



Independent CRP-Commissioned External Evaluation of the CGIAR Research Program on Agriculture for Nutrition and Health (A4NH)

Volume 1: Main Report

Photo credits: CIAT International Centre for Tropical Agriculture

September 2015

Evaluation team:

Julia Compton (Team
Leader)
Diana McLean
Ben Emmens
Mysbah Balagamwala

Expert panel:

Robert Bos
Haris Gazdar
Bonnie McClafferty
Festus Murithi
Simplice Nouala



RESEARCH
PROGRAM ON
Agriculture for
Nutrition
and Health

Led by IFPRI

This evaluation has been commissioned by the CGIAR Research Program on Agriculture for Nutrition and Health (A4NH).

Suggested citation: Compton, Julia, McLean, Diana, Emmens, Ben and Balagamwala, Mysbah (2015): Independent CRP-Commissioned External Evaluation of the CGIAR Research Program on Agriculture for Nutrition and Health. Washington, DC: IFPRI. xvi + 95pp

TABLE OF CONTENTS

Acknowledgements.....	vi
Abbreviations and Acronyms.....	vii
Executive Summary.....	x
I. Introduction	1
I.1. Origins of the evaluation.....	1
I.2. Structure of this report	2
I.3. Evaluation Purpose and Target Audience.....	3
I.4. Evaluation objectives, questions and scope	3
I.5. Changes from Inception Report.....	4
I.6. Evaluation approach and methods.....	4
I.7. Oversight and quality assurance.....	6
I.8. Organization and Timing of the Evaluation	7
I.9. Limitations of the evaluation	7
II. Overview of A4NH.....	9
II.1. Structure, aims and activities.....	9
II.2. Management and governance of A4NH	11
II.3. Sources and uses of funds.....	12
II.4. Planning Phase 2: Activities and implications.....	15
III. Evaluation Question 1: Is A4NH on course to achieve its planned outputs, outcomes and impacts? Why or why not?	16
III.1. Introduction	16
III.2. A4NH products, productivity and progress against planned outputs	17
III.3. Factors affecting productivity and timeliness of outputs	21
III.4. Is it likely that expected A4NH impacts will be achieved?.....	24
III.5. Is A4NH coherent, i.e., have Flagships and individual research lines contributed strategically to achieve overarching aims and outcomes?.....	29
III.6. Summary conclusions for EQ1	30
IV. Evaluation Question 2: Within the CGIAR, has A4NH added value? Have the advantages of the CRP outweighed the disadvantages?.....	31
IV.1. Introduction	31
IV.2. Pros and cons of working through A4NH: CGIAR staff views.....	31

IV.3.	Progress in specific areas where A4NH aimed to add value to research	35
	Impact orientation	35
	Gender	36
	Coordination	36
	Monitoring, evaluation and learning	38
	Comparison and lessons from ‘value added’ efforts by A4NH	38
IV.4.	Some negative aspects of the current environment for A4NH (and other CRPs)	40
IV.5.	Summary conclusions for EQ2	42
V.	Evaluation Question 3: Does A4NH have the right resources, systems & approaches to partnerships?	43
V.1.	Introduction	43
V.2.	Cross-cutting issues.....	45
	Quality of science.....	45
	Partnerships	48
	Capacity development	50
V.3.	Performance management	51
	Monitoring and reporting	51
	Human resource issues	54
	Financial resources.....	54
	Communications	55
V.4.	Governance and management of A4NH	56
V.5.	Summary conclusions for EQ3	59
VI.	Evaluation Question 4: Is the scope and focus of A4NH relevant and appropriate?	61
VI.1.	Introduction	61
VI.2.	How has A4NH added value internationally?	62
VI.3.	Is there an appropriate balance within and among A4NH’s own activities?.....	64
	Introduction: challenges in planning and prioritization in Phase 1	64
	The balance in A4NH’s own research	67
	Adding value to ANH-related work across the CGIAR.....	68
	Influencing national and international policy	70
	Integrating social equity into A4NH work.....	71
VI.4.	Discussion: How could the scope and focus of A4NH be improved?	72

VI.5.	Summary conclusions for EQ4	75
VII.	Conclusions and recommendations.....	76
VII.1.	Overarching conclusions	76
VII.2.	Recommendations	80
R1	A4NH scope and focus	81
R2	Management of core research.....	82
R3	‘Value adding’ activities of A4NH:.....	83
R4	Quality of Science (EQ3).....	84
R5	Policies governing research (EQ3)	85
R6	Addressing social equity (EQ4).....	85
R7	A4NH monitoring and evaluation (EQ3)	86
R8	Management and governance (EQ3).....	88
VIII.	References for the main report	90

LIST OF TABLES

Table 1:	Specific A4NH research objectives and flagship responsibilities	11
Table 2:	Selected A4NH ‘products’ reported to the Consortium from Phase 1 (2012-14).....	17
Table 3:	ISI publications reported to A4NH by Center, 2012-14	21
Table 4:	Potential impact of A4NH and main risks, by Flagship.....	25
Table 5:	Impact pathway example: provitamin A orange maize.....	28
Table 6:	Positive and negative aspects of A4NH: frequency of staff comments, by broad category	32
Table 7:	Specific areas of planned value addition by A4NH: investment and results	39
Table 8:	Basic information is not easily accessible for many A4NH research projects: examples	53
Table 9:	Involvement of other CRPs in nutrition and health activities	69
Table 10:	Main findings and conclusions according to CGIAR evaluation criteria.....	78

LIST OF FIGURES

Figure 1:	A4NH results framework, with three principal pathways and IDOs.....	10
Figure 2:	A4NH expenditure in Phase 1 by main funding sources and years, US\$M.....	13
Figure 3:	A4NH expenditure by flagship, percentages (actual amounts given in US\$ millions).....	14

Figure 4: Expenditure by Center in Phase 1 (US\$M), with Center breakdown of HarvestPlus (H+) expenditure.....	14
Figure 5: Distribution of W1/W2 funding among centers in Phase 1.....	15
Figure 6: Progress against planned ‘deliverables’: Phase 1 (2012-14)	19
Figure 7: Long-term investments are essential for impact: a timeline for breeding Orange Fleshed Sweet Potato in Africa	23
Figure 8: Key logical links in impact pathway are not documented in many A4NH research projects	27
Figure 9: “Working through the structure of a CRP (A4NH) is more effective ...” Agreement/disagreement categorized by how long respondents had worked in the CGIAR.....	32
Figure 10: A4NH has variable control over management structures and systems	44
Figure 11: Funding sources for A4NH centers, annual average (2012/2013).....	44
Figure 12: Types of A4NH contractual partners: percent by number and percent of total contract funding	49
Figure 13: The A4NH logo, as typically visible on a website or publication with multiple logos.....	55
Figure 14: Responsibility without power: current management and governance structures of A4NH ...	57
Figure 15: Funding sources for the four ‘integrative’ (cross-cutting) CRPs in Phase 1	65
Figure 16: Effective restrictions on funding for A4NH: Sources of funding in Phase 1.....	65

LIST OF BOXES

Box 1: Selected examples of ‘Flagship products’ and ‘tools’ from A4NH.....	18
Box 2: A4NH research documentation is important for accountability as well as management.....	53
Box 3: Selected findings of the evaluation Expert Panel	73
Box 4: SWOT Analysis of A4NH, based on evaluation findings	77

List of volumes and annexes

VOLUME 1

- Main report

VOLUME 2

- Annex A – Evaluation questions and subquestions
- Annex B – Evaluation team member/Expert panel profiles
- Annex C – Work plan
- Annex D – List of people consulted
- Annex E – A4NH objectives, outputs and outcomes
- Annex F – Stakeholder consultation and dissemination
- Annex G – Methods and templates

VOLUME 3

- Annex H – Financial analysis
- Annex I – Analysis of research project planning and reporting documentation
- Annex J – Analysis of outputs and publications
- Annex K – Minisurvey of CGIAR staff working with A4NH
- Annex L – Mapping nutrition and health work across the CGIAR

EVALUATION EXPERT PANEL REPORT (Bos et al., 2015)

EVALUATION BACKGROUND PAPERS (available in one volume)

- A4NH Evaluation Background Paper 1 – Governance and Management
- A4NH Evaluation Background Paper 2 – Partnerships, capacity building and human resources management
- A4NH Evaluation Background Paper 3 – Gender and equity
- A4NH Evaluation Background Paper 4 –Research management and quality of science
- A4NH Evaluation Background Paper 5 – Lessons from the seed grants process

All the above documents along with the Evaluation Terms of Reference and Inception Report can be found on the [evaluation webpage](#).

ACKNOWLEDGEMENTS

This draft report has been prepared principally by Julia Compton (Team Leader) with significant inputs from the other evaluation core team members. Diana McLean took particular responsibility for the area of Science Quality/Research Management (Background paper 4) and for facilitating the work of the evaluation Expert Panel (Report of the Expert Panel). Ben Emmens led specialist work on Human Resources, Capacity Development and Partnerships (Background paper 2). Mysbah Balagamwala had prime responsibility for the quantitative analyses of A4NH finances, outputs, publications and surveys (Annexes H, I, J, K and Background paper 5) as well as evidence summaries for the Expert Panel, and formatting the final report. The core evaluation team has been working ‘virtually’ and some members have never met in person: we are grateful to the internet for keeping us well connected.

The evaluation Expert Panel - Robert Bos, Haris Gazdar, Bonnie McClafferty, Festus Murithi and Simplicite Nouala – were responsible for forward-looking analysis of the scope and focus of A4NH.

The Evaluation Manager is Nancy Johnson, Senior Research Fellow of IFPRI and responsible for Monitoring and Evaluation in A4NH. She has been responsible for developing the Terms of Reference ToR, contracting the evaluation team and expert panel, putting the team in touch with numerous stakeholders and data sources, making comments on initial drafts – and for ensuring the independence of this evaluation. We are very grateful for her support and astute inputs.

The [Evaluation Oversight Group](#) has had the primary responsibility for overseeing the evaluation and commenting on drafts. The [Independent Advisory Committee](#) of A4NH has also made very helpful inputs.

The independent evaluation advisors contracted by IEA, Alison King and Urs Zollinger, provided quality assurance advice and support by contributing to the ToR and list of the evaluation questions, and also made helpful suggestions on the evaluation inception report. We are also grateful to the IEA Director and an anonymous reviewer contracted by IEA for detailed comments on the first draft of this report.

We would like to thank all those who have contributed to this evaluation (listed in Annex D) for generously giving their time and sharing information. Special thanks are due to A4NH leaders: John McDermott (Director), Marie Ruel, Howarth Bouis, Delia Grace, and Alan de Brauw (Flagship Leaders), and everyone in the A4NH Program Management Unit - particularly Amanda Wyatt and Tigist Defabachew who have provided much of the monitoring and financial data that underpins this report. We are very grateful to IFPRI’s IT team, and especially Nancy Walczak, for their invaluable help with running webinars and administering e-surveys, and to Indira Yerramareddy of IFPRI’s CKM team for help with the bibliometric analysis. Iddo Dror (ILRI) and Di Willis (WorldFish) were especially helpful re. capdev/HR. Many thanks are also due to Jeff Waage and colleagues at LCIRAH for kindly hosting several meetings connected with this evaluation, in particular the face-to-face meeting of the Expert Panel.

A number of people kindly helped us organize our country visits and project-level meetings. We are very grateful to Khairul Bashar, Farha Khan, and Shakuntala Thilsted (Bangladesh), Stefania Grando and P.K. Joshi (India), and Rose Njiru and Delia Grace (Kenya), as well as to all the project researchers and partners.

ABBREVIATIONS AND ACRONYMS

A4NH	CRP on Agriculture for Nutrition and Health
AAD	Agriculture Associated Diseases Flagship
ACIAR	Australian Center for International Agricultural Research
ANH	Agriculture Nutrition and Health
AVRDC	The World Vegetable Center
Bioversity	Bioversity International
BMGF	Bill and Melinda Gates Foundation
BOT	Board of Trustees
Capdev	Capacity Development
CCAFS	CRP on Climate Change, Agriculture and Food Security
CCEE	CRP-Commissioned External Evaluations
CFP	Center Focal Point
CGIAR	With the reforms, “CGIAR” has now been adopted as a name. It was originally the abbreviation of the Consultative Group on International Agricultural Research
CIAT	Centro Internacional de Agricultura Tropical (International Center for Tropical Agriculture)
CIMMYT	Centro Internacional de Mejoramiento de Maíz y Trigo (International Maize and Wheat Improvement Center)
CIP	Centro Internacional de la Papa (International Potato Center)
COI	Conflict Of Interest
CoP	Community of Practice
CRP	CGIAR Research Program
DDG	Deputy Director General
DFATD	Department of Foreign Affairs, Trade and Development (Canada)
DFID	Department for International Development (UK)
DG	Director General
EC	European Commission
EOG	The Evaluation Oversight Group
EQ	Evaluation Question
FTA	CRP on Forests, Trees and Agroforestry
FTE	Full-time equivalent
FWCI	Field Weighted Citation Impact
GFAR	Global Forum on Agricultural Research
GNR	Global Nutrition Report
GRiSP	Global Rice Science Partnership
HR	Human Resources
IAC	Independent Advisory Committee
ICARDA	International Center for Agricultural Research in the Dry Area
ICRAF	World Agroforestry Centre previously known as International Centre for Research in Agroforestry
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IDO	Intermediate Development Outcomes

IDRC	International Development Research Center
IEA	Independent Evaluation Arrangement
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
IITA	International Institute of Tropical Agriculture
ILRI	International Livestock Research Institute
ILRI-BecA	Biosciences eastern and central Africa-ILRI Hub
IMMANA	Innovative Methods and Metrics for Agriculture and Nutrition Actions
INGO	International non-governmental organization
IO	Immediate Outcomes
IPP	Integrated Programs and Policies
IRB	Institutional Review Board
IRRI	International Rice Research Institute
ISPC	Independent Science and Partnership Council of the CGIAR
JIF	Journal Impact Factor
LANSA	Leveraging Agriculture for Nutrition in South Asia
LCIRAH	Leverhulme Centre for Integrated Research on Agriculture and Health
M&E	Monitoring and Evaluation
MAIZE	CRP on Maize
MoU	Memorandum of Understanding
NARS	National Agricultural Research Systems
NCD	Non-Communicable Disease
NGO	Non-governmental Organization
OECD	Organisation for Economic Co-operation and Development
OFSP	Orange Fleshed Sweet Potato
OP	Output
PAC	Program Advisory Committee (HarvestPlus)
PHND	Poverty, Health and Nutrition Division at IFPRI
PIM	CRP on Policies, Institutions and Markets
PMC	Planning and Management Committee
PMU	Program Management Unit
PPA	Program Participant Agreements
R4D	Research for development
RM	Resource mobilization
RTB	CRP on Roots, Tubers and Bananas
SDGs	Sustainable Development Goals
SLO	System-Level Outcomes
SRF	Strategy and Results Framework
SUN	Scaling Up Nutrition
SWOT	Strengths, Weaknesses, Opportunities and Threats
ToC	Theory of Change
ToR	Terms of Reference
UN	United Nations

USAID	United States Agency for International Development
VCN	Value Chains for Nutrition
W1	Window 1 funding
W2	Window 2 funding
W3	Window 3 funding
WHEAT	CRP on Wheat
WLE	CRP on Water, Land and Ecosystems
WorldFish	WorldFish (sometimes still abbreviated as ICLARM)

Background and Context

- S1. The CGIAR Research Program (CRP) on Agriculture for Nutrition and Health (A4NH) is led by the International Food Policy Research Institute (IFPRI), and includes 11 other collaborating CGIAR Centers and numerous other research and development partners. The main objective of A4NH is to ‘work to accelerate progress in improving the nutrition and health of poor people by exploiting and enhancing the synergies between agriculture, nutrition, and health’. A4NH had a budget of around \$60-80 million dollars per year in Phase 1 (2012-14) and four main research components or ‘Flagships’: Biofortification, Integrated Programs and Policies; Value Chains for Enhanced Nutrition, and Agriculture-Associated Diseases.

Purpose, Scope and Objectives of the Evaluation

- S2. The overarching purpose of this evaluation¹ is to “assess the design and implementation of the A4NH CRP, and to make recommendations in order to enhance the contribution that A4NH is likely to make towards reaching the CGIAR objectives and System-Level Outcomes (SLOs), especially the SLO on improving nutrition and health”. The evaluation aims to contribute to both accountability and learning. Specifically, it will feed into decisions on the next phase of CRPs, to start in 2017. The scope of the evaluation includes all A4NH activities, structures, and institutions, including activities that started earlier and have continued under A4NH.
- S3. This evaluation of A4NH has been commissioned by the CRP itself, by agreement with and oversight from the CGIAR Independent Evaluation Arrangement (IEA). Several safeguards are in place to ensure evaluation independence and quality, including: full access to A4NH files; an independent evaluation team; the Evaluation Oversight Group, which includes independent members; and quality assurance advice and support at key stages provided by IEA. The external evaluation team has kept confidential information in a secure location.
- S4. The evaluation aims to answer four main evaluation questions (EQs). These were set by the A4NH Program Management Committee, and then the questions and subquestions were developed and refined following wide consultation and quality assurance.
- EQ1: Is A4NH on course to achieve its outputs, outcomes and impacts? Why or why not?
 - EQ2: Within the CGIAR, has A4NH added value in comparison to pre-reform ways of doing business? Any disadvantages?
 - EQ3: Does A4NH have the right resources, systems and approaches to partnerships?
 - EQ4: Is the scope and focus of A4NH relevant and appropriate?

¹ This is taken from the Terms of Reference, and is worded similarly to other CRP evaluations

Approach and methods

- S5. Our ambitions were for a ‘utilization-focused’ approach to this evaluation: i.e. a joint learning process producing practical recommendations for action –at the same time maintaining appropriate independence. Although we have not managed to carry out every aspect of the utilization-focused approach as defined in the evaluation literature, we have tried to follow the underlying philosophy, including closely involving key decision-makers in the design of the evaluation; facilitating self-evaluation; and early feedback and discussion of emerging findings.
- S6. An expert in human resource, capacity development and partnership issues was included in the core team, since challenges in these areas were highlighted in the preparatory phase. Another feature was an Expert Panel, commissioned to look at the pros and cons of different areas of focus of A4NH (Bos et al., 2015).
- S7. Other methods used in the evaluation included:
- a) Individual interviews involving over 250 stakeholders
 - b) Country visits to Bangladesh, India and Kenya, with additional skype interviews with Nigeria, covering a stratified random sample of 18 A4NH projects
 - c) Discussions with key staff in collaborating CGIAR Centers
 - d) Analyses of randomized samples of A4NH project documentation and publications
 - e) Analysis of A4NH finance and outputs
 - f) Mapping agriculture, nutrition and health (‘ANH’) activities undertaken by other CRPs
 - g) Observation of key A4NH meetings
 - h) Review of nearly 400 documents and establishment of an online library shared with A4NH.
- S8. The evaluation took place at a time when A4NH was itself moving quickly forward to plan Phase 2, holding wide stakeholder consultations on both existing and new areas of work. The evaluation team has endeavored to work closely with A4NH throughout, and feed into the process and thinking. (The A4NH pre-proposal for Phase II (August 2015), prepared after the first draft of this evaluation report, incorporates most of our recommendations.)

Main findings and conclusions

Evaluation Question 1: Is A4NH on course to achieve its planned outputs, outcomes and impacts? Why or why not?

- S9. We judge that the CRP is generally making good progress against its planned ‘deliverables’, although with some slippage on dates. We discuss the main reasons for delays and dropped ‘deliverables’: in the majority of cases, the underlying factors are unstable funding and fragmented bilateral support to the CGIAR, issues which the CGIAR reform was intended to address.
- S10. It is not currently possible to assess whether A4NH will reach all its expected impacts, as much of the research is in the discovery or proof of concept stage. The A4NH Program Management Unit (PMU) is putting in place theories of change which rigorously identify the assumptions in impact pathways and the strength of the evidence for each assumption, which will form a good basis for judgment of risks and prioritization of research. Some areas like Biofortification are

already at delivery stage, and have amassed rigorous evidence that expected impacts can be achieved at a broad scale.

Evaluation Question 2: Within the CGIAR, has A4NH added value? Have the advantages of the CRP outweighed the disadvantages?

- S11. We concluded that the CRP has added value to CGIAR research and that its advantages outweigh the disadvantages, although there are some areas for improvement. In staff surveys and interviews, A4NH was praised for its “inspiring” leadership of ANH issues across the CGIAR and its flexible inclusive approach. The main area for improvement cited was internal CRP/cross-CGIAR communications. The evaluation team also found that communications (internal and external) was under-resourced, and have suggested that a study be made of this area.
- S12. A4NH aimed to add value, as a CRP, to four specific areas: impact orientation, gender, coordination, and monitoring, evaluation and learning. We find that A4NH has added value in all these areas, despite the short time frame (most investment started less than two years ago), and we support further investment in each area to increase the results. One issue is that much of this work is being undertaken by the PMU – even when it is highly technical and integral to the research - and is therefore counted as an administrative overhead.
- S13. The principal negative effects of working with A4NH have also been reported by staff in other CRPs, and originate from the incomplete CGIAR reforms. The main issues found were: the burden on researchers from multiple systems of planning and reporting, reducing research productivity; and the multiple negative effects of funding instability, including delayed and dropped ‘deliverables’ and strained relationships with partners. The overall effect is that Center managers and researchers increasingly see CRPs as “difficult small donors”, and they are putting increased effort into getting bilateral funding, undermining the objectives of the CGIAR reform.

Evaluation Question 3: Does A4NH have the right resources, systems & approaches to partnerships?

- S14. This Chapter addresses a wide variety of structures, systems, processes and resources that are essential to attaining A4NH outputs, outcomes and impacts. A4NH, like other CRPs, has limited room for maneuver, as many of the key systems (e.g. science quality, human resources and contracting, monitoring) are largely the responsibility of Centers or the Consortium. We make recommendations for cross-CGIAR work to address some important issues which are beyond the control of CRPs. These include harmonized monitoring systems, which we consider an urgent priority, and also Center systems for assuring science quality and ethics. We also recommend some improvements to governance and management structures, in line with recommendations made for other CRPs in IEA evaluations.
- S15. This Chapter also raises a variety of issues related to A4NH policies, such as conflict of interest and problems that can arise in partnerships. We recommend that A4NH clarify and publicize the policy and minimum standards that it is using in each area, using Consortium policies wherever available, or other suitable policies e.g. from the lead Center. We also recommend that the Consortium move swiftly towards developing and promulgating fundamental policies for CRPs in Phase 2, building on existing policies and on experience.

Evaluation Question 4: Is the scope and focus of A4NH relevant and appropriate?

