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Scientific evaluation of the concept note for CGIAR Mega Program 4 Agriculture for Improved Nutrition and Health

This evaluation is written from the perspective of someone who has had long-standing and diverse association with the agriculture sector, and with centres belonging to the CGIAR network in particular. In this context, a variety of public health issues for which environmental and social determinants are critical, were covered: water-associated vector-borne diseases, water-borne diseases related to sanitation and wastewater use, exposure to pesticides and their residues, zoonoses and food safety issues. On the intervention side, options for improved agricultural practices of all types (cropping patterns, integrated pest management linked to integrated vector management, management of livestock, irrigation water management) and relevant policy and institutional aspects were covered.

This evaluation report follows the list of points presented in the TOR, preceded by a number of general observations and complemented with final conclusions.

1. General observations

The establishment of a Mega Program on Agriculture, Nutrition and Health as part of CGIAR reform is a most welcome development since it finally lifts this area of rich multidisciplinary research to a system-wide level with the broadest possible scope. Initiatives in the past were fragmented because they were linked to a specific CGIAR centre, or covered only specific public health issues. Also, in their onset, they often lacked policy relevancy and were geared towards publications in scientific journals only. And, finally, the results they yielded were not optimally directed to target audiences in a position change policies and programmes. The Mega Program approach has the potential to overcome all these shortcomings.

This Mega Program also benefits from the fact that, while conceptually new, content-wise it is a field that has been explored in a number of ways over the past 30 years. Most importantly, the recent systematic efforts of IFPRI in conjunctions with the WHO that led to the establishment of the Agriculture and Health Platform carried out a lot of the ground work required to ensure the Mega Program can successfully proceed to a implement a plan of activities. Some of the “bodies” established for this platform (Scientific and Technical Advisory Panel, Core Management Team) can be adapted to support the further development, monitoring and evaluation of the Mega Program.

The concept note as it has been formulated does have some limitations. It seems to reflect the interests of two CGIAR institutions in particular: IFPRI from the nutrition perspective and ILRI from the zoonoses perspective. It is clear that, beyond the

interactions that have taken place on the Agriculture and Health Research Platform, the health sector has not been formally consulted in the formulation of this concept note. That is an important deficiency for a program that aims to be multidisciplinary in nature.

The Conceptual Framework for the Linkages between Agriculture and Health (established in 2006, see Hawkes C. and Ruel, M. IFPRI Focus Brief 13) emphasizes the two-way interests and links between agriculture and health: better health from improved agriculture, and greater agricultural production if the farming community is healthy. This should be more clearly reflected in the concept note.

It could certainly also be reflected better in the title of the concept note, either simplifying it to Agriculture, Nutrition and Health or expanding it to Enhanced Agriculture, Improved Nutrition and Better Health.

The criteria for the focus on a number of public health issues are not clear. From the public health perspective there would be three: the burden of disease in absolute numbers, the evidence for attribution of the whole or a fraction of this burden to environmental and social determinants linked to agriculture, and the existing options for changes in agricultural practices that would lead to significant and sustained health benefits. These public health criteria are not visibly represented in the text.

Another important consideration in the context of this concept note is the perspective of the health sector on multidisciplinary research. The Alma Ata Declaration of 1978, which set the goal of Health for All by the Year 2000 promoted the primary health care approach for which intersectoral collaboration was and continues to be until today one of the key pillars. This entails other sectors taking actions to protect and promote health, policies of other sectors incorporating health issues and research focusing on multidisciplinary approaches. In fact there is a host of literature on the need and promotion of multidisciplinary research that appeared since the 1990s (much of which published by SIDA/SAREC) the essence of which should be reflected in this concept note as well.

2. Conceptual framework

As pointed out already, while the conceptual framework in this concept note is clear and acceptable, it could be further improved by adopting further the conceptual framework developed in 2006 by IFPRI, which was based on a dialogue with the health sector. For reasons that are not clear, the concept note has been reduced in scope in comparison to the 2006 framework, and while this may be more attractive for donors, it is strategically not a good idea. Diversifying the range of health issues and the agricultural contexts in which they occur will increase the potential for success (and consequently reduce the risk of failure) for the program as a whole.

Therefore, health issues related to pesticide exposure (perhaps referred to as occupational health issues in the text, but that is not clear) should be added, and the profile of water associated vector-borne diseases and the health issues related to the use of wastewater in agriculture needs to be raised. It would also seem that under activities, nutrition is more clearly defined than health as such.

A number of lessons learned from the past could be included in the conceptual framework and the author would be happy to elaborate on this.

The framework is clear and the proposed approach coherent in terms of objectives and activities; it could be improved in terms of expected outputs and in terms of use of the outputs to change policies and programs: what are the key policies that need changing and how do they interact with larger policy areas, such as the water crisis, or climate change – in other words, the concept of agriculture, nutrition and health needs to be contextualized.

3. Partners

Both in agriculture and in public health there is a strong research culture (and to note: the world of medical research should not be mixed up with the world of public health research – in this Mega Program the focus is on institutes for public health research).

