieve measurable effects on consumers’ nutritional status. Dr Florence Muli-Musiime, Deputy Director General of the African Medical Research Foundation (AMREF), presented information on her organisation, which was established in 1957 to develop interventions to improve health conditions in disadvantaged communities with limited access to health care services. AMREF has trained more than 7000 health workers in 28 African countries. The training activities include 1-year diploma courses in community health, 2-year Masters programmes in public health, and numerous short courses, distance-learning curricula and training manuals on specific health-related topics. The more advanced degree programmes have been implemented through collaboration with accredited academic institutions that are authorised to issue academic diplomas and certificates. Dr Muli-Musiime emphasised the importance of multi-level training programmes that target front-line health workers as well as more advanced researchers and ‘trainers of trainers’.

**Working group sessions**

During the following 2 days, the participants were divided into four smaller working groups to discuss topics leading to the development of a consensus statement on future actions needed to enhance the regional capacities in public health nutrition research and training. In the first session, the groups discussed the scope of the current nutrition capacity shortfall and implications for research and advanced training. In the next session, they discussed procedures for priority setting, and the research and training capacities that are needed as well as the principles that should guide their development. Finally, the groups discussed options for institutional arrangements that could be established to implement the research and training agendas. A summary of the working group discussions is attached in Appendix 2.

At the conclusion of these discussions there was broad agreement that a Task Team should be formed to manage the process of establishing a West Africa Initiative on Nutrition Research and Training. It was further agreed that the Task Team would consist of representatives of the three organisations responsible for convening the workshop, namely WAHO, HKI and UNICEF, a representative of the University of Ghana, a representative from a Francophone university (to be determined), and a representative of the Institute of Research for Development, as well as representatives from foreign Anglophone and Francophone universities that actively support research and training in West Africa. The working groups further elaborated on the Terms of Reference for the Task Team, as presented below.

**Consensus statement**

A sub-group of workshop participants, led by Prof. Anna Larney of the University of Ghana, drafted a consensus statement, which was then vetted in the final plenary session and accepted by acclamation. The final, edited statement is presented in Appendix 3, attached. This strong consensus among representatives of academia, research institutions, public health programmes, and international technical support and donor agencies bodes well for the future of the proposed West African Initiative for Nutrition Research and Training. Moreover, since the workshop was convened, more than 75 agencies have recently joined a call for markedly expanding global...
action in nutrition programming (Bezanson and Isenman 2010), which will, of course, require increased technical and managerial training of nutrition professionals and expanded research capacity to produce the necessary evidence base for programme design and evaluation. This growing consensus regarding the importance of nutrition for achieving the MDGs suggests that the current appeal for increased nutrition capacity development will be more successful than similar attempts that have been launched in the past.

Next steps
The final Terms of Reference for the Task Team were prepared by the workshop organisers and facilitators. Key tasks include: (1) preparation of a concept note to raise awareness of a West African Initiative for Nutrition Research and Training based on the recommendations of the Dakar workshop; (2) preparation of a comprehensive funding proposal to be submitted to international donors to raise resources for this Initiative; and (3) a provision of support for high-level advocacy efforts, including immediate support to WAHO to ensure that nutrition issues would be included on the agenda of high-level meetings in the region, such as the ECOWAS Assembly of Health Ministers meetings, which have since been convened in Yamassoukro, Côte d’Ivoire, in July 2009 and in Freetown, Sierra Leone, in April 2010.

The aforementioned funding proposal will include support for: (1) a coordinator of the initiative; (2) development and dissemination of advocacy materials and coordination of advocacy events; (3) a comprehensive assessment of current regional training and research capacities in public health nutrition; (4) convening a research priority-setting workshop; (5) scheduling meetings with appropriate regional and national officials regarding the establishment of an independent, centrally coordinated regional institutional capacity for public health nutrition research and training; (6) short-term consultants to develop a detailed plan of financial and technical resources needed for this regional institution; and (7) related administrative help.