- S16. During the course of this evaluation, A4NH was engaged in preparing its pre-proposal for Phase 2 of the CRPs, and consulting with a wide range of technical experts and other stakeholders. The evaluation Expert Panel made specific suggestions on the pros and cons of specific activities in five key focus areas for A4NH: agriculture-associated diseases; value chains, food systems and the private sector; urbanization, obesity and dual burden; policy and enabling environment; and nutrition-sensitive agriculture/ development, which fed into these discussions.
- S17. As A4NH gears up for Phase 2, it is important to reflect on the lessons from Phase 1. In our view, the Biofortification flagship (HarvestPlus) - which is the most mature - provides a model for managing a complex, long-term, multi-Center research program: it has maintained a clear vision of impact and the various steps in the impact pathway, conducted rigorous research evidence to test assumptions, and moved to address risks. This has resulted in a virtuous circle, as the program has then been able to mobilize sufficient long-term funding to bring Centers and other partners together and to conduct long-term trials, without the need to chase short-term funding opportunities to keep its researchers employed. In contrast, some parts of A4NH (and the CGIAR in general) have assembled a loose group of research projects around a central idea, partly because A4NH could not fully control what research projects were 'mapped' to the CRP, and partly because the uncertain funding environment encourages CGIAR researchers to take on a variety of bilateral donor funded projects. While the evaluation team would encourage A4NH to follow the HarvestPlus example and focus on a few core research questions, we also recognize that A4NH cannot cut itself off from the rest of research in agriculture, nutrition and health (ANH). A4NH has - and will continue to have - an important role not only in raising the quality of ANH work across the CGIAR but also in supporting innovative research in ANH.
- S18. We conclude therefore that putting clear boundaries around A4NH, and defining a 'core research program' that is clearly separated from a broader 'ANH value added program,' is potentially an important organizing principle for A4NH in Phase 2. This would allow A4NH to focus its research efforts and resource mobilization on a few core research questions that could attract a critical mass of research talent. It would also give A4NH sufficient resources to continue to support innovative and relevant NH work across the CGIAR, without having to take on the management burden for this 'value added work' in its core flagships. (A1,A2,A3)
- S19. Gender issues have been a prime focus of A4NH, and this has resulted in an increased focus on gender in research across the program, as well as some high-quality research on gender and nutrition. However gender cannot be addressed in isolation while ignoring the way that gender interacts with other social differences (e.g. wealth, caste, and ethnicity). We find that social equity issues have not been adequately addressed in A4NH, although it is crucial for ANH outcomes. Although many A4NH programs target "the poor", social analysis and disaggregated data are often lacking. The lack of information about differences between and within communities affects practical decisions made by technical programs, e.g. which types of households should be targeted for certain technologies, or whether to work mainly with the formal or informal private sector. (A6)

Recommendations

This wide-ranging evaluation has generated much discussion, and many minor suggestions from the evaluation team, which can be found in relevant sections of the report. However the evaluation

recommendations can only focus on a few key issues, listed below. The proposed timing for implementation for all recommendations is by the beginning of Phase II of the CRPs, in 2017.

Some of the issues identified in this evaluation need to be addressed at CGIAR level, including science quality, policies and a harmonized system for planning monitoring and reporting for CRPs. We have therefore made three recommendations for central CGIAR institutions. The three related recommendations for A4NH (A4, A5 and A7i) have been drafted in the recognition that it may take time to sort everything out at CGIAR level, but in the meantime A4NH and other CRPs need to find a working arrangement (for example, adopting lead Center policies in the absence of cross-CGIAR policies).

Three main recommendations for CGIAR Central Institutions:

C 1 Scientific leadership² in the CGIAR System should set standards for science quality and research management and monitor and support Centers to achieve these.

C 2 The Consortium should develop key CGIAR-wide policies that can be adopted by CRPs, in areas where these do not already exist: for example on conflict of interest, social equity, partnerships

C 3 The Consortium should urgently work with CRPs and funders to agree a harmonized monitoring system that meets management and reporting needs for all CRPs and (if possible) key bilateral funders, taking into account the balance between management and accountability needs and not imposing excessive demands on researchers. This should include agreeing minimum standards and harmonized formats for basic information to be provided on every research project.

Eight main recommendations for A4NH:

A 1 Establish clear boundaries around A4NH in the final Phase II proposal, clearly distinguishing two primary modalities of A4NH work: (a) A4NH's 'core' research activities and (b) 'A4NH value added activities', supporting ANH work in the CGIAR and elsewhere.

i) Establish a structured and transparent process for decisions on whether and under which modality to support new research proposals. Resist 'mapping' of research activities to A4NH which do not fall into one of the two core areas of work, or which do not meet CGIAR policies and standards.

A 2 Build up a high-quality A4NH-branded core research program focusing on a few centerpiece research areas linked to the CGIAR Strategy and Results Framework (SRF).

² This recommendation was originally addressed to the ISPC and the Consortium, but we have reworded it in more general terms (after consultation with the ISPC Chair), as there is an ongoing task force - set up following the MidTerm Review of the CGIAR Reform - to consider the ISPC's role and powers (ISPC Secretariat, 2015).

i) Prioritize a limited number of research areas as the ‘centerpieces’ of A4NH research and concentrate resource mobilization efforts on these. Each proposed ‘centerpiece area’ should have a clear set of initial research questions based on a theory of change, identified evidence gaps and clear links to SRF Outcomes. The selection of centerpiece areas should follow a transparent prioritization process overseen by the IAC/CRP governance body.

A 3 Make a coordinated investment in support to ‘value added’ ANH work across the CGIAR, managed as a coherent program, with clear goals and targets, adequate funding and human resources.

i) Create and support an ANH Community of Practice (CoP) across the CGIAR. This should focus on specific CGIAR technical (research) and institutional needs, and draw upon but not duplicate the work of relevant external communities of practice.

ii) Conduct (or commission) regular technical reviews of ANH work undertaken across the CGIAR, and convene regular meetings with other CRPs to discuss learning and future opportunities.

iii) Fund or co-fund innovative ANH research across the CGIAR. Set clear objectives and criteria for this support, and establish a transparent process for prioritization and allocation of funds. This support should be managed separately from the core A4NH research program.

A 4 Adopt CGIAR standards of research quality as soon as these become available (see C1). In the meantime, set out clear expectations of the minimum research management processes required for all A4NH-supported research, making reference to these in key contractual agreements (e.g. PPAs), research program strategies, and in the Phase II proposal.

i) A4NH should require Centers to adequately document all research projects supported by A4NH, showing what science quality processes have been followed. This would apply both to core A4NH research and that supported under the A4NH wider ‘value added’ program.

A 5 Adopt key CGIAR policies as soon as these become available (see C2), making reference to them in key contractual agreements (e.g. PPAs), research program strategies, and in the Phase II proposal. In the absence of CGIAR policies, A4NH should adopt existing policies from the Lead Center or other suitable sources.

i) These should cover at least the following areas: Conflict of Interest (including institutional COI), Gender and social equity; Environment Research ethics; Partnerships; Working with the private sector; Intellectual property; Data management and open data

A 6 Make a commitment to systematically address social equity issues, including attention to disaggregated data and social analysis

- i) Include ‘attention to social equity’ as a basic quality expectation for A4NH research, wherever relevant.
- ii) Build researcher capacity on social equity issues in ANH.

A 7 Strengthen the A4NH monitoring and evaluation function

- i) Work with Consortium Office and other stakeholders to agree and adopt a harmonized CGIAR/CRP research project monitoring system that meets management and reporting needs and sets minimum standards of basic information required for all research projects in Phase II.
- ii) Implement the plans for a regular rolling program of CRP-Commissioned External Evaluations (CCEEs) of different Flagships and key areas of work, with sufficient resources to allow technical areas to be investigated in depth.
- iii) Invest in strategic evaluations, including impact evaluations, of research which is in the ‘adoption phase’. Develop a clear strategy for prioritizing such evaluations.
- iv) Make institutional arrangements for oversight of all A4NH evaluations to safeguard their independence from those promoting the interventions being evaluated. Oversight should include inputs into questions to

A 8 Strengthen A4NH governance and management to support the above agenda

- i) Conflict of Interest policies should be operationalized in management and governance structures.
- ii) The CRP governance structure should be adequately resourced to carry out its agreed structure and functions (following Consortium/Fund Council agreements). *Inter alia* it should take on the oversight of A4NH M&E, with this responsibility allocated to nominated individuals.
- iii) Strengthen the A4NH management structures, in alignment with central CRP agreements.
- iv) Strengthen the Program Management Unit to support the A4NH agenda, in particular resource mobilization and communication

I. INTRODUCTION

1. We have tried to keep this report as short as possible while covering a wide range of issues, providing the minimum information necessary to explain the main issues to a broad audience, and complying with CGIAR Independent Evaluation Arrangement (CGIAR-IEA) evaluation standards. To this end, we have put details in Annexes and Background Papers, and made frequent use of footnotes, references and hyperlinks for readers who want more information.

I.1. Origins of the evaluation

2. The CGIAR is a global agricultural research partnership that has evolved from a group of four research Centers in 1971 to [15 today](#), with a presence in many countries. The CGIAR started a major reform process in 2009, culminating in the establishment of new structures: a central [CGIAR Fund](#), a [CGIAR Consortium](#), and a [Global Conference on Agricultural Research for Development](#). A centerpiece of the reform is the CGIAR [Strategy and Results Framework](#) (SRF). The SRF defines CGIAR System-Level Outcomes or SLOs as high-level goals, and Intermediate Development Outcomes (IDOs) which are intended to measure contributions towards the SLOs. The first SRF (CGIAR Consortium Office, 2011) contained four SLOs³:
 - Reducing rural poverty (SLO 1)
 - Improving food security (SLO2)
 - Improving nutrition and health (SLO3)
 - Sustainable management of natural resources (SLO4)
3. Another major innovation of the CGIAR reform was the introduction of cross - [CGIAR Research Programs](#) (CRPs), which now cover most of the CGIAR research portfolio. There are currently 15 CRPs, each led by a single CGIAR Center, with one or more other collaborating⁴ Centers sub-contracted through Program Participant Agreements (PPAs). Funds for CRP activities can come from one or more of the following sources:
 - the CGIAR Fund, through unrestricted funding managed by the Fund (also known as Window 1 or W1), or funding directed by donors through the Fund to a specific CRP (Window 2 or W2) or Center (Window 3 or W3); (Note: because Window 1 and Window 2 money are received and managed together by the CRP, they are often referred to jointly as 'W1/W2'.)

³ A new SRF was approved in May 2015, and SLOs have been revised, with an SLO for Nutrition and Health.

⁴ In this report, following common practice, we refer to 'collaborating' Centers and reserve the word 'partner' for organizations external to the CGIAR. The extent to which a CRP is a full and equal partnership is debatable. Although Centers have signed up to CRPs and espouse common programs of work, their own management and financial incentives do not always pull them in the same direction, and there are sometimes tensions between lead Centers and others e.g. (CGIAR-IEA, 2015). Moreover, Centers have voiced some concerns about the risk of being "just contractees of the Consortium rather than the joint owners of the [CRP] programs" (Joint Center submission to (Mid-Term Review Panel, 2014).

- bilateral donor projects, with defined objectives and timeframes;
 - other contributions, for example cash or in-kind contributions from partner countries to Centers
4. The CGIAR Research Program on Agriculture for Nutrition and Health (A4NH) is led by the International Food Policy Research Institute (IFPRI), and includes 11 other CGIAR Centers and numerous other research and development partners (IFPRI, 2011). Chapter II of this report summarizes the objectives, scope and structure of the CRP. A4NH was initially funded for a period of three years (2012-14), but in common with other CRPs, it has been extended until the end of 2016, based on an extension proposal (A4NH, 2014b).
 5. Phase 2 of the CRPs is due to start in 2017. The planning process is already underway, and ‘pre-proposals’ are due to be submitted by CRPs in August 2015 (CGIAR Consortium Office, 2014b). All CRPs are due to be evaluated before 2015, to feed into decisions on Phase 2.
 6. This evaluation of A4NH has been commissioned by the CRP itself. The request from the Fund Council of CGIAR (FC10 meeting) was for all CRPs to go through some form of external evaluation prior to the second call for CRPs. With IEA committed to completing 10 CRP evaluations by the end of 2015, the remaining 5 CRPs were requested to undergo (and self-fund) an external review or self-assessment, with IEA support and quality validation. The 5 CRPs, including A4NH, accepted this arrangement but with the modification that the CRP-managed evaluations be as comparable as possible to the IEA-managed evaluations. Therefore, the evaluations were implemented following the guidance provided by IEA for independent CRP Evaluations. The IEA is providing advice and input to the various Evaluation Managers to ensure that this evaluation, along with other CRP-commissioned evaluations not covered by IEA, meets CGIAR evaluation standards of quality and independence (IEA, 2014a) - see paragraph 26.

I.2. Structure of this report

7. The structure of this report is straightforward. It starts with an overview of the CRP, and then follows the four Evaluation Questions (EQs), before moving to the conclusions and recommendations. The four EQs are inter-related (see paragraph) but are intended to build on each other: moving from A4NH performance (EQ1) and the pros and cons of the A4NH/CRP approach (EQ2) to the underlying resources and systems (EQ3) and finally the scope and focus of A4NH. The conclusions contain a SWOT analysis of A4NH as well as a table of performance against CGIAR evaluation criteria.
8. Volume 2 contains Annexes including the list of team member profiles and the list of people consulted. Volume 3 contains most of the quantitative analysis e.g. financial, publications, projects; survey data. The Expert Panel prepared a report on the potential scope and focus of A4NH (Bos et al., 2015). Background papers were also prepared on cross-cutting topics: Governance and management of A4NH; Partnerships, capacity building and human resources; Gender and social equity; Research management and science quality; and Lessons from the A4NH seed grants (Compton et al., 2015). These (of course) contain deeper analysis than we were able to put in this main report, and are recommended for readers interested in those specific areas.

I.3. Evaluation Purpose and Target Audience

9. The **overarching purpose of this evaluation** (Evaluation [Terms of Reference](#) p. 3), is “to assess the design and implementation of the A4NH CRP and to make recommendations in order to enhance the contribution that A4NH is likely to make towards reaching the CGIAR objectives and SLOs, especially the SLO on improving nutrition and health”.
10. The primary **target audiences** identified in the Terms of Reference (ToR) are: A4NH management, researchers and partners, and the A4NH governance/advisory body, the Independent Advisory Committee or the IAC. Other important stakeholders discussed in the [inception report](#) include central CGIAR institutions, A4NH funders, and broader stakeholder groups, including the [Global Forum on Agricultural Research](#) (GFAR).

I.4. Evaluation objectives, questions and scope

11. The evaluation aims to contribute to both accountability and learning. The main **objectives** of the evaluation are to:
 - a) provide an independent source of information on A4NH progress and challenges in Phase 1, for accountability purposes;
 - b) inform the development and appraisal of the A4NH Phase 2 proposal; and
 - c) feed into the next System-Wide Evaluation of the CGIAR, managed by the CGIAR-IEA and planned for 2017.
12. The evaluation aims to answer four main **Evaluation Questions (EQs)**:
 - EQ1:** Is A4NH on course to achieve its outputs, outcomes and impacts? Why or why not?
 - EQ2:** Within the CGIAR, has A4NH added value in comparison to pre-reform ways of doing business? Are there any disadvantages?
 - EQ3:** Does A4NH have the right resources, systems and approaches to partnerships?
 - EQ4:** Is the scope and focus of A4NH relevant and appropriate?
13. As described in the inception report, the Evaluation Questions were originally developed by the A4NH Program Management Committee (PMC) in a facilitated meeting, and refined after consultation with a range of stakeholders and following advice from IEA Quality Assurance consultants. The full, final list of Evaluation Questions and subquestions is in Annex A.
14. As they are phrased, the Evaluation Questions are useful for decision-makers. However, there is some overlap between questions, and they do not correspond directly to the CGIAR Evaluation Criteria (IEA, 2014). We handle this by cross-referencing and by listing the relevant subquestions, evaluation criteria addressed and main information sources at the beginning of each Chapter in the Findings. Table 4 in the Inception Report also shows how EQs map onto evaluation criteria, and Table 10 summarizes the evaluation results according to the evaluation criteria.
15. The **scope of the evaluation** includes all A4NH activities, structures, and institutions, whether funded bilaterally or through the CGIAR Fund. We look at the results of activities which started earlier and are now included in A4NH, as well as activities which started up after 2012.

16. The evaluation includes both backward-looking (summative) and forward-looking (formative) elements. Examples of this are:
 - We look backward at achievement of results (EQ1) and science quality (EQ3), and then look at factors, structures and systems favoring and constraining research productivity (EQ1, EQ2 and EQ3), with a view to learning lessons for future research management.
 - We look backward at the current configuration of A4NH (EQ4) and what value the CRP has added (EQ2, EQ4), then discuss how it could be best focused in future to add most value (EQ4).

I.5. Changes from Inception Report

17. We agreed with the Evaluation Manager⁵ not to answer evaluation subquestion 4.3: ‘Within the CGIAR, has the exclusive focus of A4NH on the Nutrition and Health System Level Outcome (‘SLO2’) been appropriate? What are the implications for how A4NH should position itself in future with regard to the new Strategic Results Framework?’
18. We did not carry out a portfolio analysis of the entire A4NH portfolio. The A4NH Program Management Unit (PMU) is taking this forward: it has made great strides in setting up a database for A4NH research projects and collecting key data and documents over the past six months, and is currently engaged in categorizing A4NH publications. The evaluation team did, however, carry out mini-portfolio analyses of certain areas of work, to look at geographic and topic spread (Annex J).
19. One subquestion under EQ2 was reworded from ‘Performance management’ to ‘Monitoring, Evaluation and Learning’), which better reflected the documented A4NH aims for value addition in this area (see footnote 47). Performance management is discussed under EQ3 (Section V.3).

I.6. Evaluation approach and methods

20. As explained in the inception report, our ambitions were for a ‘utilization-focused’ approach to this evaluation (Patton and Horton, 2009; Quinn Patton, 2008), with a joint learning process producing practical recommendations for action – at the same time maintaining appropriate independence. Although we have not managed to carry out every aspect of the utilization-focused approach as per the checklist of (Quinn Patton, 2002)⁶, we have: involved key A4NH decision-makers closely in the evaluation process; provided early feedback and held intensive discussions on emerging findings

⁵ Note from the Evaluation Manager: ‘Since the evaluation started the decision was made by A4NH management to expand the focus from a single SLO to include key IDOs that map to other SLOs. This was done in order to more accurately reflect the full (net) benefits expected from A4NH research. In Phase 2, CRPs are also asked to specifically address how they will insure against unintended negative consequences on on-target outcomes (p 34 of Guidance Note for CRP pre-proposals), which also encourages a more holistic approach to outcomes and impacts.’

⁶ For example, we did not cover step 1 (Assess and build program and organizational readiness for utilization-focused evaluation) or step 8 (Simulate use of findings [prior to data collection]) in the way set out by Quinn Patton (2003).

and recommendations (Annex F); and encouraged/ helped facilitate self-evaluation exercises. Principal users of the evaluation defined and developed the main evaluation questions and subquestions (paragraph 12), and were involved in developing the approach described in the inception report. This approach has been relatively time-demanding, both for A4NH and for the evaluation team – and inevitably some stakeholders have invested more energy in the evaluation than others -- but we hope it has led to more useful results.

21. The evaluation followed the methods of sampling, data collection and analysis set out in Section 5 of the [Inception Report](#) and its [annexes](#) (February 2015). The list of Evaluation Questions and subquestions developed by the Planning and Management Committee was developed into a detailed evaluation matrix, set out in Annex A to the Inception Report, which was then used to select methods, plan the team’s work and form the basis for interview protocols and templates (Annex G).
22. The principal methods and information sources were:
 - a) An Expert Panel composed of five senior people from four continents⁷ with expertise in social science, economics, agriculture and health, commissioned to look at the pros and cons of different areas of focus of A4NH (EQ4). The Panel was supported by a survey of external expert stakeholders and evidence summaries for each focus area, prepared by the core evaluation team. Team members in the expert panel are listed on the report cover and in Annex B, and a summary of the panel process and outputs is in Box 3.
 - b) Interviews with about 250 stakeholders, including staff from all of the 11 CGIAR Centers working with A4NH and from CGIAR central institutions, partners, funders, professional peers and other stakeholders. Interviewees are listed by category in Annex D.
 - c) Focus group discussions: of five different A4NH research groups (on the main changes due to A4NH) and two groups of Center/CRP leaders (on scope and boundaries of A4NH and links to other CRPs)
 - d) Two self-evaluation exercises by the PMC and Center Focal Points (CFPs), and a written self-evaluation by the A4NH gender group
 - e) Country visits to Bangladesh, India and Kenya, with additional skype interviews with Nigeria, covering a randomized cluster sample of 18 A4NH projects
 - f) CGIAR Center HQ visits – IFPRI, International Livestock Research Institute (ILRI), International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), World Agroforestry Center (ICRAF), Bioversity International (Bioversity) and in-country leaders of the International Rice Research Institute (IRRI) and the International Potato Center (CIP)
 - g) Three mini-surveys: of all A4NH staff (Annex K), applicants for A4NH seed grants (Background Paper 5) and external experts in ANH (Annex to Expert Panel report).
 - h) Project document review – stratified randomized sample of A4NH projects (Annex I)
 - i) Analysis of A4NH finance (Annex H), and publications and outputs (Annex J)
 - j) Mapping ANH activities by other CRPs (Annex L)
 - k) Observation of key A4NH meetings (topics and participants listed in Annex D)

⁷ The team leader and research management expert were involved in selection of the expert panel, based on independent recommendations from experts in ANH external to A4NH. Precautions were taken to avoid Conflict of Interest for all team members, as described in paragraphs 72-73 of the evaluation [Inception Report](#).

- l) Review of nearly 400 documents, both internal and external to A4NH, including previous evaluations. These have been catalogued in [Zotero/Mendeley](#) and the library shared with A4NH.
23. Sampling procedures and data analysis are explained for countries and projects in Annex G, and for outputs and publications in Annex J. In brief, criteria for country selection included representing A4NH focus areas (South Asia and Sub-Saharan Africa), good distribution of A4NH research across Flagships/clusters; opportunity to visit key A4NH collaborating Centers. Stratified randomized sampling was also used to select projects and documents. Some samples (e.g. projects in country) were purposively extended to include a wider range of flagships/clusters than had been selected by the randomization process. Despite this, Flagship 4, Integrated Programs and Policies (IPP) was still slightly under-represented in our sample of country projects.
24. The evaluation approach agreed at inception stage did *not* include making our own ‘expert judgments’ on whether A4NH research is likely to succeed in reaching its outcomes, whether the research is of good scientific quality, or whether certain areas of research are ‘relevant’ or not. Our view is that –especially for a complex and wide ranging program such as A4NH which covers many expert disciplines and agrifood systems - such judgments are likely to be partial, ‘snapshot’ and possibly biased. Instead we have tried to focus on key A4NH systems and resources, e.g. the questions above were addressed by asking: whether there are theories of change and systems in place that adequately help research managers identify and manage risks to proposed outcomes; whether there are adequate inputs and processes to assure good science quality; and whether there are processes in place that enable the relevance of proposed research to be adequately scrutinized and priorities transparently established.
25. Annex F summarizes the consultations carried out during the evaluation. Dissemination is the responsibility of the Evaluation Manager in A4NH, who is planning to produce at least one briefing paper and presentations, in consultation with the external evaluation team.

I.7. Oversight and quality assurance

26. There is a reasonable concern that an evaluation commissioned by the CRP might be less impartial in its approach and findings than one commissioned by an independent body, such as the IEA. Independent oversight and quality assurance are an important part of the safeguards for independence and quality. Other safeguards listed in the Inception Report (section 6.2) include: an independent evaluation team; declarations of no conflict of interest; free access by the external team to the A4NH internal ‘teamspace’; and management of confidential interview notes and documents in a separate dropbox, available only to the *external* core evaluation team.
27. Oversight and quality assurance has proceeded as foreseen in the [Inception Report](#). The Evaluation Manager has been responsible for the [Terms of Reference](#), contracting the evaluation team and has also carried out initial quality checks. The [Evaluation Oversight Group \(EOG\)](#), a mixture of internal and external specialists, has made inputs at key stages of the evaluation including the ToR, the Inception Report and the draft report. Two independent quality assurance consultants [contracted](#)

[by the IEA](#) have been responsible for reviewing the draft plans, instruments and outputs of the evaluation at key stages. The draft final report was reviewed in detail by, and benefitted from advice from, the Head of IEA and a third independent consultant. Independent quality assurance /validation will additionally be contracted by IEA on the final version⁸.