From the agriculture side all CGIAR centres are included (comments on the details in the annex) but on the health side the table on partners is far from complete. A better analysis of potential health research partners is required, for expansion and redirection. For example under research partners there is a range of health research centres both in developing and developed countries and there is no need to single out institutions like the London School of Hygiene and Tropical Medicine. Under development partners, to include IUCN and WWF would be an error, their take on public health is close to nothing. To be added under health research partners are the UNDP/UNICEF/World Bank/WHO Special Programme of Tropical Disease Research TDR, as well as the Global Forum for Health Research.

In the spirit of multidisciplinary research there should be a mechanism to ensure that the international research partners establish research models that can be emulated by national agriculture and public health research centres.

4. Monitoring and evaluation

The need for an independent monitoring and evaluation mechanism is clearly recognized in the concept note, but needs to be further elaborated in the final proposal. From the past we know that the greatest risk of this type of research is that the results are published in the bio-medical peer reviewed literature (when it is about health) and therefore never reach the policy and decision makers in the agriculture sector who should take the information on board and act on it. A second important risk is the coordination of this multidisciplinary research – the profile of people who

run these type of projects needs to be clearly defined –experience from a WARDA/WHO/IDRC project was that the agriculture scientists insisted on putting a Medical Doctor in charge, which turned out to be detrimental for the collaboration with the agricultural scientists, for the MD created his own little niche and the agricultural scientists felt there was nothing in the research programme of interest to them.

Certain risks can be foreseen, others are simply hazards and will need to be monitored to see whether they turn into risks.

The proposed management structure reads fine, and is not bureaucratic.

5. Literature

The concept note reflects important evidence of the various aspects on the agriculture / health interface, but the full proposal should include a detailed literature list that has served as the basis for its development. The WHO can help provide some of the “grey literature” type of material that can further strengthen the proposal.

6. The impact pathway

For the issues covered (nutrition, zoonoses mainly) the impact pathways are well-developed in principle and the diarrhoeal disease example creates the expectation that these pathways will be worked out in further detail in the final proposal. The issues of pesticide exposure, vector-borne diseases and wastewater water use should be incorporated into this.

The economic dimension of the impact may need further explanation, as the DALY concept, while reasonably well accepted in the health sector, is largely unknown outside of the health sector. The economics of different interventions, the economics of direct and indirect benefits, the economics of losses and gains implied by changed agricultural practices for health protection and promotion should all be an integral part of the research work at large, because it is the economics that will ultimately move people to change their habits.

It would be good if a health economist could be part of the board that supervises the research under this Mega Program.

Conclusions

Taking on board the above observations, this concept note has a great potential to be developed in a full proposal. Key issues should be: increased consultation with the health sector partners, identification of further key health sector partners and balancing the issues on the agriculture-health interface in a broader scope and with more options to link to cross cutting issues such as climate change, the water crisis and urbanization.

The broader scope for this Mega Program can be enhanced by introducing the concept of health impact assessment (the health equivalent of environmental impact assessment) which allows identifying the critical health issues in agricultural development and management rather than focusing on a number of health issues as a foregone conclusion. Further research on this planning tool will also help improving agricultural planning and development procedures.

The final recommendation to the Consortium Board is that the concept note is acceptable and that it should be developed into a full proposal.

Annex 1

Roles of different consortium centers (further options added in red)

Consortium Center	Roles within MP4	Complementary Roles
IFPRI	Largest expertise in CGIAR in nutrition (diets and biofortification), risk analysis/food safety, economics, gender analysis, influencing agricultural policy to include health	Economic impact, gender analysis
ILRI	Largest expertise in CGIAR in health, disease epidemiology, surveillance and risk analysis, food safety, animal-source foods, ecohealth, genomics, occupational health, health impact assessment	Livestock production and marketing, economic impact, gender analysis, zoonophylaxis
CIP	Nutrition (diets and biofortification), food safety, occupational health (including exposure to pesticides)	Crop breeding and management, marketing, economic analysis
CIAT	Nutrition (bioactive compounds, diets, biofortification, nutrition impact studies), food safety, occupational health	Crop breeding, management and marketing, economic impact and gender analysis
CIMMYT	Nutrition (diets and biofortification), food safety, occupational health	Crop breeding, management and marketing
Bioversity	Nutrition (diets and biofortification), biodiversity	Production systems, value chain analysis, marketing
IITA	Nutrition (diets and biofortification), food safety, occupational health	Crop breeding, management and marketing
ICRAF		Nutrition (diets), indigenous knowledge (medicinal plants)
ICARDA	Nutrition (diets and biofortification), food safety; safe use of wastewater	Crop breeding, management and marketing
IWMI	Water quality, disease epidemiology, risk analysis, environmental management for disease transmission reduction	Water management
WorldFish	Nutrition (diets), water quality, wastewater and excreta use in aquaculture	Fish production and marketing
ICRISAT	Nutrition (diets and biofortification), food safety, occupational health ; safe use if wastewater	Crop breeding, management and marketing
Africa Rice	Rice ecosystem management for disease control; IPM/IVM strategies	Crop breeding
IRRI	Rice ecosystem management for disease control; exposure to pesticides; IPM/IVM strategies	Crop breeding