In summary, the workshop participants universally agreed on the need for a broader training and research agenda than originally proposed by the workshop organisers. In particular, the participants concluded that there is an urgent need to: (1) increase the throughput of public health nutrition training programmes at all levels, including undergraduate education, pre-service and in-service professional training, and higher education in public health nutrition and related research skills; and (2) enhance the applied research capacity, so as to provide the evidence base necessary for nutrition programme planning and evaluation. Notably, the group stated that this research should be linked to achieving the nutrition-related MDGs, and should emphasise interdisciplinary, community-oriented studies aimed at scaling up available intervention strategies for reducing undernutrition and nutrition-related morbidity and mortality and evaluating their effectiveness. This emphasis is consistent with a recent editorial in the Lancet concerning the need for greater investments in evaluation research (Anonymous editorial 2010). The group further agreed on the importance of increased advocacy for nutrition and stewardship of nutrition-related activities; and they called for concerted action by governments,
international agencies, donor organisations and other stakeholders, including the private sector, to support these actions.

Acknowledgements
There are no conflicts of interest related to this manuscript. We thank the participants and institutions represented at the workshop. Funding was provided by UNICEF, HarvestPlus, Wageningen University, Helen Keller International and the University of California, Davis.

Note
This paper was prepared for the Workshop on Establishing a Regional Institute for Public Health Nutrition Research and Training in West Africa, convened in Dakar, Senegal, 26–28 March 2009.

References
### Appendix 1. Workshop agenda and list of workshop participants


<table>
<thead>
<tr>
<th>Day &amp; Session</th>
<th>Topic</th>
<th>Speaker</th>
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<tbody>
<tr>
<td><strong>Day 1</strong></td>
<td></td>
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<tr>
<td><strong>Context</strong></td>
<td></td>
<td></td>
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<tr>
<td>Introduction</td>
<td>Objectives of workshop and introduction of participants</td>
<td>Baker</td>
</tr>
<tr>
<td></td>
<td>The nutrition situation in West Africa and its importance for health, survival and economic development</td>
<td>Tchibindat</td>
</tr>
<tr>
<td></td>
<td>The importance of nutrition for health programmes in West Africa and the role of nutrition in the WAHO strategic plan</td>
<td>Cardoso</td>
</tr>
<tr>
<td><strong>Agency perspectives on research and training</strong></td>
<td>Panel discussion: how public health nutrition research and training can contribute to addressing the nutrition challenge in West Africa</td>
<td>Bentein, Shekar, Horner, Rohner, Deconnick</td>
</tr>
<tr>
<td><strong>Assessment and analysis – where are we now?</strong></td>
<td></td>
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<tr>
<td>Background paper #1</td>
<td>Existing nutrition training programmes and research institutions in West Africa</td>
<td>Pepping</td>
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<tr>
<td>Comments</td>
<td></td>
<td>Sombie</td>
</tr>
<tr>
<td>Discussion</td>
<td></td>
<td>Facilitator</td>
</tr>
<tr>
<td><strong>Background paper #2</strong></td>
<td>Public health nutrition research activities and institutional capacity in West Africa</td>
<td>Brown</td>
</tr>
<tr>
<td>Comments</td>
<td></td>
<td>Joiner</td>
</tr>
<tr>
<td>Discussion</td>
<td></td>
<td>Facilitator</td>
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<tr>
<td><strong>Assessment and analysis (continued)</strong></td>
<td></td>
<td></td>
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<tr>
<td>Examples of existing research and training programmes in West Africa</td>
<td>University Chiekh Anta Diop of Dakar, Senegal</td>
<td>Guiro</td>
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<tr>
<td>University of Ghana, Legon</td>
<td></td>
<td>Lartey</td>
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<tr>
<td>University of Abomey-Calavi, Benin</td>
<td></td>
<td>Hounhouigan</td>
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<tr>
<td>University of Ibadan, Nigeria</td>
<td></td>
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<tr>
<td>Presentations by University of Montreal, IRD, Wageningen</td>
<td>Akineyele</td>
<td>Delisle, Berger, Pepping, Deconnick,</td>
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<tr>
<td>University, and FANTA-2</td>
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<td>Facilitator</td>
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<tr>
<td>Discussion</td>
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<td>Facilitator</td>
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### Appendix 1 (Continued)