I.8. Organization and Timing of the Evaluation

28. The core evaluation team comprised three independent external evaluators (total budgeted was up to 190 person days⁹) and an Evaluation Analyst employed by A4NH and attached to the team for the duration of the evaluation (about six months¹⁰). An expert panel, managed and facilitated by the core team, analyzed the scope and focus of A4NH – total 25 person days. Team member profiles are in Annex B; individual responsibilities are noted in the Acknowledgements and in the Workplan (Annex C) and described in more detail in the Inception Report.
29. The work timeline (Annex C) has followed what was programmed in the Inception Report, however with two weeks' slippage¹¹. Country visits were made to Bangladesh, India and Kenya, with A4NH research projects in Nigeria covered by Skype calls.
30. Proposals and progress on consultation and dissemination are discussed in detail in Annex F. Early findings and provisional recommendations have been shared and discussed with a number of key stakeholders including A4NH management and advisory groups and CGIAR CFPs. All evaluation outputs have been made available on the [evaluation website](#).

I.9. Limitations of the evaluation

31. The four main limitations outlined in the inception report still apply. These were:
 - a) Limited time and resources: “it will be a challenge to cover every aspect of the EQs in equal depth... Concerns about the level of ambition [were] expressed by the Evaluation Oversight Group [and therefore] ... we have made some cuts to our original plans: for example, we are replacing one country visit (Nigeria) with Skype interviews...and we are cutting back on the project document review, taking smaller samples ... However ...in some areas, it may only be possible for the evaluation team to raise issues for further scrutiny by others”.
 - b) Incomplete documentation: “although A4NH has been open with information, giving us free access to its internal website, much documentation ... is in the hands of Centers or bilateral

⁸ http://iea.cgiar.org/sites/default/files/5CRPCCEEs_1.pdf

⁹ Total external days charged was 186 days, but some evaluators worked more than budgeted days.

¹⁰ The analyst had just started work with IFPRI / A4NH. There also have been some spin-offs: the (non-confidential) raw data in the report has been shared with A4NH and is being used by the PMU.

¹¹ Civil unrest in Bangladesh meant that planned cross-A4NH meetings were cancelled at short notice. Combined with personal factors on the evaluation team, this led to a rearrangement of responsibilities and timing of country visits, with knock-on effects. Personal factors also led to delay with the zero draft report.

projects and may be time-consuming or difficult to access. Documentation on the situation prior to the CRP may also be lacking”.

- c) “Lack of visibility of the A4NH ‘brand’: while the [constituent] CGIAR Centers and many individual researchers have strong brands, A4NH ... has a relatively low profile [making it difficult for interlocutors to identify A4NH actions and value added].” (Branding of A4NH is further discussed in paragraph 151 of this report.)
 - d) “The evaluation team will not be able to independently verify the outputs, outcomes and impacts of A4NH... instead, we will look to see whether A4NH and its partner Centers have adequate checks on their monitoring data”.
32. A fifth limitation, foreseen (Inception Report, Section 2.4) but perhaps not adequately flagged in our inception report, is that the evaluation team had to keep up with the fast-moving pace of Phase 2 CRP preparations. This particularly applies to EQ4 (scope and focus of A4NH). For the last six months, A4NH has been holding consultations on public health, food systems, and livestock, involving experts from around the world, specifically to discuss the future technical scope and focus of the program and has been developing its pre-proposal, which will be critiqued by many stakeholders including ISPC. For this reason, it was agreed that we would not make specific recommendations about the future of particular Flagships or programs, and the Evaluation Expert Panel (Box 3) concentrated on the pros and cons of different options and approaches.
33. Throughout this report, we have tried to highlight places where evaluation findings and conclusions are preliminary, dependent on limited data, and we have suggested areas that require more investigation. We hope that many of these will be followed up in A4NH’s planned series of CRP-Commissioned External Evaluations (CCEEs) focusing on individual flagships, cross-cutting activities, and management/governance issues¹².

¹² We have been able to draw on one CCEE of the food safety cluster (Sridharan et al., 2015), which highlighted some of the same issues as this evaluation, including science quality and the need for more focus on social equity, as well as an earlier evaluation of HarvestPlus (Abt Associates Inc., 2012), which mainly covers the pre-CRP period.

II. OVERVIEW OF A4NH

II.1. Structure, aims and activities

34. Like other CRPs, A4NH was conceived as a 10 year research program, with a first phase of three years, starting in 2012. Phase 1 has now been extended for two years, to 2016.

35. In its initial Proposal (IFPRI, 2011, p.1), A4NH defines itself as follows:

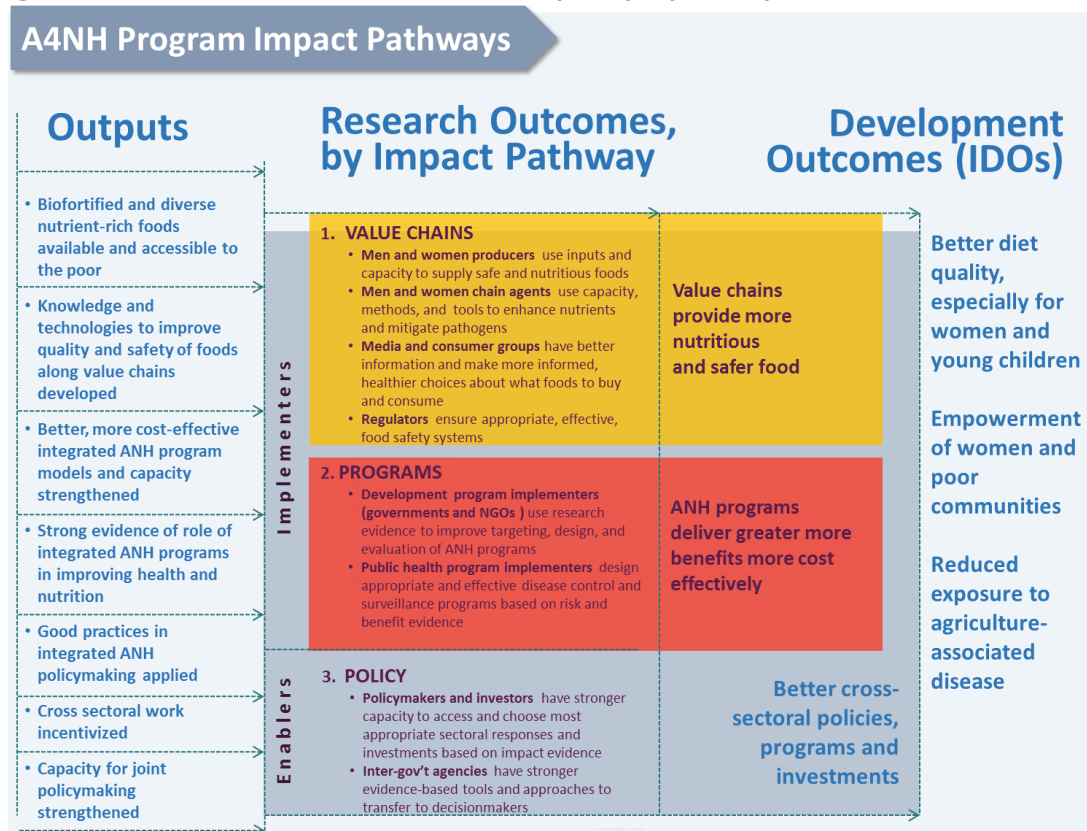
“CRP4 is a research program that will work to accelerate progress in improving the nutrition and health of poor people by exploiting and enhancing the synergies between agriculture, nutrition, and health through four key research components [now called Flagships]....”

36. The two **main target groups** for A4NH are defined as follows in the initial A4NH proposal (the A4NH proposal has been quoted in detail here as it demonstrates the complexity of the impact pathways):

- “... poor populations who suffer from food insecurity, low diet quality and related poor micronutrient intake, and undernutrition. These populations may be served by social protection and development programs—and CRP4 will work on leveraging these programs with better-integrated ANH interventions to achieve improved health and nutrition. For those left behind, CRP4 will focus on reaching them and improving their access to either biofortified staple crops, or new and better targeted integrated ANH programs.
- populations that are exposed to changing and intensifying agrifood systems in various regions of the developing world. Research must answer critical questions to assess the rapid changes in dietary patterns and lifestyles of these populations and the associated changes in health risks. Understanding these shifts is critical for designing appropriate policies, technologies, and institutional arrangements that will enhance nutrition and health benefits and mitigate risks for the poor.” (IFPRI, 2011, p.10)

37. The A4NH proposal identified three main pathways to impact, as shown in Figure 1. These were: “(1) *value chains* that provide more nutritious and safer foods; (2) *development programs* [either government programs or aid projects, mostly area-based] that successfully integrate agriculture, nutrition, and health; and (3) *policy* that promotes a supportive and enabling cross-sectoral policymaking process and investment environment” (A4NH proposal: IFPRI, 2011, p.2)

Figure 1: A4NH results framework, with three principal pathways and IDOs



Source: A4NH initial proposal p.3, modified by N Johnson to include IDOs and SLOs developed after the program started

38. Specific research objectives and Flagship responsibilities are shown in Figure 1. The four research 'Flagships' are:

- **Value Chains for Enhanced Nutrition (VCN)** (Flagship 1, led by IFPRI¹³) focuses on opportunities to improve nutrition along value chains, to increase poor people's access to and demand for nutritious foods;
- **Biofortification** (Flagship 2, led by IFPRI), started life in 2004 as [HarvestPlus](#), one of the pioneering cross-CGIAR Challenge Programs, and joined A4NH in 2012. Its aim is to improve the availability, access, and intake of nutrient-rich staple crops¹⁴;
- **Agriculture-Associated Diseases (AAD)** (Flagship 3, led by ILRI) addresses food safety issues along the value chain, as well as control of zoonotic diseases and the better management of agricultural systems to reduce the risk of human diseases; and

¹³ This Flagship had a change of leadership when the first leader left IFPRI in 2014.

¹⁴ The name of the Flagship is Biofortification. HarvestPlus, a joint venture between IFPRI and International Center for Tropical Agriculture (CIAT), is a program in the Flagship. Because it comprises the overwhelming majority of the Flagship, the names HarvestPlus and Biofortification are sometimes used interchangeably.

- **Integrated Programs and Policies (IPP)** (Flagship 4, led by IFPRI) addresses integration among the agriculture, nutrition, and health sectors at both the development program and the policy levels

Table 1: Specific A4NH research objectives and flagship responsibilities

Research Objectives		Flagships			
		1	2	3	4
1	Generate knowledge and technologies to improve the nutritional quality and safety of foods along value chains	X	X	X	
2	Develop, test, and release a variety of biofortified foods, as well as other nutrient-rich foods that are affordable for the poor and accessible to them	X	X		
3	Generate knowledge and technologies for the control of zoonotic, food-borne, water-borne, and occupational diseases			X	
4	Develop methods and tools to improve the effectiveness, efficiency, and timeliness of surveillance and monitoring systems and to permit meaningful evaluation of complex multisectoral programs and policies	X	X	X	X
5	Produce evidence of nutritional and health burdens and benefits and of the returns to different interventions in different sectors	X	X	X	X
6	Assess and document changes in dietary and nutritional patterns and risks of agriculture-associated diseases among poor people in intensifying systems, and identify and test agricultural options to enhance nutrition and health benefits and mitigate risks of agriculture intensification in these populations	X		X	

Source: A4NH Proposal (IFPRI, 2011) p.4)

II.2. Management and governance of A4NH

39. A4NH is led by IFPRI, and includes 11 other collaborating CGIAR Centers and numerous other research and development partners. A4NH has the following management and governance structures¹⁵:

- A [Program Management Unit \(PMU\)](#) located in IFPRI that undertakes the day to day management and administration of A4NH.
- A [Planning and Management Committee \(PMC\)](#) with seven CGIAR members and two external members with the responsibility to “oversee the planning, management, implementation, and monitoring and evaluation of A4NH”.
- Nine [Center Focal Points, \(CFPs\)](#) “selected by their respective Center management and accountable to both the CGIAR Center management and the CGIAR Research Program Director on activities related to this CGIAR Research Program”. Major decisions on the program are often taken in joint PMC-Center Focal Point meetings.
- The [IFPRI Board of Trustees \(IFPRI BOT\)](#) has ultimate legal and fiduciary responsibility for A4NH along with other IFPRI-led programs.

¹⁵ Links provided contain more detail. Governance and management are further analyzed in Section V.4.

40. An [Independent Advisory Committee \(IAC\)](#) that “provides advice to the IFPRI Board of Trustees and to the A4NH Planning and Management Committee on research program performance, research priorities, and management and partnership issues”.

II.3. Sources and uses of funds

41. Figure 2 to Figure 5 show A4NH expenditure from Phase 1, the first three years of A4NH (2012-14). It can be seen that:
- Bilateral¹⁶ funding is the most important source of income, accounting for half or more of expenditure in Phase 1¹⁷ (Figure 2). It is important to understand that many bilateral projects – not only those which started before the CRP – are ‘mapped’ by Centers to A4NH, and do not reflect significant involvement of A4NH PMU in their design.
 - The largest bilateral donors to A4NH are Bill and Melinda Gates Foundation (BMGF), the UK Department for International Development (DFID) and United States Agency for International Development (USAID). Other important W1/W2 donors include (in alphabetical order): Australian Center for International Agricultural Research (ACIAR), Department of Foreign Affairs, Trade and Development, Canada (DFATD), the European Commission (EC), Germany (GIZ), International Development Research Center (IDRC), Canada, and the Netherlands. (Some donors such as DFID channel funds both through Window 1 and bilateral channels).
 - Bilateral funding varied considerably by year. Not only does funding depend on the stage of individual bilateral research projects, but some donors such as USAID can only commit funds on an annual basis. (The CGIAR Fund has an important potential smoothing function if donors are not able to meet their planned allocations, although the Fund itself has not been reliable, as discussed in Section IV.4).
 - Biofortification accounted for about half (51%) of overall A4NH expenditure, while the other three Flagships spent on average \$15M pa or less (Figure 3). The evaluation team found the overall level of resourcing to be low for the scope and ambition of A4NH research.
 - Of the 11 Centers in A4NH, only five had average annual expenditures of \$3M or above. IFPRI accounted for almost half of expenditure – however about half of this sum is funding to HarvestPlus (Figure 4). Other Centers with significant A4NH-related funding are International Institute of Tropical Agriculture (IITA), ILRI, and (through HarvestPlus) the Centro Internacional de Agricultura Tropical (International Center for Tropical Agriculture or CIAT)¹⁸. W1/2 funding from A4NH however was distributed more evenly across Centers (Figure 5).
42. Most of Flagship 2 (Biofortification) contains a single (multi-layered) ‘project’- HarvestPlus - with a budget of over \$100M. Leaving aside HarvestPlus, there are currently¹⁹ 87 research ‘projects’ in the

¹⁶ Window 3 funding is counted as bilateral in this analysis since it is restricted and from an individual donor.

¹⁷ Funding from the CGIAR fund however plays a very important role since it is unrestricted.

¹⁸ Confusingly, some Centers, such as International Maize and Wheat Improvement Center (CIMMYT) that were not listed among the 11 original collaborating Centers for A4NH, also receive funding from HarvestPlus. These Centers do not play a full part in A4NH, responding directly to HarvestPlus (see Footnote 96).

¹⁹ Latest extract as of 21-July 2015

A4NH database, of which 12 projects have a budget between \$2M and \$10 M, and the rest are under \$2M total funding.

43. A4NH works in over 50 countries. An analysis of the project database (again leaving aside HarvestPlus) indicates that just over a third are single-country projects and nearly half operate in three or more countries. The regions /countries with the largest number of A4NH projects are South Asia (Bangladesh and India), East Africa (Kenya, Tanzania and Uganda) and Southern Africa (Malawi and Zambia)²⁰ followed by West Africa. This is in accordance with the A4NH proposal for a geographic focus on South Asia and sub Saharan Africa.

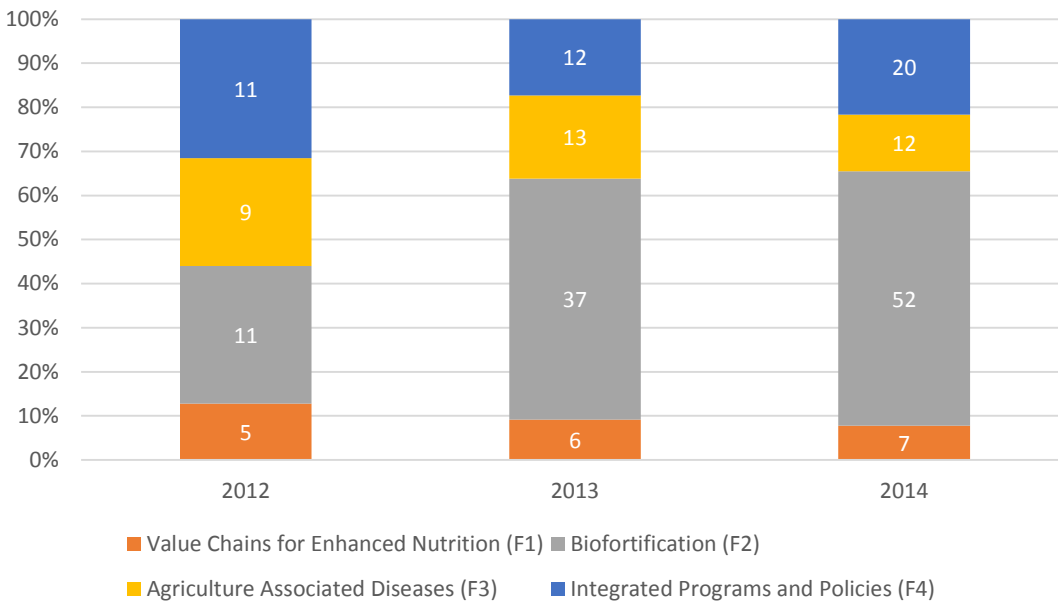
Figure 2: A4NH expenditure in Phase 1 by main funding sources and years, US\$M



Source: A4NH Annual financial reports 2012, 2013 and 2014, analyzed by evaluation team

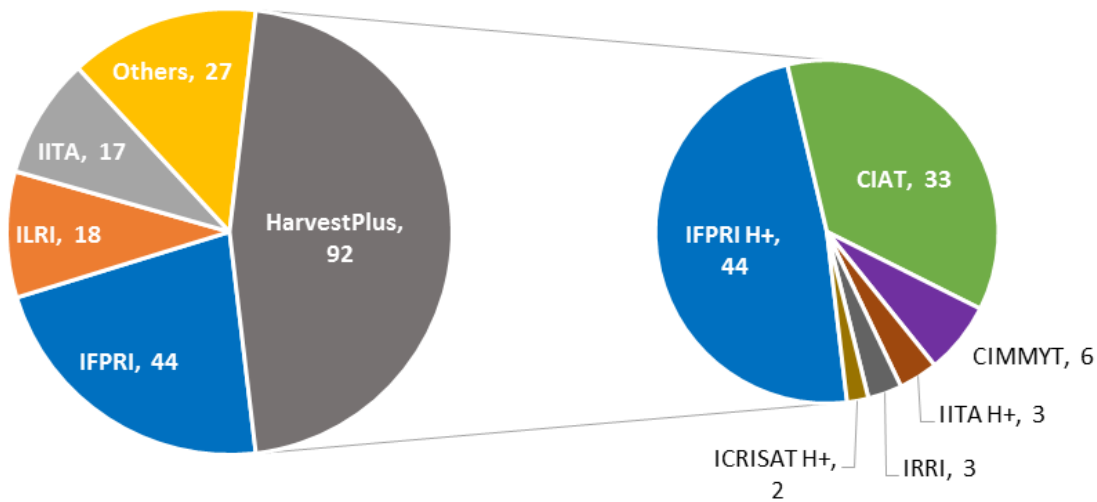
²⁰ The number of projects does not necessarily reflect the size of each project in budgetary term or the number of research activities.

Figure 3: A4NH expenditure by flagship, percentages (actual amounts given in US\$ millions)



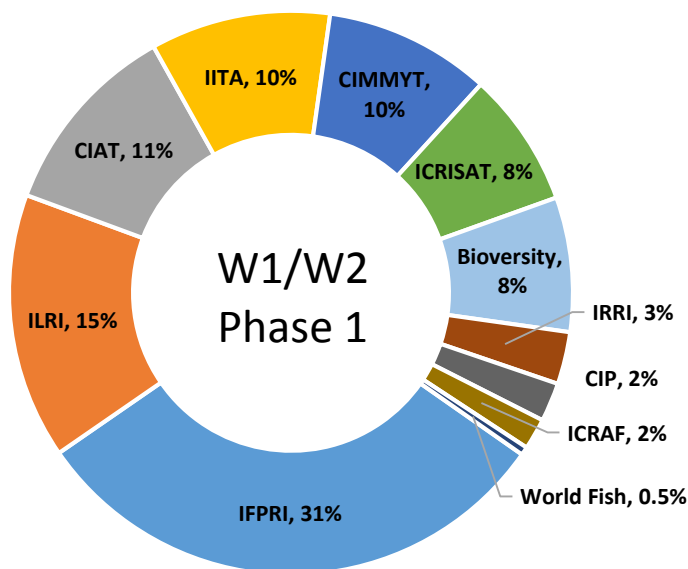
Source: A4NH annual financial reports 2012, 2013 and 2014, analyzed by evaluation team

Figure 4: Expenditure by Center in Phase 1 (US\$M), with Center breakdown of HarvestPlus (H+) expenditure



Notes: Others includes expenditure by A4NH PMU, Bioversity, CIP, ICRAF, ICRISAT (other than HarvestPlus) and WorldFish
 Sources: Evaluation's team analysis based on data from A4NH Annual Financial Reports 2012, 2013 and 2014 with additional data on center's expenditure on HarvestPlus provided by A4NHs Contract and Grants Administrator

Figure 5: Distribution of W1/W2 funding among centers in Phase 1



Notes: IFPRI includes HarvestPlus

Source: A4NH annual financial reports 2012, 2013 and 2014

II.4. Planning Phase 2: Activities and implications

44. As mentioned in the Introduction, A4NH has been moving ahead with preparing for Phase 2 of the CRPs, carrying out scoping research and convening consultations (some of which the evaluation team attended), to inform proposals on A4NH scope, focus, activities and partners. Key activities have included:

- An expert consultation on food safety
- Regional expert consultation meetings on agriculture and public health
- Meeting with the CRP on Livestock and Fish and external partners to discuss the potential of Animal Source Foods for Human Nutrition
- Discussions with the Global Panel on Agriculture and Food Systems for Nutrition and the CRP on Climate Change, Agriculture and Food Security (CCAFS) on agriculture, climate change and nutrition
- Preparation of a Pre-proposal for Phase II. This was published in early August 2015, after the first draft of this evaluation was circulated.

45. This evaluation has taken this into account, aiming to complement the ongoing process of learning and discussion with evaluation evidence, rather than running a parallel exercise (see Chapter VII).

III. EVALUATION QUESTION 1: IS A4NH ON COURSE TO ACHIEVE ITS PLANNED OUTPUTS, OUTCOMES AND IMPACTS? WHY OR WHY NOT?

Evaluation subquestions addressed²¹:

- 1.1 Have different parts of the CRP (Flagships, Centers, etc.) delivered planned outputs and immediate outcomes? Is it likely that expected impacts will be achieved?
- 1.2 Have there been significant unplanned outputs and/or outcomes?
- 1.3 What factors have helped or impeded delivery in different areas? (See also EQs 2 and 3)
- 1.4 Is A4NH coherent, i.e., have Flagships and individual research lines contributed strategically to overarching aims and outcomes?

Evaluation criteria addressed²²: Relevance, Effectiveness, Efficiency, progress towards Impact, Sustainability

Main evidence sources: Analysis of reported outputs and ‘deliverables’ in A4NH databases/reports to Consortium; Project document review; Country visits and project interviews; Self-evaluation by A4NH PMC/CFPs; Interviews with PMU and flagship/cluster leaders; other CRP documents

For further details see: Annex E – A4NH objectives, outputs and outcomes; Annex J – Analysis of outputs and publications

III.1. Introduction

46. This Chapter starts by discussing the products of A4NH, whether it has achieved its planned outputs in a timely fashion, the challenges of measuring productivity and the factors which affect researcher productivity. We then discuss the challenges in determining whether A4NH is likely to achieve expected impacts, and whether different parts of the program have worked together coherently to achieve this.

²¹ Note that here and throughout the report, answers to Evaluation sub-questions have been reordered in places to improve the flow of the narrative

²² The underlined criteria are the main focus; others are covered to some extent.

III.2. A4NH products, productivity and progress against planned outputs

Reported A4NH Products

47. Like other CRPs, A4NH reports annually to the Consortium on its main products (a mixture of outputs and outcomes). Summary results are shown in Table 2. It can be seen that A4NH has produced a wide range of outputs in its first phase, including many categorized by the evaluation team as having a (potentially) global reach.
48. Current monitoring systems - both those of the Consortium and of A4NH (see Section V.3) - lump together very different kinds of outputs and immediate outcomes, such as policy changes, trials, publications, new varieties, training courses and people trained. Most of the products listed in Table 2 are at the output or intermediate outcome level. Specific numbers of beneficiaries are only reported from the HarvestPlus program and one other project.

Table 2: Selected A4NH ‘products’ reported to the Consortium from Phase 1 (2012-14)

Consortium indicator	n	Extent of reach*				
		Global	Multi-country	National	Local	Total
‘Flagship products’ released	28	68%	18%	14%	0%	100%
‘Tools’ released	42	29%	10%	55%	7%	100%
Databases published open access	19	53%	11%	21%	16%	100%
Value chains analyzed	69	1%	0%	93%	6%	100%
Technologies released (all stages)	77	10%	18%	70%	1%	100%
Policies influenced (stages 2-4 only)	21	19%	0%	67%	14%	100%
Farmers who have applied new technologies		1,084,000	4,623	516		Note: the numbers at left come from only 3 reports.
of which: number of men (if reported)			4,523	126		
number of women (if reported)			100	390		

Source: Annex 1 tables in A4NH Annual Reports to the Consortium Office 2012, 2013 and 2014, reanalyzed by evaluation team. Definitions of indicators in the first column are in the [template for the annual reports](#) created by the CO. *See Annex J for full analysis.

49. Some examples of A4NH products (according to standard Consortium categories) are shown in Box 1. Some of the Flagship products listed have had a major international influence on policy and programming: for example the two *Lancet* papers that have been cited as key documents by the Scaling Up Nutrition Movement ((SUN Movement, 2013), *inter alia*).

Box 1: Selected examples of 'Flagship products' and 'tools' from A4NH

Flagship products:

- ✓ 2013 Lancet paper on nutrition-sensitive interventions and programmes
- ✓ 2014 Journal of Nutrition paper: "Linear Growth Deficit ...beyond the First 1000 Days ... Global Evidence"
- ✓ 2014 Biofortification Global Prioritization Index
- ✓ 2014 2nd Global Conference on Biofortification, in Rwanda
- ✓ 2015 *Food Safety and Informal Markets* book
- ✓ 2013 '2020 Focus Briefs' on aflatoxins
- ✓ 2012 Global report mapping and prioritizing zoonoses and poverty (for DFID)
- ✓ 2014 *Together for Nutrition Conference* in India
- ✓ 2013 Lancet paper on the politics of reducing malnutrition

Tools:

- ✓ 2014 Dichotomous indicator for Minimum Dietary Diversity for Women
- ✓ 2013 Manuals for sampling, sample preparation, beta carotene, and mineral analysis in potato and sweet potato [biofortification]
- ✓ 2014 Orange [high Vitamin A] maize training manual for Zambia
- ✓ 2014 Identification of 15 potential indicators for sustainable diets and food systems
- ✓ 2014 Mycotoxin [fungal toxin] training manual and video

Source: A4NH Annual reports to Consortium (Annex 1). For definitions see notes under Table 2

Have different parts of the CRP delivered planned outputs and immediate outcomes?

50. Figure 6 shows progress against planned 'deliverables' in the four Flagships (a) and by collaborating Center (b).²³ We judge that the CRP and its component parts are generally making good progress against its plans²⁴. However, there is some slippage on dates (commonly up to a year) which is more evident in some parts of the program than others (see amber-red bars in Figure 6²⁵).

Unplanned outputs

51. We were not able to get reliable information on the extent of unplanned outputs. Some 'unplanned deliverables' are reported to A4NH, but reporting is not systematic. Nearly all of them are additional publications. Unplanned work seems to be significant in some areas, e.g. some senior A4NH staff are much in demand for policy briefings and keynote speeches at high level

²³ The A4NH monitoring system is discussed further in Section V

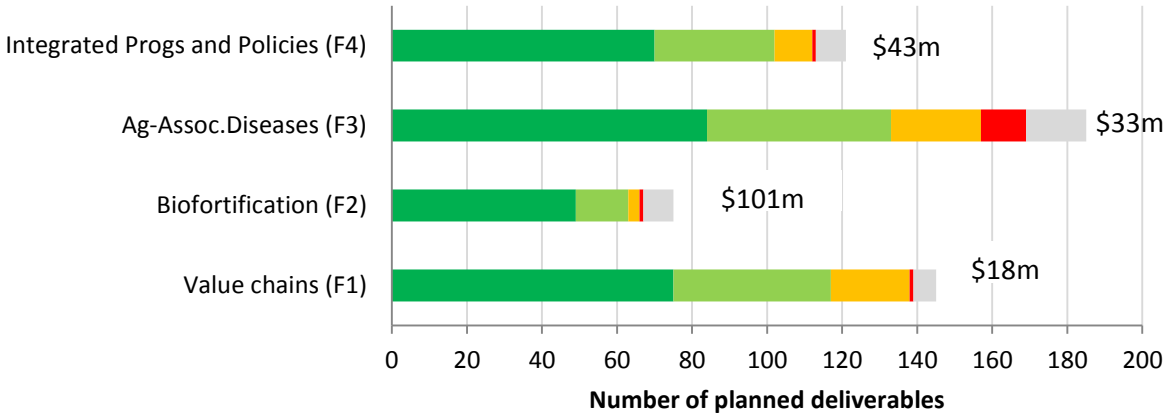
²⁴ The majority of deliverables are reports and publications that are prepared after completion of the research activities.

²⁵ As discussed in Section V.3, it is difficult to compare Flagships against each other (or indeed over time), because they produce different types of 'deliverables' and reporting formats have varied. For example, it can be seen in Figure 6 (a) that Biofortification, by far the largest Flagship, planned the lowest number of deliverables. This is because deliverables are often aggregated (e.g. "30 varieties released") in this Flagship.

conferences at short notice, which was given to us as an explanation for some of the slippage in Flagship 3.

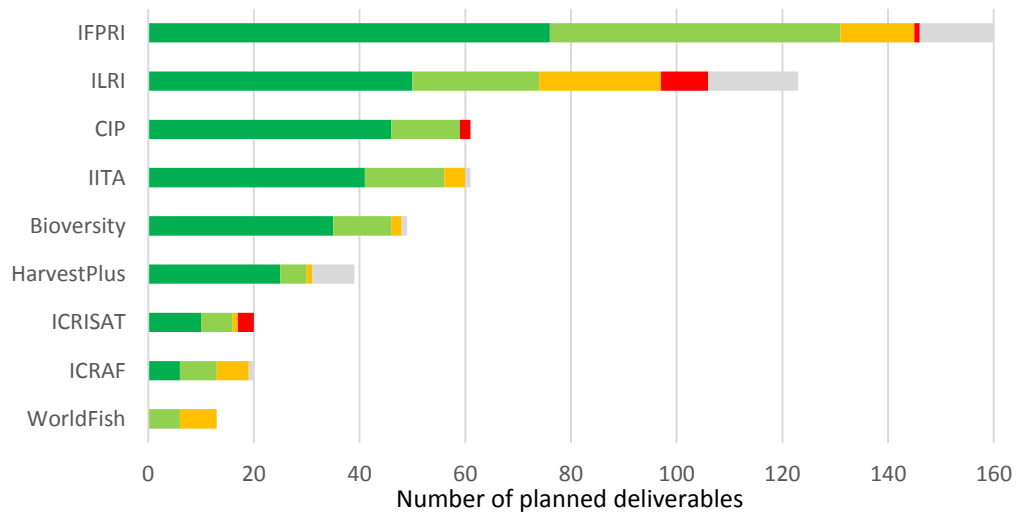
Figure 6: Progress against planned ‘deliverables’: Phase 1 (2012-14)

a) By Flagship



■ Completed on time ■ Delayed up to 1 year ■ Delayed 1- 2 years ■ Delayed > 2 years ■ Dropped

b) by Collaborating Center



■ Completed on time ■ Delayed up to 1 year ■ Delayed 1- 2 years ■ Delayed > 2 years ■ Dropped

Source for (a) and (b): A4NH database, performance summaries for Phase 1 and A4NH financial reports 2012, 2013 and 2014, analyzed by evaluation team. Figures in (a) show total flagship expenditure in Phase 1 (2012-14). There is little relationship between expenditure and the number of planned deliverables, due to differences in how deliverables are defined.

Trends in research productivity

52. Tracking and benchmarking research productivity is of interest to managers and evaluators, for example to see whether productivity has increased as a result of the CRP, and to spot potential areas for efficiency improvements. However, productivity is difficult to assess and benchmark, due to the wide variety of different ‘products’.
53. In the absence of other metrics, the ‘number of ISI publications/dollar invested’ (Litwin, 2013) is a rough measure of research productivity that has the advantage of being comparable across different types of research, and is also of direct interest to funders²⁶. However this metric also has disadvantages, in that it favors “publish or perish” research groups over research groups who spend less time on writing for a scientific audience – and (possibly) more time working with partners “on the ground”. There is a permanent tension in the CGIAR between these two objectives, and we do not want to give the impression that we value ISI publications more highly than all other research for development (R4D) activities. Nevertheless, looking at ‘publication productivity’ does provide some quantitative basis for discussion about the appropriate balance of effort.
54. Table 3 summarizes the number of ISI publications reported by A4NH and its collaborating Centers in Phase 1, along with the investment in each Center. On average, A4NH reported 0.17 ISI publications per \$100,000 invested from 2012-2014, but this varied by a large range (about ten times) among collaborating Centers, from 0.06 to 0.55 per \$100,000²⁷. Inside the CGIAR, this puts A4NH in the same range as other CRPs, according to a study commissioned by the CCAFS Independent Science Panel (Ash, 2013)²⁸.
55. However, a comparison of A4NH ‘publication productivity’ over time reveals what appears to be a downward trend since the start of the CRP. A4NH ISI publications/\$100k dropped from 0.31 in 2012 to 0.12 in 2013 and 0.14 in 2014²⁹. Various hypotheses could explain reduced publication rates over time, which have different implications for the CRP. The first and most plausible hypothesis is that funding for this area has gone up very quickly, and publications are lagging as the research takes time to get to publication stage, so the ratio has fallen temporarily. A second

²⁶ The citation rates and other bibliometric data of A4NH publications are discussed in Section V.2 (under Science Quality). Publication productivity is sometimes discussed under the ‘science quality’ section of reports, but productivity is not necessarily correlated with quality, even taking the very limited view of quality represented by bibliometric analysis, which is why we have taken the decision to cover it in this chapter.

²⁷ These data should not be quoted uncritically. First, they are potentially subject to reporting errors, in particular whether Centers/projects report their ISI publications to A4NH or to other CRPs. Second, some research fields find it quicker to produce publishable results than others. Third, the calculations we (and comparators) made do not incorporate time lags: publications in one period should reflect investment in the previous period. (Litwin, 2013) finds that the time lag factor is not significant, but this might not be the same for CGIAR data.

²⁸ It is difficult to benchmark this figure outside the CGIAR, as the CGIAR has to carry full research costs and also many CGIAR programs focus on practical outputs such as varieties which may not translate into a large number of publications. In a calculation by (Litwin, 2013) for North American university research across a range of disciplines, the median investment per publication was \$72,000 (i.e. about 1.4 publications/100k) and the most productive universities managed 2-3 papers/100k. Another calculation for North American research institutions, based on a number of published papers, estimated between 0.6 and 5 publications per 100k.

²⁹ The full analysis is in Annex J

possibility is that overall research productivity has been reduced in the CRP(s) compared to the pre-CRP situation, due to factors explored in Chapter III. A third hypothesis is that pressures to publish have been overtaken by pressures to deliver measurable results on the ground, under the CRP. Although it is often argued that researchers can do both, in practice there is a trade-off in time, and many of the researchers interviewed felt that they were increasingly expected to write journal articles in their evenings and weekends. A final, related hypothesis is that more focus has been placed on research that is less attractive to ISI journals, e.g. multi-disciplinary research with partners. The latter two hypotheses might in fact indicate a positive move in favor of practical R4D – but it would be useful to make the time trade-offs explicit. These hypotheses could be explored in future evaluations.

Table 3: ISI publications reported to A4NH by Center, 2012-14

Center	Number of ISI publications 2012- 14 (core*)	Total A4NH funding 2012-14 (US\$ million)	Publications/ \$100k
ILRI	99	18	0.55
IFPRI	103	44	0.23
HarvestPlus#	100	87	0.11
IITA	12	21	0.06
Bioversity	8	9	Numbers unreliable (Small n)
CIP	1	8	
ICRAF	5	2	
ICRISAT	7	5	
WorldFish	1	0.1	
Total A4NH	332**	195	0.17

Source: Annex 1 tables in A4NH Annual Reports to the Consortium Office 2012-14 and A4NH Financial Reports 2012-14, reanalyzed by evaluation team. *Excluding publications by researchers associated with A4NH which are outside the scope of A4NH objectives –see Annex J. **Total is less than the sum of the row, as four publications have been jointly produced by two centers. #HarvestPlus includes publications from its participating Centers, including particularly IFPRI and CIAT

III.3. Factors affecting productivity and timeliness of outputs

56. One hundred percent ‘delivery’ cannot be expected in research and innovation (Perrin, 2002). Research is inherently risky, and even more so in agriculture – the focus of the CGIAR’s work – where a seasonal dry spell can wipe out a year’s trials. A4NH, like other CRPs, also works in some insecure contexts – for example, several A4NH projects have been delayed due to civil unrest in a partner country.
57. Apart from the above ‘business as usual’ risks, there are some specific factors which researchers and research managers in A4NH identified as constraining their productivity³⁰ These were:

³⁰ Based on self-evaluations, interviews and analyses of internal reports.

- a) Funding constraints, cuts or delays:
 - We analyzed the written explanations given to the A4NH PMU for ‘dropped’ deliverables in the workplan and found that 32 out of 33 could be traced back to funding issues: either unexpected funding cutbacks or else activities that were delayed beyond the end of the financial year and then ran into funding problems³¹.
 - Other effects of funding instability are covered in more detail in Section IV.4.
 - b) Researcher time taken up by excessive administrative demands,³² in particular:
 - Resource mobilization: except for the few who have long-term funding from the CGIAR Fund or a large bilateral grant, this takes up a lot of researcher time³³.
 - Multiple planning and reporting systems: see Section IV.4
 - c) Problems related to planning and prioritization:
 - Over-promising and under-budgeting: often linked to pressures from donors to cut costs at the stage of negotiating a new bilateral project³⁴.
 - Unexpected funding opportunities from individual donors to take on additional research projects – whether or not these are related to core A4NH business – have sometimes proved difficult for researchers to resist.
 - Other unplanned work (previous section). Ideally time would be factored in for this.
58. All the above problems have previously been identified in the CGIAR, and one of the main purposes of the current (incomplete) CGIAR reform was to overcome them through more strategic planning and crucially, more stable and predictable funding. A single CRP cannot solve them alone. We have made some recommendations (e.g. on the development of a harmonized monitoring system – Recommendation [C3](#) - and support to resource mobilization in A4NH PMU – [A8](#)) which might help to address the pressures on researchers and could potentially increase productivity.

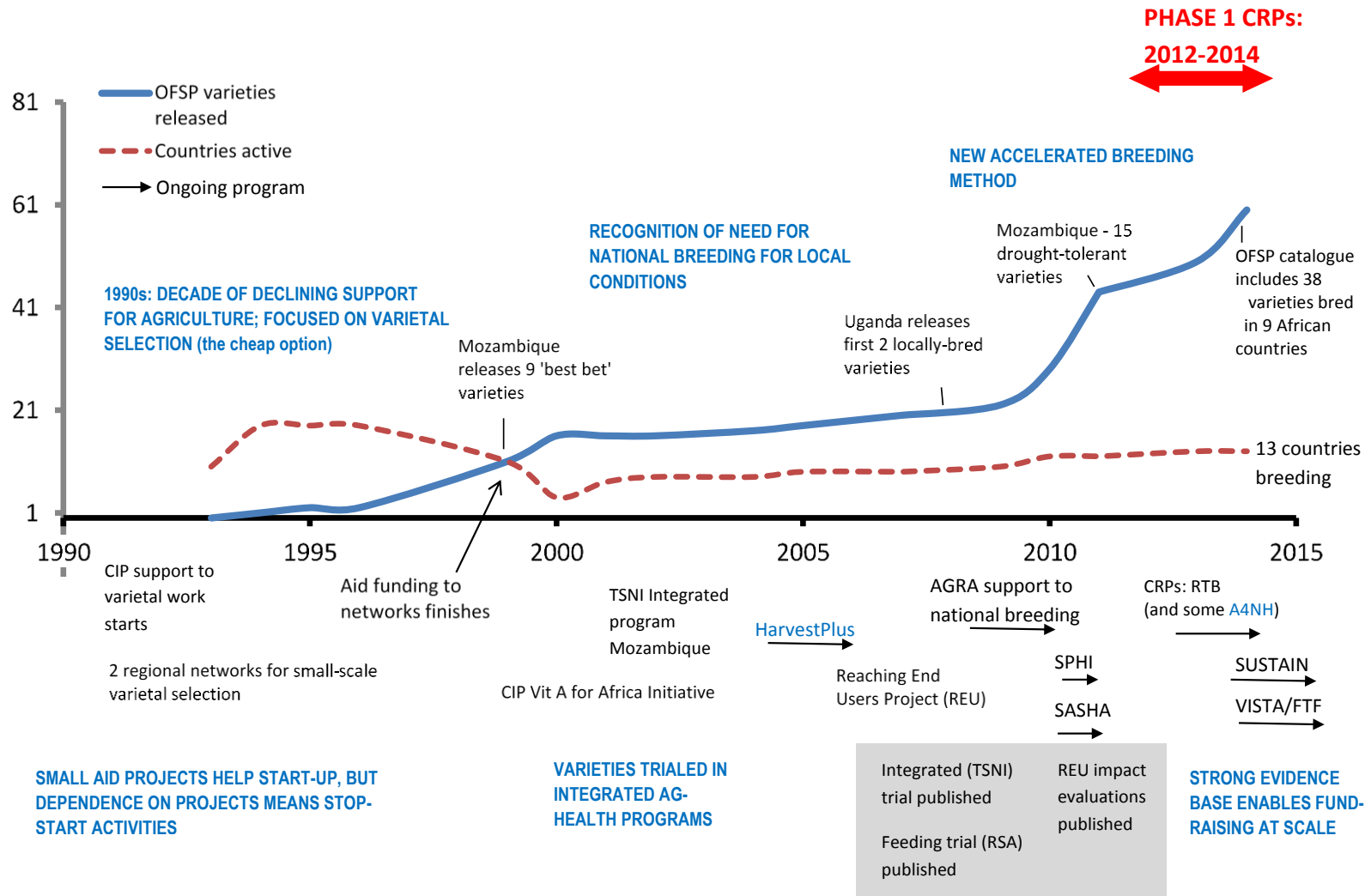
³¹ Details of the analysis are in Annex J. The Consortium Office did not allow carryover of funds between financial years in 2012 to 2013 and again from 2014 to 2015 (end of Phase 1).

³² We could not get any solid data on time use by researchers. The only Center that records time use is IFPRI, but the system reportedly does not include time spent on the above activities, and the data are also subject to recall problems. A study of time use and time recording would be a useful input to the 2017 IEA system-wide evaluation.

³³ Good researchers are not always good at resource mobilization. Anecdotaly, an extreme example is that one senior scientist said they had spent 80% of their time on repeated grant applications in the previous quarter.

³⁴ CGIAR is perceived as a high-cost supplier. We have suggested (para. 171) that a study might investigate this.

Figure 7: Long-term investments are essential for impact: a timeline for breeding Orange Flashed Sweet Potato in Africa



Source: Evaluation team based on Low (2013) and Jan Low, pers. comm..

III.4. Is it likely that expected A4NH impacts will be achieved?

59. There is no simple answer to this question. As previously mentioned (paragraph 57), research is inherently a risky business, and it should not be expected that every line of research will lead to impact. It is also important to have realistic expectations of the time required to achieve impact at scale. (This will be obvious to some readers, but we have also heard some stakeholders voice unrealistic expectations of what CRPs can deliver in their short time frame.) Figure 7 shows a timeline for CGIAR-supported breeding work on (high provitamin A) Orange-Fleshed Sweet Potato (OFSP), one of the most renowned products of biofortification³⁵. Nearly 25 years and many ‘projects’ have elapsed since the start of OFSP breeding work by CIP. There is evidence from rigorous trials and impact evaluations (e.g. de Brauw et al., 2013; Jones and de Brauw, 2015), for sustainable adoption of OFSP in some areas, demonstrating that impact on Vitamin A deficiency is possible at scale³⁶; however there is still significantly more work to do to scale up and sort out specific constraints for new geographical areas (Waized et al., 2015).
60. The approach we take, therefore, is to address two key subquestions:
- Is there evidence that expected impacts can potentially be attained?
 - Is A4NH research being managed adequately to maximize the chances of impact?

Is there evidence that expected impacts can potentially be attained?

61. Table 4 summarizes the main evidence of potential impact and main risks for the four A4NH Flagships. Understandably, evidence is stronger for mature research areas like biofortification and weaker for new areas of research. Regarding the three main routes of impact cited in the A4NH proposal (see section II.1):
- For *Value chains*: in general, there is good evidence that impacts at scale can *potentially* be attained via technical pathways, for example in biofortification and perishable food safety where millions of people have already benefited from CGIAR research. Risks to impact depend on the specific pathway. Concentrating research efforts on a few main impact pathways instead of many different research questions (for example many different zoonotic diseases) is likely to make the research easier to manage and increase the chance of attaining impacts.