#### Meeting Agenda

<table>
<thead>
<tr>
<th>Day &amp; Session</th>
<th>Topic</th>
<th>Speaker</th>
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<tr>
<td><strong>Examples of regional research and training institutions</strong></td>
<td>ICDDR B</td>
<td>Cravioto</td>
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<td></td>
<td>CGIAR</td>
<td>McClafferty</td>
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<td></td>
<td>AMREF</td>
<td>Muli-Musiime</td>
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<tr>
<td></td>
<td>Plenary Discussion (5)</td>
<td>Facilitator</td>
</tr>
<tr>
<td></td>
<td>Adjourn for reception</td>
<td></td>
</tr>
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**Day 2**

- **Review of day 1**
  - Summary of day 1 proceedings and vision presentations
  - Facilitator, small group leaders

  **Towards action**

  - **Group work 1**
    - Group work on scope of problem and implications for research and training
    - Break
    - Feedback and discussion
  
  - **Group work 2**
    - Priorities, needed capacities and principles that should guide research and training
    - Feedback and plenary discussion
  
  - **Group work 3**
    - Options for institutional arrangements for implementing the research and training agenda
    - Feedback and plenary discussion

- **Adjourn**

**Day 3**

- **Overview**
  - Overview of group discussions-emerging consensus
  - Facilitator

- **Group work 4**
  - Concept note priorities on advocacy, training and research
  - Feedback and plenary discussion
  - Plenary discussion on draft consensus statement
  - Agreement on next steps and adoption of consensus statement

- **Workshop summary**
  - Wrap up and Evaluations Baker

- **Adjourn**
Appendix 2. Summary of working group discussions on the West African nutrition situation, and implications for future research and training capacities

The workshop participants were assigned to smaller working groups to discuss the following four topics. Highlights of these discussions are summarised below each topic heading.

1. The nutrition situation: challenges and opportunities

The participants concluded that the Millennium Development Goals will not be attainable in West Africa within the originally proposed timeframe, although some progress has been achieved. Given the extent of the problem, it is important to create a sense of urgency among leaders in the region. A rapid, intense response – similar to the current initiatives for HIV/AIDS, malaria and education – is urgently needed. High-profile, quick wins can create momentum while building capacity for more complex challenges.
The four F’s – food, fuel, finance and fighting (civil conflict) – provide both challenges and opportunities to elevate the position of nutrition on the regional development agenda. Given that poverty and malnutrition are interrelated, the emphasis should be on how addressing malnutrition can contribute to poverty reduction, and on how to maximise the nutritional impact of improvements in food security and poverty reduction. Heightened awareness of the importance of nutrition for health and development, as highlighted in recent reviews, such as the Lancet series on Maternal and Child Undernutrition (Black et al. 2008), the papers by the Copenhagen Consensus Centre (Horton et al 2008), and the growing consensus on the urgent need for nutrition action, as exemplified by the recent policy brief endorsed by more than 75 international agencies, governments, academic institutions and civil society organisations (Bezanson and Isenman 2010), make this an ideal time to revitalise efforts to expand regional capacity development in nutrition.

For nutrition programmes to have a measurable impact, they must be implemented at scale. The primary focus of these programmes should be on children less than 2 years of age and pregnant women, both in urban and rural environments. There is a strong international evidence base on successful nutrition interventions – it is now necessary to focus research, training and action on removing the bottlenecks to delivering effective nutrition programmes at scale throughout the region. Training should focus on creating capacity for advocacy, research and action, while research should concentrate on: (1) generating evidence on effective advocacy and programme implementation and impact; (2) finding creative solutions to implementation challenges; and (3) documenting achievements in regional and national contexts.