³⁵ As shown on the timeline, some OFSP work is still supported by HarvestPlus/A4NH but most of it is now supported under the umbrella of another CRP – Roots, Tubers and Bananas (RTB). How to handle research areas that are of interest to A4NH as well as other CRPs is discussed in Section 0.

³⁶ Figure 7 also highlights the importance of investing in gathering rigorous impact evaluation evidence to show that the program’s impact pathway is credible and maintain the interest of management and funders.

Table 4: Potential impact of A4NH and main risks, by Flagship

Flagship	Main evidence of impact or potential impact	Main risks to sustainable impact
Flagship 1: Value chains	A new and innovative research program for the CGIAR, still at proof of concept stage in most cases, with many different value chains (from fruit to fish), and little evidence on impact at scale as yet.	<ol style="list-style-type: none"> a. Too early to tell in many cases. Risks in specific value chains depend on the value chain. In general, innovations that demand less behavioural change (e.g. fortification, biofortification), are less risky than those that demand changes in diet or other habits. Consumers might prefer less nutritious food even when nutritious food is accessible and they are aware of potential nutritional benefits b. Research evidence may not successfully influence policy and programming (see risks under Flagship 4)
Flagship 2: Biofortification (HarvestPlus)	A mature research program, that has systematically collected rigorous evidence on its impact pathway, including through impact evaluations, and which is systematically managing risks to impact, using a risk matrix. See (Abt Associates Inc., 2012), (Bouis et al., 2013) and (Stein, 2015) For example risk c) is being addressed by international advocacy and setting targets for mainstreaming biofortification into other crop breeding programs (initially in the CGIAR)	<ol style="list-style-type: none"> a. Farmers and consumers may be unable to correctly identify biofortified varieties (for invisible traits such as iron and zinc), or prioritize traits other than micronutrient levels b. Bioavailability of micronutrients in whole diet not as good as in trial conditions c. Biofortified varieties (BFV) might be swamped by non-BFV coming from other breeding programs d. In the poorest areas (often, those that could most benefit from BFV) institutions for delivery such as seed and input supply may be lacking, making any varietal introduction difficult
Flagship 3: Agriculture Associated Diseases	The main impact pathways are through technical innovation and capacity building of farmers, consumers and value chain actors (many in the informal sector). There is evidence of impact at large scale from past programs e.g. reducing food safety risks in informal milk markets (Lapar et al., 2014)	<ol style="list-style-type: none"> a. Specific interventions may not be perceived as cost-effective by farmers or value chain actors b. Concentration on non-regulatory solutions for the informal sector (especially used in the perishable food safety program) – which we see as an appropriate approach - requires economic incentives to change behavior sustainably, as well as supportive governments
Flagship 4 Integrated Programs and Policies	The main impact pathways involve feeding rigorous research evidence on what works and what doesn't into policy and programming (Ruel and Alderman, 2013) and (Gillespie et al., 2015). There is evidence of potential impact via increasing international interest in nutrition-sensitive programming (e.g. the SUN movement (Mokoro, 2015), and some actors (e.g. international agencies) use evidence systematically in program design.	<ol style="list-style-type: none"> c. Research evidence may not effectively influence policy and programming, for example: <ul style="list-style-type: none"> • Policy and programming may not be evidence-based • Lessons from small-scale integrated projects might not be scaled up easily to national-level integrated programs. • Lessons learned from another organization or location might not be perceived by program designers and implementers as useful for their own program, or there may be other obstacles to adoption

Source: Judgments by evaluation team, building inter alia on (ISPC, 2011, 2014b).

- For *Integrated agriculture-nutrition programs*: A4NH itself is collecting rigorous evidence of what works and what does not, and feeding this into policy and programming. However, up until now, nearly all this evidence has been collected from carefully-managed, area-based programs run by international NGOs (INGOs) – e.g. home gardens for nutrition, supported by Helen Keller International (TANGO International, 2015). The big question is whether these can be replicated at scale, mainly by governments with much lower levels of resourcing. Flagship 4 has started some work with governments (e.g. Zambia and Bangladesh) to promote and evaluate efforts at larger scale.
- For *policy*: There is strong evidence that national and international policies influence ANH outcomes, and that improving policies can potentially have high impacts. Policy research work in A4NH is concentrated in Flagship 4, in large research-into-policy programs such as *Transform Nutrition* and *Leveraging Agriculture for Nutrition in South Asia (LANSA)* that integrate research and influencing work, increasing the chances of impact from the research. Other policy work in A4NH is dispersed, and there could be stronger support to this area as discussed later in the report (see [Influencing national and international policy](#)).

Is A4NH research being managed adequately to maximize the chances of impact?

62. To manage a research program systematically to maximize its practical impact, it is very helpful to have a clear impact pathway/theory of change (ToC)³⁷ which sets out the expected impacts of the program and (testable) steps, risks and assumptions along the pathway, including an assessment of the magnitude and potential impact of any risks³⁸. Individual research projects need clear links with the wider theory of change for the area to which they are intended to contribute³⁹. Ultimately, impact pathways need to link up to the SLOs and IDOs of the CGIAR⁴⁰.
63. Clear theories of change were not available for much of the A4NH research when the CRP started. (As mentioned, most research was ‘mapped’ to A4NH from a variety of existing projects, many of which were not previously organized into coherent research programs.) Few A4NH research projects in a random sample examined by the evaluation team documented key assumptions and risks in the impact pathway, and even fewer documented any link to wider research programs and the CGIAR results indicators (see Figure 8). The major exception is biofortification: this has a long-established program (HarvestPlus) with its own 10-step impact pathway, and has been working through ‘discovery’ and ‘development’ phases in a systematic fashion for over 10 years. However,

³⁷ These terms are used interchangeably in this report. (Johnson et al., 2015) distinguish them by defining theories of change as those that state assumptions and risks, while impact pathways miss these out, but global practice is inconsistent, with a variety of approaches and terminologies (Vogel, 2012).

³⁸ This does not necessarily imply a linear ‘pipeline’ pathway as in the example presented in this section – Theories of Change can also be used to think through bottom-up research such as innovation platforms

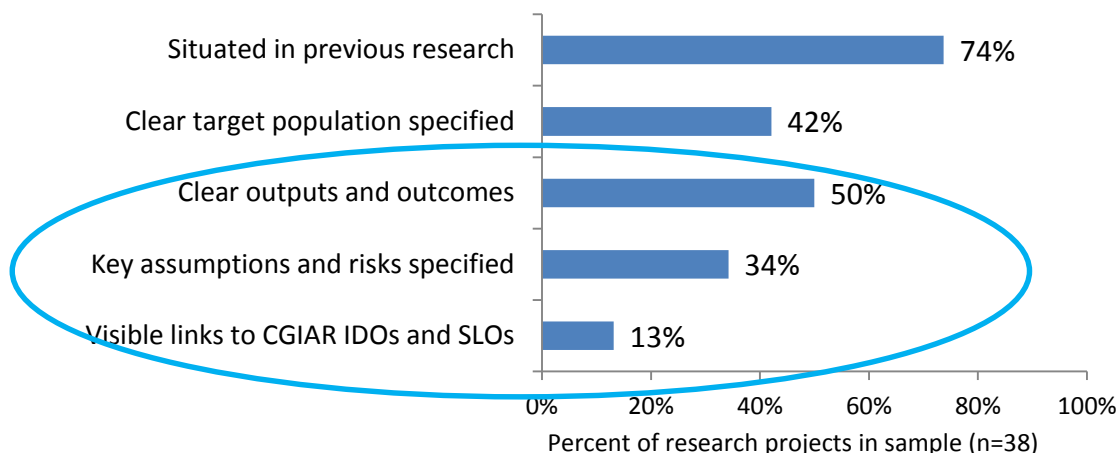
³⁹ Individual researchers are often working to their own, implicit, impact pathways. Making these explicit ensures that everyone has the same understanding, and also allows assumptions to be critically analyzed.

⁴⁰ The SLOs and IDOs are typically at a high level and describe impacts to which A4NH research will be only one of many contributing factors. For example (A4NH, 2014b) tentatively identified impact indicators of dietary diversity and women’s decision-making in agriculture.

as pointed out in a program review by (Abt Associates Inc., 2012), HarvestPlus has now embarked upon a much more complex ‘delivery’ phase, and many of the assumptions made in this phase require close examination.

64.

Figure 8: Key logical links in impact pathway are not documented in many A4NH research projects

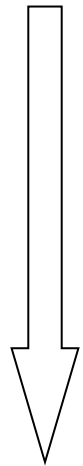


Source and further explanation: Evaluation team project documentation review (Annex I).

65. The A4NH PMU has been active in working with researchers in drawing up theories of change for major areas of A4NH work and rigorously examining the research evidence for the assumptions about how the research will lead to impact. This is an essential step in managing for impact, as discussed with specific reference to A4NH by (Mayne and Johnson, 2015).
66. The example in Table 5 illustrates part of this process. It is taken from A4NH theory-of-change work with the Biofortification flagship (HarvestPlus), for one biofortified ‘product-country combination’: orange maize in Zambia (Johnson et al., 2015). The objective of the orange maize program is to reduce Vitamin A deficiency among poor consumers, in particular vulnerable women and children, by introducing orange (high pro-vitamin A) varieties to Zambian farmers. The left hand side of the table sets out the steps needed to achieve impact on Vitamin A deficiency at scale, and the two other columns list the assumptions underpinning each step, and the assessment of the A4NH researchers as to the state of the evidence on whether the assumptions hold true⁴¹. It can be seen from Table 5 that while there is good evidence for some steps in the pathway (for example, earlier HarvestPlus research has demonstrated that consumption of orange maize can improve Vitamin A status), there are still several unknowns, in particular concerning farmer access to seed. The HarvestPlus program is working systematically to tackle barriers and risks in the ‘delivery’ of its research, and is trying many innovative approaches: for example it is working with [AgResults](#), using prizes to incentivize industrial millers in Zambia to take up orange maize.

⁴¹ It is important to note that *all* the assumptions in the impact pathway have to hold true for the predicted impacts to be reached. Moreover, it cannot be assumed that the impact pathway and constraints for a specific commodity will be the same everywhere (for example maize markets and consumer preferences may vary) or that impacts will be sustainable (for example if marketing involves overt or hidden subsidies by the project).

Table 5: Impact pathway example: provitamin A orange maize in Zambia



Research questions and likelihood of occurrence	Assumptions	Strength of evidence# that the key assumption holds true
Will target farmers be aware and convinced of the benefits of orange maize? Likelihood: medium to high	Farmer awareness Farmer acceptance	Strong Medium
Will target farmers grow orange maize? Likelihood: medium	Access to seed Varieties perform as expected	Weak Strong
Will processors and traders buy and use orange maize? Likelihood: medium to high	Traders and processors reached with information about orange maize	Medium to strong
Will target consumers be aware of and willing to eat orange maize? Likelihood: medium to high	Consumer acceptance Consumer awareness	Strong Medium
Will target consumers eat orange maize? Likelihood: medium	Availability and accessibility	Medium
Will target consumers' consumption of orange maize reduce the prevalence of inadequate vitamin A intakes? Likelihood: medium to high	Accurate targeting of consumers Retention and bioavailability of vitamin A No adverse changes in diet	Medium Strong Strong

Source: (Johnson et al., 2015) Table 3. 1 with order of table inverted and traffic-light color coding added. # Available research evidence, including from consumer studies, feeding trials and impact evaluations.

67. A4NH has made good progress on developing theories of change for its major work areas in Phase 1. In our view, this work could be further strengthened through attention to the following:

- *Capacity building of researchers and partners:* Theories of change need to be widely understood and ‘owned’ by all those in the research chain to be fully used and appropriately updated. Other CRPs have highlighted the need for broad capacity building (e.g. (Jost et al., 2014).
- *More systematic use of theories of change for risk management:* An important question for management is how to assess the likelihood and potential severity⁴² of any risk identified in the impact pathway. This is not currently possible from Table 5 because it shows only the strength of current evidence. For example, a red traffic light on ‘access to seed’ might not imply a major risk to ultimate program outcomes, if a program partner is able to address this effectively. In contrast, questions about fundamental biological processes such as ‘retention of vitamin A’ could threaten the viability of the entire program.

It would be useful, therefore, to complement the current A4NH theories of change with traditional risk analysis. This could call on the ‘expert judgments’ used in most risk analysis and other relevant research data - e.g. from similar programs in other countries. At the moment, A4NH PMU does not use risk analysis systematically in prioritization and management of its research, while

⁴² In risk management matrices this is often referred to as ‘impact’, however to avoid confusion with evaluation terminology we have used the term ‘severity’ here.

HarvestPlus does have a systematic process (with a risk matrix), but has not yet integrated information from the A4NH Theory of Change into this. We suggest that this area could be given more attention.

- Increased resourcing of this area of work: At the moment, the work on theories of change is resourced with about 0.25 full-time equivalent (FTE) (Table 7). As already raised by the (ISPC) in its commentary on the A4NH Extension proposal (ISPC, 2014b), this area requires increased resourcing. Without this, the speed of development of theories of change will not be able to keep up with programming decisions in Phase 2 and there is a risk it will be an academic exercise understood only by a few instead of owned across the CRP.

III.5. Is A4NH coherent, i.e., have Flagships and individual research lines contributed strategically to achieve overarching aims and outcomes?

68. The current A4NH portfolio is a mixture of inherited programs and new lines of work since 2012. The inherited programs – in particular HarvestPlus (biofortification) and the IFPRI group working on Integrated Programs for Nutrition – already had very strong research teams with a coherent identity and international reputation before joining A4NH. These two programs together represented 62% of total A4NH expenditure in Phase 1, and 40 % of W1/W2 expenditure. A4NH also inherited a very strong food safety and zoonotics group in ILRI, although with a more dispersed research agenda, and a group of projects on mycotoxins spread over several CGIAR Centers (see Chapter IV, EQ2). Finally, A4NH set up some new lines of work, in particular the Value Chains Flagship, which included a cluster on Nutrition-Sensitive Landscapes.
69. The uncertain funding environment encourages CGIAR researchers to take on a variety of projects which are loosely relevant to the objectives, but are not structured in such a way as to collect a critical mass of evidence to answer a high priority set of research questions. This situation has been aggravated in Phase 1 by the ‘mapping’ of projects by Centers to CRPs, discussed in Chapter VI, meaning that Flagship and cluster leaders do not always ‘own’ all the research projects mapped to their area.⁴³ The result for A4NH is that the research program is not very coherent as a whole, although it contains some very strategic elements.
70. A4NH Flagships arguably missed some opportunities to work better together and add value to each other’s work in Phase 1. In particular, the IPP Flagship has particular skills (e.g. in nutrition metrics, impact evaluations, policy) that could usefully be applied to other flagships, as noted by several of our informants.

⁴³ For example: the value chains interventions and assessments clusters cover projects in more than 10 commodities and many countries (Annex J), many of which do not use the nutrition and value chains framework developed for the Flagship. The zoonotics cluster in AAD covers a range of diseases, which are undoubtedly important (Grace et al., 2012) but without a critical mass of researchers allocated to most of them. The Integrated Programs Agriculture-Sensitive Nutrition component covers programs ranging from impact evaluations of homestead gardens (core to its research) to an impact evaluation of OFSP (mapped to the cluster).

71. The ToC work by A4NH mentioned in the previous section is engaging with this issue, looking at how impact pathways can be logically nested and fit together with Flagship and cluster structures (N Johnson, unpublished). However, it is a challenging task as long as A4NH contains many dispersed projects. In the judgement of the evaluation team, there would be many benefits to A4NH in focusing on a few strategic areas of research instead of dispersing its efforts. HarvestPlus is a model for this. It has been very successful in outlining a clear objective and impact pathway, proactively mobilizing resources to support this, and seeking rigorous evidence to test assumptions and convince funders to continue support over many years (see R1

III.6. Summary conclusions for EQ1

72. Researchers in the A4NH program have produced a wide range of outputs in its first phase, including many with a global reach. Some outputs (such as the *Lancet* papers on nutrition) have had a major international influence on policy and programming.
73. We judge that the CRP is generally making good progress against its planned ‘deliverables’, although with some slippage on dates. We discuss the main reasons for delays and dropped ‘deliverables’: in the majority of cases, the underlying factors are unstable funding and fragmented bilateral support to the CGIAR, issues which the CGIAR reform was intended to address. We return to these issues in later chapters.
74. We then discuss the challenge of assessing whether A4NH will reach its expected impacts. As with all research (particularly in developing country agriculture) significant risks are normal, and it is likely that only a fraction of research lines will result in large-scale impact. There are indications from ongoing and previous research that impacts are likely in many areas of A4NH research. For example, there are rigorous impact evaluations demonstrating large-scale uptake of some biofortified varieties and their effects on human nutrition, and there are examples of food safety programs which have been scaled up to benefit millions of people. We then discuss the efforts that A4NH has made to manage for impact. The PMU has developed theories of change for much of A4NH research which rigorously identify the assumptions in impact pathways and the strength of the evidence for each assumption. We suggest that theories of change could be used together with conventional risk analysis to allow a more structured management of risks in the program, as well as supplying risk information to feed into prioritization exercises both within and between areas of research. We also suggest that this area be given further resourcing, both to cover new areas of the research and to build capacity and ownership of theories of change more widely among researchers and partners.
75. Finally, we find that although A4NH contains many strategic elements, it has not worked together coherently to attain common objectives. We do however recognize that spending time on ‘mainstreaming’ would have a major opportunity cost in time for Flagships’ own research. We return to this issue (the tension between core research and ‘value adding activities’) in Chapter VI.

IV. EVALUATION QUESTION 2: WITHIN THE CGIAR, HAS A4NH ADDED VALUE? HAVE THE ADVANTAGES OF THE CRP OUTWEIGHED THE DISADVANTAGES?

Evaluation sub-questions addressed: What have been the effects of the CRP (as currently operating within CGIAR systems)? In particular, how has A4NH progressed with its specific aims to add value in four specific areas, i.e. impact orientation, focus on gender, coordination of research across the CGIAR, and monitoring, evaluation and learning? What have been the negative effects of the new structure and systems, if any?

Evaluation criteria addressed: Relevance, Efficiency, progress towards Impact

Main evidence sources: Mini-survey of A4NH-related staff; Self-evaluation exercises (organized by evaluation team with evaluation manager) in A4NH Center Focal Point (CFP) meeting; Written self-evaluation by gender team (requested by evaluation team); Five small-group discussions with researchers in different Flagships; Observation of CRP meetings, including a PMC-CFP meeting and an aflatoxin coordination meeting; Interviews of CGIAR staff, partners and expert observers.

For further details see: Annex K – Minisurvey of CGIAR staff working with A4NH; Evaluation Background Paper 4: Gender and equity

IV.1. Introduction

76. This Chapter starts by summarizing perceptions of staff and partners on the pros and cons of working through A4NH. It moves on to discuss the effect of A4NH on specific ‘value adding’ areas we were asked to examine (listed above). Finally it discusses some negative effects of the CGIAR reforms *as currently implemented*, adding to the body of evidence on this, and re-emphasizing the importance of addressing some of these issues before the beginning of Phase II of the CRPs.

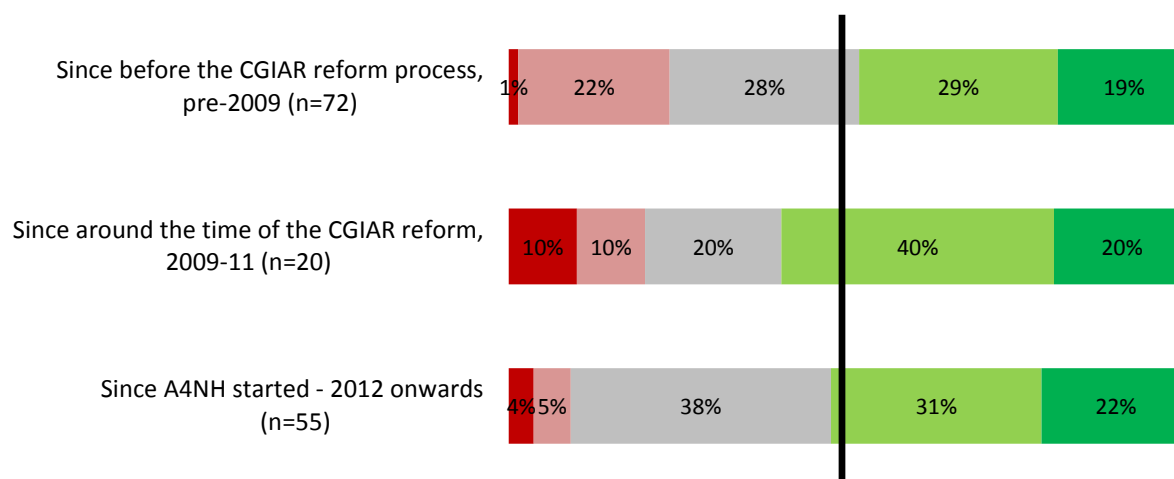
IV.2. Pros and cons of working through A4NH: CGIAR staff views

77. Figure 9 shows survey responses from A4NH-related staff to the statement:

“Working through the structure of a CRP (A4NH) is more effective than organizing research directly through CGIAR Centers.”

78. Overall, more staff agreed (51%) than disagreed (18%), although a substantial fraction (30%) were “not sure”. Only a small fraction (about 3%) said that they “strongly disagree”, in contrast to the 20% who “strongly agree”. This poll could not be directly benchmarked with other CRPs due to differences in methodology, but staff views of A4NH appear to be relatively positive. There were no statistically significant differences at the 5% level between different types of respondents, e.g. Centers or job types (full analysis in Annex K). However, Figure 9 does suggest some differences between new CGIAR staff and staff who had been longer in the system, with about 20% of the latter disagreeing that working through the CRP is more effective.

Figure 9: “Working through the structure of a CRP (A4NH) is more effective ...”
Agreement/disagreement categorized by how long respondents had worked in the CGIAR.



■ Strongly disagree ■ Somewhat disagree ■ Not sure ■ Somewhat agree ■ Strongly agree

Source: Minisurvey of A4NH-related staff, Feb 2014 (Annex K). 148 respondents, estimated response rate > 30%. Differences between groups are shown for interest, but were not statistically significant: overall averages are presented in the text. There were no statistically significant differences at the 5% level in responses between other subgroups, e.g. types of staff or Centers.

Table 6: Positive and negative aspects of A4NH: frequency of staff comments, by broad category

Positive comments	Percent of comments	Negative comments	Percent of comments
Better coordination of work e.g. between Centers, disciplines	47%	Increased admin/reporting workload	32%
Inspiring mission/leadership of A4NH	27%	Poor communications within A4NH	28%
More potential for practical impact of research e.g. scaling up, links to policy	24%	Inefficiencies or lack of realism in management	28%
Flexible funding and support from A4NH	18%	Disagreements on boundaries of CRP and choices made	19%
Opportunities for learning via A4NH, e.g. on nutrition and health	12%	Lack of trust; tensions and competition e.g. between centers	19%
Good systems /management	11%	Instability of funding	*16%
Improvement in partnerships	11%	Lack of opportunities for personal development	3%
Improved work on gender	2%	("Nothing negative to say")	(14%)
<i>Total positive comments</i>	<i>123</i>	<i>Total responses</i>	<i>118</i>

Source: Minisurvey of A4NH staff, Feb 2015. Free text answers to open questions, categorized by evaluation team, so percentages lower than would be expected for closed questions (see report for methods). ANH-specific issues are highlighted in green (positive) or red (negative). *Major funding cuts in W1 were instigated only after the survey had closed.

79. Asked for positive and negative aspects of working with A4NH, staff raised many issues (Table 6) that have also been raised in some other CRP evaluations e.g. (CGIAR-IEA, 2014). Four issues raised by staff stood out as being more specific to A4NH⁴⁴:

- a) Inspiring mission and personal leadership in A4NH: For a new CRP, winning people over to a new mission and inspiring people at all levels to contribute to a common vision can be a challenge. A4NH has benefited from an international wave of interest in linking agriculture with nutrition and health⁴⁵. At the same time, personal leadership has been a factor:

"It's an exciting time to be part of research on nutrition and health as it relates to agriculture... "
..." [the Directors of A4NH and HarvestPlus] are both very enthusiastic leaders. Their passion for the programs drives my energy every day. ...

The personal factor was very noticeable in our interviews: nearly everyone really *likes* the A4NH Director and PMU staff, and any criticisms of A4NH or of CRPs were often prefaced with "I know they are doing their best, but..."

- b) Professional development: The opportunity to learn about NH issues and master new disciplinary frameworks and tools was a real draw for some researchers in joining A4NH:

"The CRP has also provided me with a lot of new opportunities to grow professionally, mainly, I think, due to its multi-Center and multi-disciplinary nature".

"Allows to tap into expertise (methods, tools, frameworks) that is not available within my own organization. "

- c) Flexibility in the use of A4NH funding: The A4NH Director in particular (with agreement from the PMC) has been proactive in funding innovative ideas from enthusiastic staff and partners, often with small amounts of W1/2 funding (under \$100k).

"The flexibility of the programme is great for supporting new ideas and supplementing other external donor funded work - this kind of flexibility is crucial for innovation in research"

"I have been able to work on related and follow-up topics that under the Center would have been more difficult to justify and find support for".

"A4NH does a good job of merging its objectives and demands for its research with the research needs and interests of the researchers working on A4NH topics."

While we argue elsewhere (Chapter VI) that A4NH needs to increase its focus on a few key research areas, there is also value in funding innovation and spreading some of the available research resources over a lot of small areas (Fortin and Currie, 2013). However, there is also a tension between flexible, entrepreneur-style support to 'possible winners' and the need to establish, and communicate, clear process and criteria for choosing funding recipients: see the next point.

⁴⁴ Quotes in this section are from the minisurvey, but the findings also integrate evidence from our interviews and group discussions with staff

⁴⁵ This interest was stimulated in large part by earlier work of CGIAR researchers and partners now in A4NH

- d) Communications and trust: On the downside, we have been told by many staff that internal communications within A4NH and among staff in its collaborating Centers has often been poor, and that decisions are not transparent to all. A number of researchers and technicians feel isolated from the CRP and unaware of what's going on.

"As researchers, we are not even informed on how the A4NH functions, how it fits into our daily operations and what difference it brings "

"Uncertain exactly about how priorities are determined, at what level (center, A4NH, CG) determination of work program is made, and sustainability of funding over time"

Poor communication has led to some tensions and misunderstandings, in particular about the distribution of W1/W2 funds, expressed strongly by a minority:

"Funding allocation amongst centers/partners is not equitable⁴⁶, and it leaves room for uncertainties."

"...this has meant money being allocated to favored partners without any competitive process...The Coordinator is answerable to the lead center and therefore the decision making has a fundamental conflict of interest."

"Is there enough mutual trust and trust in the lead centre/CRP leadership as an honest broker?"

A4NH Decision-making and communications are discussed further in Chapter V.

- e) Disagreements on priorities and boundaries of A4NH: Staff working in A4NH voiced various disagreements with the type of work that is supported and/or prioritized under A4NH. Many of these reflect very long-standing arguments about the 'comparative advantage' of the CGIAR e.g. (CGIAR Independent Review Panel, 2008; World Bank OED, 2003), but there were also differences of views about the highest-priority actions for tackling nutrition and health through agriculture:

"Separating A4NH from the main stream breeding restricts the potential benefits of incorporating other desirable traits into final products to promote adoption of nutritious cultivars."

"At times the work becomes a bit too jargon - and they fail to clearly communicate what is meant - for example, what is a "nutrition-sensitive landscape" - why should we care about this approach?"

"...the original A4NH 'themes' did not capture all the necessary elements of the diverse research that the various centres undertake and allow multiple priority areas of useful research".

For a CRP like A4NH which covers a multitude of potential activities and sectors, setting and clearly communicating boundaries and priorities for action is critical. We return to this point in Chapter VI (and [Recommendation A1](#)).

⁴⁶ A number of interviewees were concerned with "equitable" funding. It is not clear to us that 'an even spread of resources across CGIAR Centers' should be a criterion in determining A4NH funding priorities, although this does appear to have had some influence in Phase 1 allocations of W1/2: see Figure 5.

IV.3. Progress in specific areas where A4NH aimed to add value to research

80. We were asked to examine the evidence on specific areas where A4NH had planned to add value, as a CRP, to what was already being done in the CGIAR. These were: impact orientation, gender, coordination, and monitoring, evaluation and learning.⁴⁷ A brief outline for each area is below, followed by a summary of overall lessons from A4NH Phase 1.

Impact orientation

81. One of the major objectives of the CGIAR reform was to link the research undertaken more clearly to impact. The main tool envisaged for this was the use of impact pathways/theories of change which would link CGIAR research more closely into practical results – and also to specific indicators and targets set by the CGIAR centrally (SLOs and IDOs). In 2013, a high-level results framework was developed for A4NH that specified Intermediate Development Outcomes. For some of these outcomes, indicators have been identified and targets set for specific target populations (A4NH, 2013), A4NH 2014). This process is still ongoing since IDOs are being revisited in the revised SRF.
82. As described in Section III.4, the A4NH PMU has made good progress on developing theories of change and gathering evidence on assumptions and risks for some areas of A4NH research. There are however some institutional challenges that we would like to highlight again here:
- Theories of change and IDOs were developed ‘after the fact’ in Phase 1 as most research programs already existed in some form. Not only is this contrary to the ideal of starting with impact and working back to activities⁴⁸, but it can also be psychologically challenging for researchers to critically examine implicit assumptions on which they have already based their work for some years.
 - Related to the previous point, ‘nested’ theories of change for existing programs don’t always fit comfortably together. For example, following a recommendation from the recent evaluation of A4NH Food Safety work (Sridharan et al., 2015), the PMU and the AAD Flagship are currently developing a joint theory of change which covers both work with milk and meat products and the aflatoxin work, which is primarily with maize and groundnuts. It will be interesting to see if and how this exercise results in any reprioritization or restructuring of the Flagship.
 - We did not identify any organizational incentives for managers and researchers to *use* the theories of change. The evaluation team did not find any evidence that Flagship managers or governance bodies were incorporating theories of change into existing planning and risk management processes (Section III.4). However, the theories of change have been cited many times in the pre-proposals for Phase II, and may be used more systematically in future.
 - Finally, we would like to reiterate that this area is so vital to the development of the CRP that it will require adequate resourcing. It is important that this work is seen as an essential part of research design and management, and not an administrative overhead (as currently funded).

⁴⁷ Session Document 3a: A4NH Progress and Plans. Presented to IAC meeting, November 2013 (Note the date - only 1.5 years before this evaluation).

⁴⁸ Guidance on developing IDOs (CGIAR 2013) also recommends working bottom up from existing programs, which may be a pragmatic response to Phase 1 of CRPs but does not favor rigorous questioning and prioritization.

Gender

83. Gender is recognized as a key area for A4NH, because the relationships between women and men, boys and girls, and the practical roles that they undertake inside and outside the household, strongly affect nutritional and health outcomes. The CGIAR is also committed to promoting gender equality and women's empowerment (one of the Millennium Development Goals).
84. A4NH has published a gender strategy (A4NH, 2012a) and has made significant investments in this area, complementing the Consortium strategy on gender (CGIAR Consortium Board, 2011). The A4NH Director and PMU has also provided consistent leadership and messaging on the importance of integrating gender issues into research. The PMU and gender team have been active in monitoring the research portfolio – commissioning a gender inventory in 2014 and including specific questions on gender in the A4NH project planning forms. The level of “gender focus” in research deliverables reported to the PMU has increased from 30% in 2012 to 49% in 2014⁴⁹, with ‘significant’ gender focus increasing from 2% to 11%.
85. More importantly, the gender team has sought to raise the quality of research regarding gender issues both in A4NH and across the CGIAR. It has done this through a gender-nutrition network that has held two methods workshops, and also runs a [technical blog](#). The PMU/Gender team asks A4NH research projects to provide their research questions on gender, and provides both general guidance (A4NH PMU, 2015) and individual advisory support to strengthen these⁵⁰. Finally, although this was not originally foreseen in the gender strategy, the gender team is starting to undertake some strategic research at central level: this is mainly concerned with methods, such as measuring women's decision-making, control of assets and time use and how these affect nutrition.
86. The Evaluation Background Paper on gender provides (considerably) more detail on the A4NH gender strategy and activities, and makes some suggestions for future revisions⁵¹. These include: developing a theory of change for the gender strategy and using it to prioritize activities; putting in place a more structured process for prioritizing central gender research; and considering how to integrate wider issues of health and social equity into the gender strategy.

Coordination

87. A4NH covers a very broad area of research, multiple disciplines, commodities and food systems, and 11 CGIAR Centers with many partners, so it faces significant coordination challenges.

⁴⁹ We do not have exactly comparable benchmarks from other CRPs, but for example the evaluation of Policies Institutions and Markets, the other CRP led by IFPRI, estimated that “about 30% of the PIM portfolio is addressing gender issues” (CGIAR-IEA, 2015), p. xiii)

⁵⁰ The ISPC commentary on the A4NH extension proposal states: “A4NH management is encouraged to continue to press not to treat gender research as a separate activity but to think about the ways in which gender issues define the scope and structure of research problems involving other aspects of their CRP.” Our judgment is that the A4NH gender team and PMU has given good attention to this, although gender is not yet institutionalized in every aspect of A4NH.

⁵¹ We have not made any official evaluation ‘recommendations’ in this area, since the gender team are already revising the strategy and taking our suggestions into account.

88. In our staff minisurvey, nearly half (of those who commented) spontaneously cited better coordination across Centres and disciplines as a major plus point of working with A4NH (Table 6). However, further exploration in our interviews revealed that most of this ‘coordination’ consisted of information sharing and cross-learning. This is an important benefit and not to be undervalued, and it is a first step to deeper coordination. However, an examination of some specific efforts of A4NH to improve coordination demonstrates not only successes but also the institutional challenges of moving beyond information sharing to making the efficiency savings through coordination - through joint programming, sharing facilities and the like – which feature among the expected benefits of the CGIAR reform (Mid-Term Review Panel, 2014).
89. In Phase I, A4NH invested in two major cross-CRP efforts to improve coordination: value chains and aflatoxins⁵². They faced different challenges: while the value chains work aimed to apply a common framework to diverse commodity value chains, the aflatoxin coordination aimed to bring together five Centers working on very similar topics in isolation.
- The Value Chains Flagship developed a common framework for value chain analysis, held workshops and provided seed grants for innovative research⁵³. This resulted in a successful publication (Gelli et al., 2015) and significant information sharing. However, according to our project interviews, the situation-specific nature of the value chains made practical coordination impossible. For example, a \$100k seed grant for a particular commodity had to be split in half for different country value chains⁵⁴.
 - A4NH allocated \$150 thousand for coordination of an aflatoxin network, with a part-time coordinator. The network has the active participation of the AAD Flagship leader as well as aflatoxin researchers from the International Maize and Wheat Improvement Center (CIMMYT), ICRISAT, IFPRI, IITA and the Biosciences eastern and central Africa Hub at ILRI (ILRI-BecA). It has held seven cross-Center meetings to date and produced a joint strategy for aflatoxin work (Atherstone et al., 2014). There have also been two joint publications (Grace et al., 2015; Unnevehr and Grace, 2013). Participants we interviewed valued the information learning and sharing from the network. However, some of the expected benefits in joint planning and use of joint methodologies and lab protocols have not yet materialized - although there are some emerging plans for this. The main current incentives to coordinate are good will and personal interest, which are up against strong competing organizational incentives from research groups and Centers to keep their intellectual property and attract bilateral research projects. The transaction costs of joint work are another significant disincentive, although the experience of the aflatoxin coordination project indicates that subsidizing transaction costs is insufficient to change behavior on its own (at least in Phase 1). Having significant amounts of research funding available through A4NH would provide an important counterweight to these structural incentives (HarvestPlus is an example of this).

⁵² The gender component described in the previous section also set up a cross-CGIAR network, but the main objectives were cross-learning and improving methods rather than increasing coordination as such

⁵³ Seed grants were awarded through a competitive process, and lessons are described in a background paper for this evaluation

⁵⁴ This is a good example of where ‘value added’ work by A4NH could better be managed as a support function to other CRPs, rather than as a stand-alone Flagship (see Recommendation A3).

90. Finally, A4NH arguably could have some coordinating role with respect to other ANH work across the CGIAR. However, such a role has not been agreed as yet. The issue of A4NH ‘value addition’ to other CRPs working on ANH issues is discussed in ‘Comparison and lessons from ‘value added’ efforts by A4NH’ and Recommendation A3.

Monitoring, evaluation and learning

91. The A4NH PMU is to be praised for having made significant investments in monitoring⁵⁵ and evaluation. A4NH has ‘projectized’ its research monitoring systems, and regularly collects information on progress against deliverables (Figure 6). This information has been used to good effect in developing A4NH Phase 1 Center Performance Summaries (unpublished 2015) for each collaborating Center in Phase 1 of A4NH, and in PMU discussions with Center management about factors affecting progress. It has incorporated gender into planning and monitoring (previous section). The PMU has also made a plan for CRP-Commissioned External Evaluations (CCEEs), agreed with the IEA, and commissioned one evaluation to date (on the food safety component) as well as providing technical support for a strategic gender review of the biofortification component.
92. The evaluation team has identified areas which could use strengthening in the current Monitoring and Evaluation (M&E) system (Section V.3) and made recommendations ([A7](#) and [C3](#)). However, the progress made to date should not be undervalued.
93. A4NH has invested a significant amount in learning, but there is an appetite for more among the researchers interviewed. We return to this topic in Chapter VI. A recent strategic investment made by A4NH in this area was to co-found the [ANH Academy](#), launched in June 2015.

Comparison and lessons from ‘value added’ efforts by A4NH

94. For each of the four areas above, Table 7 summarizes the context, A4NH objectives, the resources invested and results to date. Our overall judgments on the investment and effect/reach of each intervention are symbolized in the scores (@@@) shown in the table. It is important to note that A4NH only mobilized resources to deal with these areas two years ago or less, so it is too early to expect major progress.

⁵⁵ Some CRPs have not yet got monitoring data available on progress: for example, one recommendation from the evaluation of PIM, the other CRP hosted by IFPRI, was that the CRP projectize its research and put a monitoring system in place (IEA, 2015)

Table 7: Specific areas of planned value addition by A4NH: investment and results

Issue	Impact orientation	Gender	Coordination and development of critical mass	Monitoring, evaluation and learning
CONTEXT	Mixed incentives and experience in CGIAR. Some Centers including IFPRI prioritize publications, bilateral projects	Poor gender integration in most CGIAR work (w/some exceptions incl. IFPRI). Consortium supports and incentivizes gender integration. Most donors request that gender be addressed.	Centers contract >60% of program individually with donors	Consortium reporting through 'Annex 1' indicators CGIAR evaluation policy promotes CRP-Commissioned evaluations
A4NH OBJECTIVES	Theories of Change developed for major areas and integrated with IDOs; Program using TOC for research management and monitoring.	Mainstreaming gender into A4NH research activities Capdev across CGIAR on gender-nutrition Strategic gender research	Better cross-CGIAR learning, prioritization and programming, more efficient joint resource use (e.g. labs), harmonized methods , joint publications	Improved indicators. Monitoring system collecting data to support management of research Evaluations useful and feed into decision making
RESOURCES	@ @ very small @@@ ample (\$, FTE, time)	@@ \$200k Phase 1 2 FTE: Gender research coordinator 0.5 FTE started Oct 2013, research analyst 0.75 FTE started 2014 + 3 others smaller inputs	@@ Integrated into Flagship leaders' TOR. \$150k for aflatoxin coordination project (started 2014) + 1 FTE Value chains project + 1.5 FTE	@@ 2 FTE since 2013: 1 Program Manager, 0.5 Evaluation specialist and 0.5 from 2 admin in PMU
RESULTS	@ small outcome/reach (as yet) @@@@ major outcome/reach Outputs (OP), Immediate outcomes (behavior change etc.) (IO)	@@ (see Annex J for more detail) OP: Analyses of gender in A4NH projects and Centers OP: Guidance on integrating gender research IO: Increased incorporation of gender into project plans OP: Gender and nutrition network, blog, workshops OP Research on key methods e.g. time use	@ OP, IO: Little if any planning and prioritization in Flagships or Clusters beyond leaders' own Center (see Chapter V.4) OP: Aflatoxin meetings, joint publications IO: Improved cross-learning but so far no cases of joint planning, shared facilities, protocols etc.	@@@ OP: 'Projectized' monitoring system; Gender integrated; A4NH Phase 1 Center Performance Summaries. OP: HarvestPlus monitoring system (2015) OP: 1 CCEE on Food Safety. (Also this evaluation.) OP: Initial work on using TOC for monitoring

Source: Evaluation team. FTE= Full Time Equivalent (human resources). Scores [@@@] given by the evaluation team. Outputs (OP), immediate outcomes (behavior change etc.) (IO)

95. We find that A4NH has added some value in each area. Results have been broadly in proportion to the scale of investment (see our scores in Table 7). Further investment would be useful to have a significant reach and impact across the A4NH program - in particular for the more rapid development of theories of change, which underpins so many decisions on programming. Having a more focused research program (recommendation [A2](#)) would also help by reducing the management burden of adding value to many dispersed projects.

IV.4. Some negative aspects of the current environment for A4NH (and other CRPs)

96. Our survey and interviews confirmed the findings of other CRP evaluations e.g. (CGIAR-IEA, 2014) about some challenges faced by staff working in CRPs due to incomplete CGIAR reforms and frequent changes in systems⁵⁶. Although these issues are by now well known to most people working in the CGIAR, we feel impelled to set down the evidence we collected from A4NH, because we don't feel that their effects - on research effectiveness and efficiency and relationships with partners and other stakeholders - have been sufficiently understood by some key stakeholders in the reforms, including funders⁵⁷. Key issues raised included:

Multiple and frequently-changing systems for planning, monitoring and reporting.

97. Most researchers reported having to use at least three systems of planning and reporting: for a bilateral donor, their Center, and their CRP (or multiple CRPs – sometimes a single research project is split between two). This situation is compounded because every CRP (and every bilateral donor) has a different planning and monitoring system; donors often also have different annual reporting schedules. Planning and reporting takes an inordinate amount of researcher and management time, and this diminishes efficiency and productivity (Section III.3). Some of the many comments from researchers follow⁵⁸:

“Extremely cumbersome in terms of reporting requirements, meetings, evaluations, proposal writing, etc.; difficult to actually get the research done”

“Donor reporting and work planning often repeating what has been done with other large programs which happen to be under the A4NH umbrella, often made more tiresome by the fact that different formats are used by different donors”

⁵⁶ It is sobering to read this indictment in the 2008 review of the CGIAR which precipitated the current reforms: “The CGIAR Centers have been placed in an invidious positiondonors ... have pushed competition and individual donor ownership, resulting in fragmentation ...[and] relatively small projects, many with different terms, conditions, requirements, fiscal year reporting schedules, and overhead rates....The cross-cutting multipartner Challenge Programs have increased the complexity of the research network and partnership and the difficulty of financial management...” (CGIAR Independent Review Panel, 2008), p. 5. It is not clear to us that much has changed.

⁵⁷ For example, one donor interviewed appeared unperturbed by funding cuts and said that unstable funding was something that ‘researchers should be used to’. In the absence of a shared sense of their importance and urgency, there is a risk that some of these long-standing issues will still not be resolved before Phase 2 of the CRPs.

⁵⁸ The specific quotes above are taken from our minisurvey, complete with any typos. However, the findings were triangulated by project-level interviews and supporting evidence (we asked interviewees for supporting written evidence whenever possible)

“There should be some uniformity/consistency across the CRP's in terms of reporting mechanisms and templates [to]... minimize the amount of time and resources that are allocated to reporting both within CRP's and across CRP's”.

“After CRPs reporting frequency has been increased and make bit dilution on concentrating our research”

“Logistically is confusing - e.g. obtaining project finances requires having several different CG finance departments all on board addressing your issue”

“Then too much work and duplication of efforts in reporting systems as some crops are cross cutting and you find yourself reporting to more than one CRP”

Unstable funding

98. Unstable funding is not a new issue, but was deeply felt during this evaluation due to the first quarter 2015 W1 budget cuts, which resulted in most programs in A4NH being cut by around 20% at the end of the first quarter⁵⁹. Researchers and managers reported the following effects of unstable funding⁶⁰:

99. Short term effects reported:

- Research managers had to resubmit workplans and budgets to accommodate cuts, which took up researcher time and lowered morale
- Research programs and projects delayed planned staff recruitment, leaving staffing gaps
- Research projects did not work with partners as planned, cancelling or postponing contracts
- Projects stopped or postponed key research or training activities
- The planting season was missed in a couple of cases, delaying research outputs by a whole season (up to a year)
- Partners were paid late – particularly affecting small partners
- Researchers and Centers (reluctantly) used bilateral funds to cover gaps in A4NH funding
- Staff were let go from some Centers e.g. ILRI, but we are not aware of this affecting A4NH directly (it did affect other CRPs)

100. Medium-long term effects that are reportedly starting to make themselves felt:

- Centers and staff losing trust in W1/W2 and increasing their focus on getting bilateral funding
- CRPs losing policy influence and increasingly seen as “difficult small donors”
- Increasing concentration on managing funding risks, including favoring partners who can carry financial risk but may not always be the most appropriate
- Burnout of researchers – which may lead to increased staff turnover, although we have no figures on this

A sense of insecurity

101. The effects of unstable funding have been compounded by messages coming from the Consortium over the past two years about the uncertain future of A4NH and other CRPs in

⁵⁹ Source: Unpublished report by A4NH Director to the Planning and Management Committee, Jan 2015

⁶⁰ Evidence was from our minisurvey, supplemented with concrete examples from project-level interviews and triangulated with written evidence (see footnote 58).

Phase 2. For example, researchers told us that they were reluctant to undertake new partnerships that might finish within two years. The reluctance to brand work as A4NH (see paragraph 151) also stems from a feeling (historically justified⁶¹) that donors might simply lose interest in funding the reform program.

IV.5. Summary conclusions for EQ2

102. The main conclusion is that the advantages of the CRP structure have outweighed the disadvantages, – but that there are some areas for improvement.
103. In staff surveys and interviews, A4NH has been praised for its “inspiring” leadership of ANH issues across the CGIAR, its support to cross-CGIAR learning and information sharing and its flexible inclusive approach. The main weakness cited was A4NH communication within the CGIAR, including communication about allocation of W1/2 resources. Some disagreements about the boundaries of A4NH and what research should take priority were also noted: we have recommended (A1, A2) that A4NH establishes clear boundaries and a transparent system of prioritization.
104. We were asked to look at four specific areas where A4NH aimed to add value, as a CRP, to what was already being done in the CGIAR. These were: impact orientation, gender, coordination, and monitoring, evaluation and learning. We find that A4NH has added some value in all areas, despite the short time frame (most investment started less than two years ago). We would support further investment in each area to increase the results. More resources are particularly important for the development of Theories of Change and capacity development in their use for research management.
105. The principal negative effects of working through A4NH have been noted in other CRP evaluations. The main issues cited by researchers and partners have been the additional burden from multiple systems of planning and reporting and the multiple negative effects of funding instability, including delayed and dropped ‘deliverables’ and strained relationships with partners. We also found that the sense of insecurity about the future of A4NH in Phase 2 has led to postponement of plans, e.g. for new partnerships. The overall effect is that researchers and managers increasingly see CRPs as “difficult small donors”, and they are putting increased effort into getting bilateral funding, undermining the objectives of this CGIAR reform. We have made recommendations (e.g. [C3](#)) to address some of these issues.