2. Enabling environment, stewardship and advocacy

The group agreed that research and training agendas must be embedded in an enabling national and institutional environment, and appropriate stewardship is needed at the national and regional levels. Nutrition must be inserted into the public agenda, and there must be strong advocacy for nutrition action and greater investment in nutrition capacity building. Regional leadership and generating consensus among policy-makers on the need to focus on nutrition are of paramount importance. To this end, nutrition champions should be identified in the relevant sectors, including health, agriculture, gender, finance and education.

The participants concluded that a formal advocacy strategy should be developed to achieve the desired results. Messages should be aimed at various target audiences, including political and administrative leaders, academicians and researchers, and civil society leaders. A key strategy would be to insert nutrition on the agenda of key policy meetings. For this to be successful, it will be necessary to prepare hard-hitting, evidence-based presentations and supporting materials to provide information on the nutrition actions needed to accelerate progress towards accomplishing the MDGs and examples of nutrition interventions that work.

Other recommendations on information dissemination to political, scientific and general audiences, at the international and regional level (in French and English) included publishing technical briefs; disseminating the consensus statement from the meeting among policymakers and donors; planning a meeting for the scientific community to present recent research findings in nutrition and related topics and to develop a research agenda for the region. It was recommended that such a meeting would be an opportunity for greater networking and consensus building around a transformative Nutrition Initiative: ‘A call for action in nutrition’.

3. Research – principles, priorities, capacities and institutional arrangements

The working group participants developed recommendations regarding principles, priorities, needed research capacities and institutional arrangements that would help to advance the nutrition action research agenda in the region. There was broad agreement that the overarching goal of a regional research agenda should be to contribute to a specified percent reduction of child under-nutrition, as defined by the prevalence of wasting, stunting and selected micronutrient deficiencies, and that the focus should be on both achieving rapid success as well as answering more complex questions. Among the key principles identified were
that nutrition research should be independent of narrow political interests, and intellectual freedom should be safeguarded; research should be inter-disciplinary; research priorities should be driven by the local context, with a strong focus on community needs and community dynamics; and research should be conducted in collaboration with local organisations and local authorities. Research results should be in the public domain, published in multiple languages and widely disseminated to a range of audiences.

The participants recommended that the determination of research priorities should be done using a systematic process, such as the approach developed by the Child Health and Nutrition Research Initiative (CHNRI: www.CHNRI.org), which involves multiple stakeholders, and focuses on the link between research and measurable health outcomes. Another priority-setting approach, based on a model used by the International Food Policy research Institute (IFPRI: www.IFPRI.org), using a matrix of institutional levels and processes, was also proposed.

During a discussion of research priorities, the participants suggested that efforts should focus on ‘implementation science’, including large scale programming and constraints to scaling up; formative research and programme design; operational research on service delivery mechanisms, systems management and related institutional arrangements; assessment of financial expenditures and their impact on nutrition; and on adaptive research to link basic and applied research and programme implementation. Monitoring and evaluation should also receive attention, including the evaluation of the nutritional impact of non-nutrition projects.

Among the priority content areas identified were prevention and treatment of acute malnutrition (scale up and delivery – effectiveness, not efficacy); breast feeding (how to improve widespread adoption of recognised good practices); complementary feeding; control of vitamin A deficiency; control of zinc deficiency; food safety; prevention of low birth weight and stunting; enhancing maternal nutrition; and the emerging issue of overweight and obesity.