⁶¹ For example, see (CGIAR Independent Review Panel, 2008)

V. EVALUATION QUESTION 3: DOES A4NH HAVE THE RIGHT RESOURCES, SYSTEMS & APPROACHES TO PARTNERSHIPS?

Evaluation subquestions addressed:

3.1 Does the CRP (as currently operating within CGIAR systems) have effective and efficient management and governance systems? Areas to be examined: Governance and management structures and systems, Performance management, Human resources, Monitoring and Reporting, Partnerships, Communications, Capacity development and Science Quality

3.2 Is the CRP selecting, developing and managing partnerships appropriately to achieve objectives and sustain benefits?

Evaluation criteria addressed: Efficiency, Effectiveness, Sustainability, Quality of science

Main evidence sources: Analysis of reports to Consortium; Outputs and deliverables review; Project document review; Publications review; Financial review; Minisurvey and interviews on seed grants; Country visits and project and Center interviews; Self-evaluation by A4NH PMC/CFPs; Interviews with PMU, PMC, IAC, HarvestPlus PAC and IFPRI-BOT and observation of key meetings

For further details see: Annex I – Analysis of research project planning and reporting documentation; Annex J – Analysis of outputs and publications; and Evaluation Background Papers: 2- Governance and Management; 3- Partnerships, Capacity building and Human Resources; and 5- Research management and quality of science

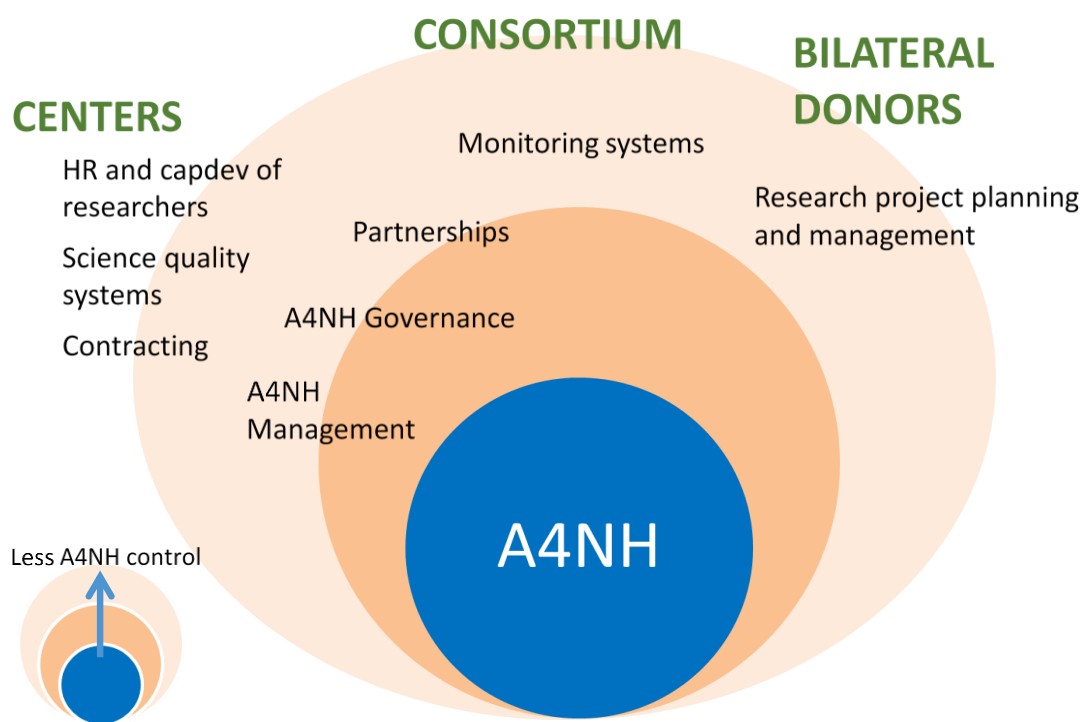
V.1. Introduction

106. This Evaluation Question contains a large number of subquestions connected with the structures, resources, systems, governance and management of A4H. We start the chapter with some findings on cross-cutting issues vital to A4NH outcomes: science quality, partnerships, and capacity building⁶²; then move onto management systems; and finally to management and governance. Of course there is some interlinkage between the areas.

107. The main thing for the reader to bear in mind is that A4NH has limited if any control over many of the systems and resources required for research management. Figure 10 depicts A4NH with its collaborating Centers and other important actors in the CGIAR system (the Consortium and Bilateral donors). Distance from A4NH on the diagram gives a rough indication of the degree of A4NH control: Centers are largely responsible for Human resources (HR), Finance and contracting, and Science Quality, while the Consortium largely sets monitoring systems and individual donors have great influence over the choice and design of projects, since so much of the CRP in Phase 1 depends on bilateral funding. Figure 11 shows that A44NH (like other CRPs) has little financial leverage to impose its will on its collaborating Centers, if it wished to do so. A4NH W1/W2 funding makes up less than 4% of the total in most Centers, and only 6% in IFPRI (the lead Center for A4NH).

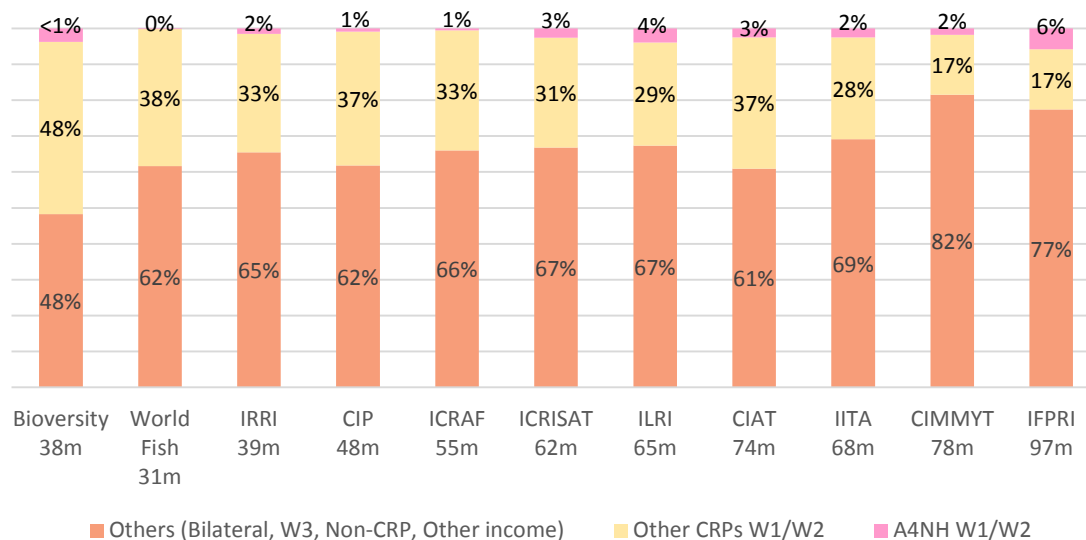
⁶² Gender, another important cross-cutting issue, is dealt with in Chapter IV because we were asked to look at it in this evaluation under EQ2.

Figure 10: A4NH has variable control over management structures and systems



Source: Evaluation Team

Figure 11: Funding sources for A4NH centers, annual average (2012/2013)



Notes: The 2014 financial report was not available when this analysis was carried out. The colors are chosen to emphasize that bilateral funding is the 'daily bread' while A4NH funding is 'the icing on the cake'
 Source: CGIAR financial reports for 2012 and 2013.

V.2. Cross-cutting issues

Quality of science

108. This section covers each of the aspects of in science quality as defined in the CGIAR evaluation standards: processes, inputs and outputs (CGIAR Independent Evaluation Arrangement, 2014)⁶³.

Quality of science processes

109. Science quality assurance processes start at the level of the CRP proposal, which is submitted to the ISPC for detailed analysis during the proposal approval process. An examination of questions and responses on A4NH proposals (ISPC, 2011, 2014a, 2014b) shows that some ISPC questions were left unanswered, including repeated questions about the Theory of Change of some A4NH research clusters. We agree with the CGIAR (Mid-Term Review Panel, 2014) that this process has been weak, and that ISPC has had little power to enforce answers to its questions, due to the complex political economy of the CGIAR. (The ISPC remit and powers are currently being reviewed.)

110. Most other science quality processes (ex-ante and ex-post quality assurance) are normally the responsibility of Centers, not CRPs. We found these processes to be quite variable⁶⁴. There are few formal science review processes in the A4NH Centers we visited, and we could find little formal documentation on this. ILRI was one exception, with very good processes developed, but these are not obligatory as yet. Most Centers seem to rely on strong individual research leaders who support their staff and provide methodological advice. However, even strong research leaders don't always have all the types of expertise required to review a particular protocol, e.g. statistics or qualitative research skills⁶⁵. Some Centers, e.g. IFPRI also have an external peer review process for some Center publications. IFPRI also has strong processes for ethical review, including an Institutional Review Board (IRB)⁶⁶ and structured ethics training. (Science ethics is an area of particular concern for A4NH due to the extensive work with human and animal subjects.) Other Centers collaborating with A4NH vary: some do not have

⁶³ The evaluation team takes the view that the quality of science is not a narrow concept: many issues in research management affect quality, not least the relevance of research topics. Our Background Paper on Science Quality and Research Management covers a wide range of issues. However, some issues have already been presented in relation to other evaluation questions, so to avoid duplication, we will present a more limited range of data in this section, following IEA guidance.

⁶⁴ Although our evidence on science quality processes is mainly taken from interviews of research staff and partners, it is supported by previous CGIAR reviews, for example (Barrett et al., 2009). Some indirect evidence is also provided by our A4NH document review (Annex I), in which 95% of the sampled projects had some description of methods and protocols, but only 5% documented any evidence of an ex-ante review process, while 24% covered ethical clearance and other ethical issues.

⁶⁵ Anecdotally, we noticed in some cases that the choice of research approaches for a particular project appeared to reflect more the research methods familiar to the Principle Investigator than what might be the most appropriate method to answer a particular research question. This particularly affected social sciences, where quantitative techniques often seemed to be used exclusively, even though they left lots of obvious 'why' questions unanswered.

⁶⁶ The IFPRI ethical review processes were put in place and managed by the senior nutritionist who now heads up Flagship 4 in A4NH

structured checks on research protocols, some do not have ethical review⁶⁷ or training, and some have weak data management (not only a lack of ‘open data’ (CGIAR Consortium, 2013) but no systematic centralized record keeping about trials, which means for example that there is a risk of negative results being lost).

111. Interviews with partners and research staff revealed some examples of data collection quality and ethical problems on specific research projects. These mainly related to the conduct of fieldwork by enumerators or partners, which can be the weak link in an otherwise strong chain of science quality. However, some issues were also related to design.
112. Based on our interview information on this point, science quality – viewed as the whole science process – does not seem to have much weight in staff performance management. Some Centers set targets for ISI publications (2 per year in the case of IFPRI), but this is not a very good proxy indicator for good research management (for example in data collection or ethics in fieldwork) as well as, obviously, skewing staff incentives towards producing ISI publications. We found little evidence of the existence or systematic use of competency frameworks (paragraph 14454) in managing researcher performance in the CGIAR.
113. Poor science quality processes potentially pose a reputational risk to A4NH and its staff. One option that was raised by A4NH management was simply not to work with Centers which do not have good science quality processes in place, but that would be unfortunate in our view as it would penalize some commodities which are important for ANH - and also penalize good scientists who happen to be in a Center with weaker systems.
114. This is a CGIAR-wide issue, so we make a general recommendation ([C1](#)) to science leaders in the CGIAR to take a stronger role in setting and checking systems for science quality in Centers. As a transition measure, we recommend ([A5](#)) that A4NH could set some minimum expectations of processes to be followed in collaborating Centers (in particular, for ethical aspects) and provide links and some support, for example e-courses on ethics for researchers (some of this is already done informally by A4NH).

Quality of science inputs

115. Human resources: A4NH has an estimated 380 associated staff⁶⁸, of whom nearly half (168) are research and admin support staff⁶⁹. 26% of senior scientific staff⁷⁰ are women, including two of the four flagship leaders. The overall proportion of senior staff (as above) to total scientists (excluding research and admin support staff) is 39%, we found no evidence of systematic imbalances in junior/senior staffing levels. A4NH includes a number of distinguished scientists⁷¹. The cross-CRP Elsevier study carried out for the Consortium (Elsevier, 2014) found

⁶⁷ Many projects get ethical review clearance from the partner country, but according to our interviews, the quality of such reviews varies greatly and in some cases it may be simply a paper formality.

⁶⁸ As explained in ‘Human resource issues’ in Section V.3, most ‘staff associated with A4NH’ work for CGIAR Centers, and are paid through a combination of funding sources, which may or may not include W1/W2 funding from A4NH. Nearly half are associated with HarvestPlus.

⁶⁹ All numbers taken from evaluation team analysis of staff list compiled by A4NH PMU June 2015.

⁷⁰ ‘Senior staff’ includes those recorded as directors/team leaders/Principal Investigators (PIs)/senior scientists

⁷¹ For example the head of the IPP flagship who is internationally renowned in nutrition, and the head of the AAD flagship received the British Veterinarian Association [award](#) in 2014 for ‘outstanding contributions’

a relatively high H-index⁷² for A4NH, although this figure may not be representative as it was only based on a small number of A4NH researchers. One discipline which may be underrepresented in A4NH is social scientists with qualitative skills, able to research social equity (Section V.3) *inter alia*. We did not do a full analysis, but these skills are rare in A4NH (the estimate given to us was 2 senior researchers), and this issue has been raised before in the CGIAR (Barrett et al., 2009).

116. Centers are responsible for human resource management and capacity development, and vary in how much support and training they give to researchers. We only got anecdotal information on this area, but it appears that some researchers feel better supported technically than others; this depends very much on the individual quality of their research leaders⁷³. We would suggest a more structured approach based on research competencies (see sub-section on [Capacity Development](#)).
117. Other scientific inputs are also primarily the responsibility of Centers. There is evidence that some parts of A4NH have invested heavily in improving research inputs, for example HarvestPlus (now the Biofortification Flagship) has invested considerable resources in top-of-the-range laboratory equipment, developing protocols and training laboratory staff over many years (Abt Associates Inc., 2012) and disseminating improved protocols through laboratory manuals (e.g. (Porrás et al., 2014). Methods and protocols have also been developed and disseminated by other parts of A4NH, including Flagship 4 and the A4NH gender team.

Quality of outputs:

118. A4NH covers many research areas with diverse types of outputs, and there are no agreed measurements of scientific quality for the majority of these outputs. For example, the ‘quality’ of crop varieties depends on a myriad of characteristics (Evenson and Gollin, 2003)p. 45). For this reason, we would expect the quality of most outputs to be covered in more detailed specialist evaluations (CCEEs). We drew on two prior Flagship-level evaluations here, although their evidence is a bit thin⁷⁴. The 2012 evaluation of HarvestPlus (Abt Associates Inc., 2012) appeared to assess the quality of outputs to be high, while the recent evaluation of A4NH work on food safety (Sridharan et al., 2015) examined the technical quality of publications in this area and concluded that it was mixed.
119. Bibliometrics (publication analysis) are a much-used cross-disciplinary measure of output quality, and using bibliometrics allows us to benchmark A4NH with other CRP evaluations. (However, it is well recognized that bibliometrics are not always a good measure of research quality.) The bibliometric study of (Elsevier, 2014) placed A4NH at the top of all CRPs, with a Field Weighted Citation Impact (FWCI)⁷⁵ of 2.5 in 2013 (CRPs ranged 1-2.5). However, we noted

⁷² H-index (Hirsch, 2005) is based on lifetime publication record and is sometimes used as an indication of quality of scientific staff, although this use is controversial

⁷³ The Head of A4NH Flagship 4 was praised by numerous staff and colleagues as an excellent and supportive research manager, for example.

⁷⁴ The HarvestPlus evaluation did not specifically examine ‘science quality’, so the above judgement is based on its descriptions of different areas of the program. The food safety evaluation judgment was based on only 9 publications given to the team by A4NH researchers – some selected apparently for their interest and influence rather than their science quality as such

⁷⁵ The FWCI presents the average citation rate for the group of interest as a multiple of the average citation rate for publications in that scientific field. So A4NH publications were cited 2.5 times as much as average.

that this score was based on only about 100 publications – whereas A4NH reported over 200 publications in that year (A4NH, 2014a), so it is difficult to know whether the Elsevier sample was representative. We therefore supplemented the Elsevier review with a short publications review of A4NH ISI publications, which is presented in Annex J. Levels of citations (2013 only) and average Journal Impact Factor (JIF, for 2013 and 2014) were broadly in line with, or higher than, other CRPs from which this information is available⁷⁶. A reanalysis of this data, weighting by primary research discipline of each journal, showed that 85% of A4NH publications were placed in well-cited journals (over the median JIF in their field), with nearly 20% of publications placed in very highly cited journals (more than 3 times median JIF in their field).

Summary on science quality

120. Our summary findings on A4NH science quality are that the overall quality of *inputs* and *outputs* appears generally high, or at least in line with other CRPs. However, we identified a potential problem of science quality *processes* in various Centers across the CGIAR, and have addressed this in the evaluation recommendations.

Partnerships

121. We analyzed the information on A4NH contracts provided to A4NH PMU by Centers: the results are shown in Figure 12⁷⁷. This shows that A4NH is currently involved in more than 279⁷⁸ partnership contracts with a good spread of types of partner and a balance between developed and developing countries (we do not know however what the appropriate balance should be). Figure 12 does not include partnerships where partners do not have any financial contract; we could not get reliable numbers on these and they were probably also under-represented in our sample of interviewees at project level⁷⁹.

122. The A4NH PMU has been active in pursuing partnerships at the global level. Examples include:

- Seconding a senior A4NH researcher to International Fund for Agricultural Development (IFAD) Headquarters, where he has made major inputs into IFAD nutrition policy (IFAD, 2014)
- The [Convergent Innovation Coalition](#) which includes a network on innovation in pulses linked to business schools and private sector, especially for pulses in India

⁷⁶ A comparison of citations for 2013 with other CRPs who performed a similar analysis showed that A4NH publication citation rates are in line with other CRPs (IEA evaluation reports for PIM, WHEAT and MAIZE). Average JIF is 3.73 for A4NH publications published in 2013 and 2014 and if the four outliers (1 paper in Nature, JIF 41.5, and 3 in the Lancet, JIF 45.2) are removed, then the average is 2.94; this compares with CRP on Maize (MAIZE) 2.27, for all articles published in 2012-14 (calculated from Table 4-2 in the MAIZE evaluation report); CRP on Wheat (WHEAT) 2.34, for all articles published in 2012-14 (calculated from Table 4-2 in WHEAT evaluation report). Full A4NH data is in Annex J.

⁷⁷ Getting accurate data on current A4NH partnerships was challenging for the evaluation team. Some information is held on partners in the A4NH project database, but there were technical problems in extracting this, and in any case a check on a sample showed that the data may not be complete and correct. The Background paper on Partnerships, Capacity Building and Human Resources contains the full analysis.

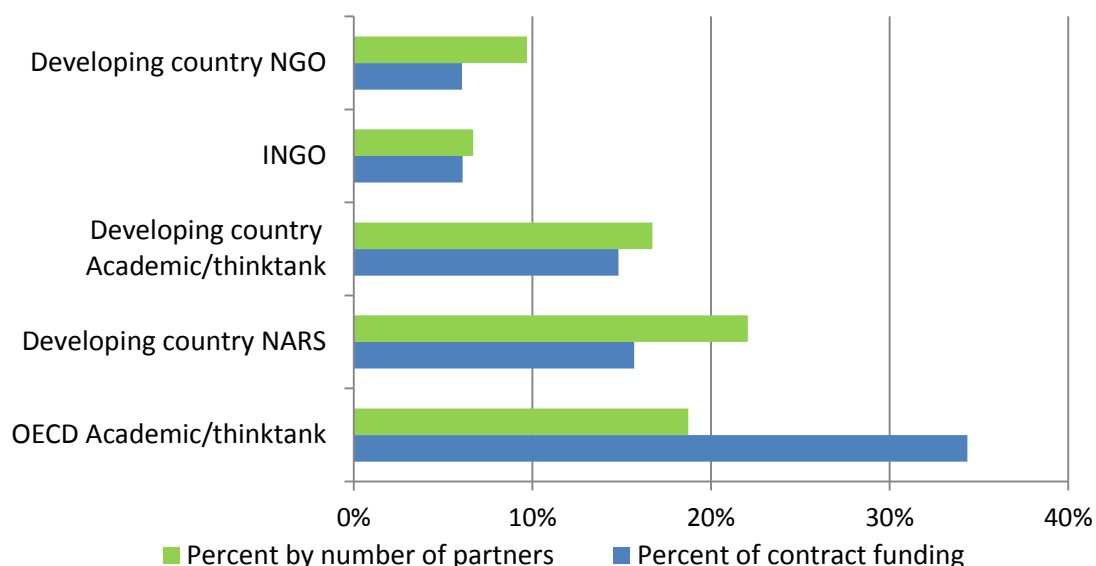
⁷⁸ This excludes 'small' contracts – reportedly under \$50,000 - which are important in some institutions (e.g. IFPRI) but for which Centers do not provide numbers.

⁷⁹ We did survey 'international expert stakeholders' in ANH – some of whom were A4NH partners; see Section VI.2.

- Co-founding the [ANH Academy](#) with Innovative Methods and Metrics for Agriculture and Nutrition Actions (IMMANA) and the Leverhulme Centre for Integrative Research on Agriculture and Health (LCIRAH) – making direct links into global capacity building on ANH.

123. Many of these PMU-led partnerships appear highly strategic, as per the examples above. However, based on our interview, this appears to be mainly a reflection of astute choices and seizing transient opportunities (for example to access funding via a new partner, or to investigate a hot research topic). The PMU does not currently have a formal process for selecting and prioritizing partnerships, although potential partnerships are run past the PMC (see Section V.4). A few internal and external stakeholders have raised questions about transparency in selection of partners. We suggest that the PMU takes steps to ensure that any major partnership decisions are transparent, adequately recorded and in line with the A4NH partnership strategy.

Figure 12: Types of A4NH contractual partners: percent by number and percent of total contract funding



Source: Evaluation teams' analysis using partnership data from A4NH Annual Financial Reports 2012, 2013, 2014

Notes: OECD = Organisation for Economic Co-operation and Development, NARS = National Agricultural Research Systems

124. The principle promulgated by the Consortium and A4NH is that partners should be selected according to the theory of change of the research project, but this was not mentioned by any of the researchers interviewed. Based on our interview evidence, selection of project partners often appears to be done hastily to meet funding proposal deadlines. We heard anecdotally that this often leads to selecting partners who are already known to the program, but we could not confirm this. A further factor is that unstable funding (Section IV.4) means that researchers may be reluctant to take risks with new partners.