The participants identified a number of capacity-development issues related to this research agenda. These included the need to increase rapidly the capacity for large-scale research, including monitoring progress towards achieving the MDGs, and ensuring that research capacity is built across a wide range of disciplines, such as Clinical and Public Health Nutrition, Epidemiology, Statistics, Social Sciences, Health Policy and Human Resources, Education/Communication, Economics and Social Marketing. Other needed skills are laboratory expertise and systems analysis. In addition, capacity to translate research findings to policymakers and practitioners was identified as an urgent priority.

With regard to options and principles for institutional arrangements, the participants emphasised the importance of regional sharing (rather than exclusive national ownership) of the nutrition research capacity and harmonisation of research approaches and outputs throughout the region. They suggested that final decisions on institutional arrangements should be based on an inventory of existing capacities. The meeting participants proposed that the institutional arrangements should include a regional focal point, at least one centre of excellence, or similar structure at the regional level, combined with support for national research and training institutions. It was recommended that the regional centre should have independent, international status, adhere to principles of good governance and have a multidisciplinary focus.

For senior positions within a centre of excellence or similar structure developed to guide the regional research agenda, nutritionists and other professionals with solid track records on negotiation, leadership and policy formulation as well as research productivity are needed. Nutritionists are required to drive the research agenda, and to draw in the other skills needed, such as the disciplines listed above.

4. Training – Principles, priorities, levels and institutional arrangements

The training working groups discussed principles, priorities, level of training and institutional arrangements to meet the urgent capacity development needs in the region. The groups reiterated the importance of linking capacity building to the creation of an enabling environment and stewardship, to ensure that trained individuals will remain in the region. In this regard it was felt that nutrition advocates should be involved in decision-making regarding human resources at all levels.
It will be necessary to develop nutrition leaders and programme managers with broad-based skills and understanding of regional needs. Thus, training should be based on local and regional realities, and students should learn what is required in the region, and future job descriptions should reflect this reality. While fast track strategies are important, the group felt that longer-term strategies and processes should complement these efforts. Finally, the need to build on existing experience and training programmes was also stressed.

The groups identified a number of capacity-building priorities to serve the regional nutrition agenda. Given the urgency of the situation, it was felt that a rapid response system was needed, focusing on skills-based, in-service training involving a range of sectors, including health, agriculture, education and possibly others. Nutrition information needs to be harmonised throughout the different levels of training and in different sectors to ensure that nutrition-related messages are consistent. To complement in-service training, targeted pre-service training, as well as a robust supervision system for service providers, is needed. In addition, the community focus requires that professional training should be linked to, and reinforced through, community mobilisation and community education.

With regard to levels of training, it was agreed that both in-service and pre-service (first-degree level) training require immediate attention. Nutrition managers require training in the management of large-scale programmes, and monitoring and evaluation. In addition, nutrition must be mainstreamed into the human resource programmes (both pre-service and in-service) in nursing, medicine, agriculture, and community health and development. Dedicated programmes are also needed to develop more highly trained nutrition scientists and researchers. It is recognised that the next generation of researchers should be prepared to anticipate future needs in the areas of public and clinical nutrition, including behaviour change, as it relates to both under- and over-nutrition.

A training needs assessment should identify what currently exists with regard to pre-service training, continuing education, retraining and supervision guidelines; what is included in national nutrition plans; and where the gaps are — noting that currently there are countries in the region where no capacity development is taking place. The assessment should also review existing nutrition cadres and job descriptions in the light of current and future challenges. With regard to existing programmes and materials for in-service training, the group recommended taking stock of what exists in the light of current priorities, and planning for scale up as needed. Among the existing programmes and materials mentioned for in-service training are the WAHO Essential Nutrition Actions and the Benin FINSA and IRSP courses. Turning to advanced degrees, it was recommended that consideration be given to developing a regional Ph.D. programme; improving institutionalisation and accreditation of existing programs; quality assessment and supervision of these training programmes and utilisation of new technologies to broaden the reach and effectiveness of training.

The training working groups also formulated a series of questions to guide decision making with regard to alternative institutional arrangements. They suggested that the choice lay between creating a new regional structure versus developing a single, multi-centre, or virtual centre of excellence within an existing structure or structures in the region. Questions centred on the niche of such a centre (what would make it unique); how to ensure appropriate legal status and regionally accepted governance; how to maintain academic independence and buy-in from national stakeholders; how to ensure a multi-disciplinary approach, and effective management; how to establish and maintain partnerships with, among others, UNICEF and WHO; how to ensure adequate laboratory facilities and capabilities and links to appropriate field sites and delivery systems; and how to overcome current constraints of university-based programmes, such as low salaries and heavy teaching loads. In addition, the group agreed that it would be important to maintain West African leadership, while ensuring that the arrangement is attractive to donors and governments; and that the arrangement should contribute to reducing disparities among countries; respect the linguistic diversity of the region; maintain excellence, relevance and accountability; be sustainable, independent and cost effective; avoid duplication and facilitate harmonisation among institutions in the region.
Appendix 3. Consensus statement
Nutrition intervention research and training in West Africa workshop, Dakar, Senegal; 26–28 March 2009, A call for action

Preamble

1. Knowing that: the high prevalence of under-nutrition in West Africa directly contributes to the high rates of low birth weight, reduced physical and cognitive development and excessive rates of morbidity and mortality among infants, young children and women of reproductive age; the current food, fuel and financial crisis serves to aggravate an already deteriorating situation; the long-term consequences of childhood malnutrition culminate in chronic diseases of adulthood; malnutrition retards economic development and productivity; and that in the West African region, unlike others, the situation is getting worse not better.

2. Recognising that the lack of trained professionals in public health nutrition and limitations in human resources and institutional research capacity in West Africa result in an inability to scale up nutrition interventions known to be effective to achieve a reduction in underweight and child mortality.

3. Conscious of the fact that to achieve the MDGs, accelerated efforts will be needed to enhance institutional research and training capacity and to develop a broad cadre of professionals, who can conduct the relevant research and training, and can manage and implement effective public health nutrition interventions at scale.

A call for action
We, the participants of this workshop on Nutrition Intervention Research and Training in West Africa, representing research and academic institutions, regional international organisations, development partners and key stakeholders, attest to the urgent need to reverse the deteriorating nutrition situation in West Africa and commit to helping accelerate progress for nutrition in this region by:

1. Strengthening and harmonising the existing capacities to carry out relevant nutrition research for addressing public health problems in the West Africa region.

2. Developing, through in-service and pre-service training, the enhanced capacity and competencies needed to address the existing nutritional problems in communities.

3. Providing the capacity and skills needed to accelerate progress for nutrition by delivering successful interventions at scale.

We propose to accelerate progress for nutrition through the creation of a West African Initiative for Nutrition Research and Training that encompasses the following:

1. Advocacy and stewardship for nutrition in the region.

2. Actions that are focused on addressing the nutrition problems within the region, that address issues of disparities in capacity and competences of the region, and that include relevant research and training activities with both fast track action and longer-term development processes.

3. Necessary political and financial support from West African governments, regional institutions, international organisations and individuals.

4. Inclusion of multiple locations and institutions, linked to existing capacities, with a coordinating centre.

5. Consideration of the linguistic needs of the region.
Recognising that not addressing malnutrition has both immediate humanitarian costs and long term economic and health consequences for the region, we the participants support and commit ourselves personally and institutionally to this initiative, in order to reduce the avoidable maternal and child deaths that are a direct result of neglecting to invest in nutrition research and training in West Africa. We urge national governments, regional and international agencies, donor organisations, and other relevant stakeholders, including the private sector, to join in this initiative by elevating these issues on the regional and national agendas, by including specific nutrition actions in national development plans, and by contributing the necessary technical and financial resources to improve regional capacity in nutrition research and training, so that community-oriented nutrition interventions that address MDGs 1 and 4 can be scaled up rapidly and effectively.