125. Most partners we interviewed at project level were subcontractors (ranging from academics to national research organizations to non-governmental organizations (NGOs)), and the financial nature of the contract often creates an unequal balance of power in the relationship. We heard

from a few interviewees⁸⁰ that they had criticisms of research projects that they were reluctant to voice, as they saw themselves as subcontractors; some of these criticisms highlighted issues of ethics and science quality in fieldwork, so it is in the interest of A4NH to encourage partners to speak out. We also heard of examples of good practice, e.g. the use of annual partnership reviews which were much praised by partners as opportunities to resolve issues.

126. Responsibility for setting up partnerships usually rests with PIs of individual research projects, and contracts are managed by Centers. Centers vary in the quality of their approach to partnerships: some (e.g. ILRI, IITA, and ICRAF) have good partnership policies and some are fostering skills for brokering partnerships (e.g. facilitation, negotiation, capacity building). A4NH could draw upon these.
127. A4NH published a partnership strategy in 2012 (A4NH, 2012b), but it is still in draft. No project researchers interviewed in this evaluation had heard of it, and it was only referenced by 5% of projects in our project document review sample (Annex I)⁸¹. The evaluation team analyzed the strategy⁸²; it sets out good principles and a framework for 'smart partnership identification' but lacks practical guidelines for operationalization, such as procedures for the selection of partners, capacity assessment of partners and the elements of a partnership agreement.
128. Partnerships will be increasingly important for A4NH in Phase 2 as the CRP moves into new and complex areas of work. In particular, A4NH needs to adopt and widely publicize a private sector engagement policy. This will be important not only for practice but also for reputation management as A4NH takes on new work in Food Systems that will engage more private sector partners.
129. We suggest (see [Recommendation A6](#)) that A4NH update its partnership principles⁸³ and add operational guidelines. This could draw on Consortium documents if available ([Recommendation C2](#)), or Center documents such as ILRI's partnership engagement strategy (ILRI, 2008) and IFPRI's private sector engagement policy.

Capacity development

130. A4NH, like other research programs, heavily depends on the 'capacity' of researchers and partners to identify, design and carry out good research, and to put findings into practice. Among those interviewed there was wide recognition of the importance of capacity development (capdev for short) to A4NH.
131. Capdev is carried out by many A4NH research projects, but normally planning and monitoring of capdev is ad hoc according to the perceived needs of the project. There is no inventory of capdev activities. In our project document sample (Annex I), 47% of projects mentioned capdev

⁸⁰ A4NH/CGIAR can be seen as an important funding source for partners, so some interviewees are initially reluctant to criticize the program to strangers (i.e. evaluators) in case they are risking future funding.

⁸¹ For comparison, 84% of project documents mentioned planned partnerships, and 64% set out clear roles and responsibilities

⁸² See Background Paper on Partnerships, Capacity Building and Human Resources for the analysis.

⁸³ Note for final report draft: A4NH has just updated its strategy ([A4NH Partnership Strategy \(Updated August 2015\)](#)) citing this evaluation.

in research methods, 37% capdev related to policy and 58% capdev in the use of the products/technologies developed in the project. In the latter category: many A4NH-funded projects carry out large scale training activities for farmers and other partners – i.e. what would normally be termed agricultural extension. This raises wider questions about the role and comparative advantage of the CGIAR in ‘delivery’ which have been long debated in the CGIAR (most recently summarized in (Dalberg Global Development Advisors, 2014) but are outside the scope of this evaluation.

132. One issue of potential concern is that most capdev activities appear to be focused on individuals rather than institutions, without attention to wider organizational incentives - an approach which has been shown to be ineffective.
133. Staff capdev is normally the responsibility of Center HR units. Some interviewees suggested that training / staff development is typically aimed at junior to middle scientists, and that senior grades have little access to systematic skills development, for example on research management/science quality. We did not find any evidence of competency frameworks being systematically used as a basis for staff development.
134. A4NH has no capdev strategy or strategic framework. However, all CRPs are required to address capacity building in their proposals for Phase 2. We suggest that A4NH develop a capdev strategy containing principles, targets, methods and approaches and resource allocation⁸⁴. This could usefully draw on the framework developed by the CGIAR Capacity Development Community of Practice as well as guidelines from other CRPs, e.g. CCAFS.

V.3. Performance management

135. The term performance management is often used in a narrow sense, covering monitoring results and feeding in the results to improve performance. We interpret it more broadly to cover a range of factors that lead to the effective and efficient achievement of A4NH objectives. Some of these are covered in other sections of this report (for example Theories of Change in Section III.4 and Governance and Management in Section V.4). In this section, we focus on monitoring and reporting, on human and financial resources, and on communications.

Monitoring and reporting

136. As mentioned previously⁸⁵, A4NH PMU are to be praised for their efforts to put in a monitoring system for A4NH ‘deliverables’ and for using it to draw up A4NH Phase 1 Center Performance Summaries as a basis for discussions on performance in Phase 1. Like other CRPs A4NH also reports to the Consortium, using a different set of output indicators (this happened because the Consortium system was not in place until later in the CRP).

⁸⁴ Note for final report draft: A4NH has just published a draft capdev strategy ([A4NH Capacity Development Strategy \(Zero Draft-August 2015\)](#))

⁸⁵ Here, we focus on the usefulness of the monitoring systems for performance management. The burden on researchers of multiple systems of reporting is covered in section IV.4.

137. Neither of these systems, however, is satisfactory in our view. Because they sum up ‘apples and oranges’⁸⁶, they do not provide usable information to managers. In addition, many of the outputs are lagging indicators (such as publications) which do not provide timely evidence to management on progress on activities. Apart from the A4NH Phase 1 Center Performance Summaries mentioned above, we found no evidence that Flagship leaders or other managers were using either system for management (although they do receive the reports from the PMU). In fact, managers in Centers often appeared to have developed their own monitoring systems on spreadsheets – this is always a sign that central management and monitoring systems are not meeting their needs.
138. The quality of the monitoring data provided is also uncertain – especially when it deals with outcomes, such as numbers of farmers and households trained/provided with inputs. This issue was also raised in a recent report to the Consortium office (Dalberg Global Development Advisors, 2014). To our knowledge, there are no data quality checks, unless the donor requires these, as in the case of some USAID projects. However, it is very expensive to collect good quality data and provide adequate checks, so the monitoring systems need to be very carefully planned and justified.
139. Reporting on progress against outcomes requires a completely different, more long-term type of analysis than the type of reporting that managers require for activity and budget monitoring. The work the A4NH PMU is doing to develop monitoring based on filling key evidence gaps in theories of change (A4NH, 2015) is promising. However the useful timescales for this monitoring are much longer.
140. In our view, the proliferation of monitoring systems across the CGIAR, as described in Section IV.4 is an urgent issue for the Consortium to resolve – at latest by Phase 2. It puts heavy burdens on researchers, reducing their productivity and morale. We have recommended that the Consortium give urgent attention to this issue. We also recommend that A4NH and other CRPs work with the Consortium and with key stakeholders, in particular donors, to ensure that a harmonized CGIAR system can be developed that meets information needs without posing an unacceptable burden of data collection and reporting⁸⁷.
141. Our analysis of ‘accessible’ project documentation for a sample of A4NH projects showed a patchy picture, with key information such as rationale and target population frequently missing⁸⁸ (see Table 8). Any monitoring system should include the provision of basic information on research projects that is needed by managers and also provides accountability to the multiple stakeholders of A4NH (Box 2).

⁸⁶ This confusion happens on several levels. First, both systems sum different types of products: for example varieties and publications. Second, some researchers report ‘5 varieties released’ as one product, and others as 5 products. Third, the definitions are often unclear, particularly in the Consortium ‘Annex 1’, and there appears to be some misallocation of products to categories (for example ‘policy briefing papers’, for which there is no category allocated in Annex 1 may be reported as ‘policies analyzed’). Fourth, the scale and reach of outputs is not considered in Annex 1: a ‘database’ of global importance is counted as equivalent to a small ‘database’ produced by a local project which only covers a few hundred households.

⁸⁷ In our view the CGIAR should reopen the discussion about a longer term system of monitoring contributions to the IDOs, based on theories of change and solid research evidence including impact evaluations (large scale outcome monitoring is costly and unreliable due to the well-known problem of attribution).

⁸⁸ It should be borne in mind however that A4NH is still ahead of many CRPs who have not yet ‘projectized’ their research so that it can be managed coherently.

Table 8: Basic information is not easily accessible for many A4NH research projects: examples

Broad Area	Example indicator	Accessible	Accessible and clear
CONSULTATION	Consultation with partner governments mentioned	39%	24%
KEY POLICIES	A4NH mentioned (at all)	37%	37%
	National policies of partner countries mentioned	39%	39%
ANALYSIS	Situated in previous research	87%	74%
	Rationale for CGIAR value added	37%	34%
	Cost benefit analysis (ex-ante appraisal)	11%	11%
OBJECTIVES	Clear target population specified (e.g. age, area)	58%	42%
IMPACT PATHWAY	Visible links to CGIAR IDOs and SLOs	13%	13%
	Key assumptions and risks specified	37%	34%
	Gender reflected in pathway	34%	18%
PARTNERSHIPS	Environmental issues addressed	29%	21%
	Clear partners specified	84%	79%
	Partner roles and responsibilities clear	68%	63%
SCIENCE QUALITY	Methods and protocols clear	95%	68%

Source: Project document review of randomized cluster sample by evaluation team (n = 38). Details and full table of indicators are in Annex I. We looked at research project proposals, reviews and other standard types of documentation. Information was counted as 'not easily accessible' if it was buried in an obscure document or not obtained after repeated requests. Information was counted as 'clear' if it included key details (such as who was consulted and how) rather than a vague aspirational statement.

Box 2: A4NH research documentation is important for accountability as well as management

Inter alia A4NH has some accountability to:

- Funding agencies: for the responsible and cost-effective use of funds to produce agreed outputs and immediate outcomes
- Partner and host countries: to carry out agreed research that supports or (at minimum) does not conflict with national priorities; and to play an appropriate role in the national research system including (if relevant) supporting the development of national research capacity;
- Implementing partners (researchers and others) – to follow principles of good partnership
- People participating directly in A4NH research (e.g. farmers, traders, consumers, households): to follow ethical principles – for example informed consent, confidentiality, transparency and good communication, and sharing relevant results.
- The international research community and users of research: responsible publication (including negative results) and increasing data transparency (CGIAR Consortium, 2013).

Many important stakeholders cannot hold A4NH to account directly: for example people participating in research cannot enforce ethical behavior by researchers, and governments cannot usually insist that national policies (for example on involvement of national researchers) have been considered. The only practical means for this is that researchers have to be asked to provide basic and accurate documentation on their research projects, with information on key accountability issues: for example on who was consulted and what ethical approval was obtained. This can then be checked (for example by immediate line managers and then a selected sample by A4NH and others interested)⁸⁹.

⁸⁹ Many organizations now publish basic project documentation so that it is available to a [wider stakeholder group](#).

Human resource issues

142. A4NH, like other CRPs, manages very few staff directly. Staff members report to their employing Centers, and staff incentives are very much set by the Center. The challenges of managing performance in a matrix, and managing contractors/consultants in research positions who are not bound by the same employment policies and procedures, are significant for A4NH, as for other CRPs⁹⁰.
143. A4NH generally has little say over individual researcher performance, and its only (rather weak) point of leverage is through its Center performance agreements (PPAs). Flagship leaders report to their Centers, not to the Director of A4NH (see next section). Flagship and cluster leaders currently have no official input into planning and review of PIs who are in 'their' Flagship but located in other Centers. We suggest that A4NH PMU negotiate, via PPAs, an agreement that senior A4NH staff can participate in the performance planning and evaluations of key staff who make significant time inputs to A4NH programs.
144. 'Competency frameworks'⁹¹ clearly set out the skills and experience that are needed for different positions and levels. These can include general research skills (such as planning proposals and managing data) or specific technical skills (such as familiarity with certain frameworks or methods). Competency frameworks are commonly used worldwide in recruitment, training and promotion. There is some indication that interest in competencies is increasing in the CGIAR (e.g. the development of 'gender competencies' in the Consortium and in CIMMYT). We recognize that A4NH cannot work on this alone, but suggest that if opportunities arise, A4NH would be in a good position to define and develop technical competencies related to ANH that could help build capacity in this area across the CGIAR. This would fit well with the 'value added' work of ANH that we propose in Recommendation R3

Financial resources

145. Without adequate resources, it is difficult for A4NH to focus a critical mass of researchers on priority issues. A lack of stable funding means that most researchers, and especially research managers, have to be very entrepreneurial. The need to constantly look for new project funds, and juggle contracts to keep researchers' time fully funded, is not only time-consuming but can lead to less-than-strategic decisions about what research to undertake. For this reason, we argue that A4NH PMU needs to devote more attention to proactive and structured resource mobilization (RM).
146. Important functions often undertaken by specialized RM personnel include: drawing up grant proposals (good researchers may not be good at doing this) and actively searching for relevant calls for proposals. RM functions are currently located mainly in Centers⁹² and we believe that

⁹⁰ This is further complicated because not every Center has a Memorandum of Understanding (MoU) with every country in which CGIAR researchers work, so researchers are often employed by other Centers. For example, many A4NH staff in Zambia report to WorldFish, which has a MoU with the Government of Zambia, even if their work has nothing to do with fish. Matrix reporting lines are further complicated in HarvestPlus, where Country Directors normally report to CIAT while their direct staff report to another Center.

⁹¹ For an example, see (UK Government, undated) at <http://resources.civilservice.gov.uk/wp-content/uploads/2011/09/GSR-professional-competency-framework.pdf>

⁹² HarvestPlus has its own resource mobilization group but this is not used by the rest of A4NH.

there is a good case for A4NH to have its own RM to ensure that proposals do not become dominated by the proposing Center/discipline.

147. In Section VI.4 we set out our reasoning for recommending that A4NH focus on a few key areas and proactively raise resources for these. In our view, this should be complemented with a strong resource mobilization function located in the A4NH PMU.

Communications

148. Communications is a very important issue for A4NH - a large and complex program with many partners and a broad target audience. To date, there has been little investment in communications in A4NH, with only one part-time person responsible for many external communications tasks, including maintaining a website, and with no-one in the PMU having any designated responsibility for internal communications. On the basis of this evaluation, we believe that both internal and external communications need more attention.
149. Internal communications was identified as a weak point by many researchers working with A4NH (see Section IV, EQ2). A large proportion of CGIAR research staff and partners interviewed were not even aware that their research project was now officially “in A4NH” until the evaluation team made contact with them. At the moment, the function of communicating across Centers is given to the A4NH Center Focal Points (Section V.4) who all have other fulltime jobs. In our view, this is not practical or sustainable (See [Recommendation A8](#))
150. External communications, including branding, have important benefits for resource mobilization as well as for attaining the ultimate objectives of A4NH through influencing policy and programming (Parks et al., 2015). On a personal level, A4NH senior staff have got excellent networks with other researchers, policy-makers and some of the private sector. However, further investment is needed to go beyond individual reach. A4NH has standard communications products such as a website and annual reports, but we did not evaluate the quality or reach of these. There are some good examples of communication products e.g. the gender and nutrition blog hosted by the website.
151. Branding and name recognition (both internal and external) has been a weak point of A4NH. On the most basic level, the A4NH logo is missing from many key ANH websites and publications – even when it is a core sponsor and funder. The logo agreed by the CGIAR Consortium (CGIAR Consortium Office, 2014a) is also unhelpful, with the commonly-used CRP name (A4NH) not even visible (Figure 13). A4NH-associated staff, as mentioned above, have a primary loyalty to their Centers and often do not mention A4NH in their own work.

Figure 13: The A4NH logo, as typically visible on a website or publication with multiple logos



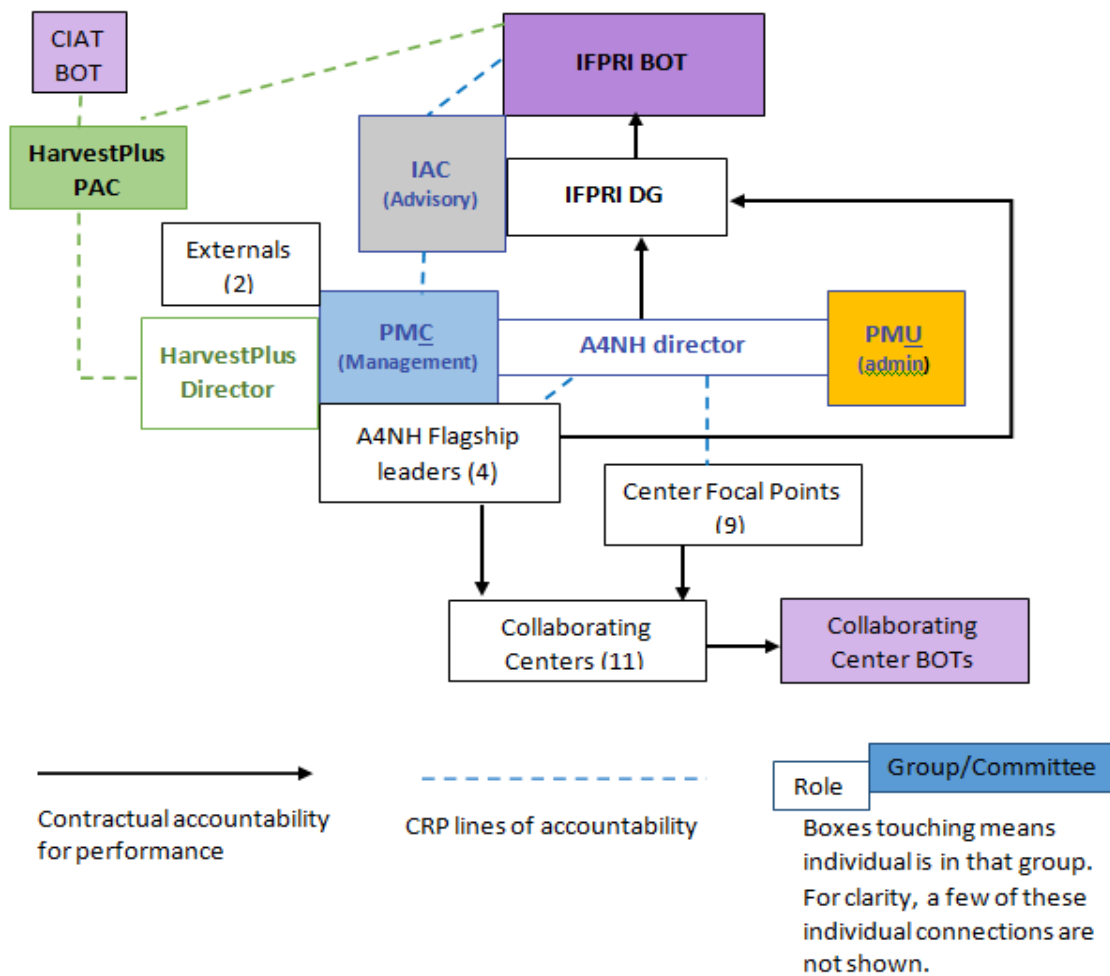
152. We suggest that as part of preparations for Phase 2, A4NH should conduct a review of A4NH communications and branding, both internal and external, with a view to strengthening this area.

V.4. Governance and management of A4NH

153. The Background Paper on Management and Governance issues provides a full description and discussion. We highlight below what we consider to be the key issues.
154. There are good arguments for IFPRI to act as the Lead Center for A4NH, including: international leadership and recognized high-quality research in the technical areas covered by A4NH, and demonstrated ability to manage complex research programs. Although a small minority (<3%) of our staff minisurvey respondents had a complaint involving IFPRI (all of these related to whether it was taking more than its perceived 'fair share' of A4NH resources), no stakeholder that we encountered questioned whether IFPRI should lead A4NH.
155. CRPs are not legal entities and therefore legal and financial responsibility for A4NH ultimately rests with the IFPRI and its Board of Trustees (IFPRI-BOT). The use of W1/W2 funds is regulated through contracts (PPAs) between IFPRI and the A4NH collaborating Centers. Other (bilateral) funders support research activities that are mapped to A4NH via direct contracts with one of the other 11 collaborating Centers. The A4NH Director does not have any authority over the bilateral contracts or the use of the funds, and depends on Center management to report against them as part of the A4NH monitoring system.
156. The A4NH management and governance structures are described in Section II.2. Figure 14 shows how they fit together. **Blue dotted lines** show lines of responsibility to A4NH. The A4NH Director is at the center of the diagram, and leads both the PMC and the PMU. The four flagship directors and nine Center focal points report to him as regards the CRP.
157. However, the **black arrows** on the diagram tell a different story. HarvestPlus retains its pre-CRP management and governance structure (although with A4NH representation in its Program Advisory Committee (PAC))⁹³. Flagship leaders' primary contractual accountability is to their respective Center, not to A4NH. CFPs also report to their own Centers. At the moment, the A4NH Director has no formal input into the performance management of any of these individuals, although he has been asked informally by the IFPRI Director General (DG) for views on performance of IFPRI staff working with the CRP.
158. The institutional incentives to prioritize Center/HarvestPlus interests over those of the CRP are strong, and for most leaders in A4NH their role in their Centers long predates the invention of the CRPs. It is therefore a tribute to the vision and dedication of the A4NH leader, Flagship leaders and CFPs that they have invested so much in supporting the A4NH CRP.
159. Despite these individual efforts, there are some major management and governance challenges still inherent in the current matrix structure. Key issues are listed in the following paragraphs.

⁹³ While we found no evidence in this evaluation that HarvestPlus was over-dominant in A4NH management or influencing A4NH priorities unduly (as had been suspected by some external interviewees), it is also true that HarvestPlus does not contribute much to A4NH, for example by sharing its resources in communications and resource mobilization.

Figure 14: Responsibility without power: current management and governance structures of A4NH



Source of figure: evaluation team, Notes: PMU Program management Unit, PMC – Planning and Management Committee IAC Independent Advisory Committee BOT Board of Trustees CFPs Center Focal Points DG- Director General, PAC Program Advisory Group.

Challenges for Flagship management:

- Flagship leaders have no contractual responsibility or power, and little incentive, to manage, monitor or mobilize resources for research activities which are mapped to their Flagship but carried out in other Centers. If unresolved, this setup poses an existential threat to the entire Flagship concept⁹⁴.
- Similarly, there are no institutional incentives to work across Flagships, even when this might be beneficial, and there are significant disincentives (Section III.5).
- There are also potential conflicts of interest embedded in the structure, in that most Flagship leaders are leading research groups in their own Center that are potentially competing with other Centers working on topics in the same Flagship for a limited pool of funding from the

⁹⁴ The problem exists to some extent for all CRPs, but it is probably worse in A4NH due to the large number of Centers involved and the lack of substantial W1/W2 funding that could pose an incentive for Centers to work together (see lessons on coordination in Section IV.3).

CGIAR Fund. This means that Flagship leaders are unable to take on the key management function of review and arbiter of priorities within their Flagship, outside their own Center⁹⁵.

- Finally, the time needed for Flagship (particularly cross-Center) management is a significant disincentive for flagship leaders, given that the individuals are also world-class researchers who need time to provide intellectual leadership for their own research groups and write up research. A4NH has already taken some steps to remedy this with the appointment (or planned appointment) of Research Coordinators to work with Flagship leaders.
- We suggest (under Recommendation A8) that wherever feasible the positions of Flagship leaders and other key A4NH staff should be funded directly by A4NH W1/W2 (as in some other CRPs). Even where this is not feasible, A4NH should negotiate with the relevant Centers for the A4NH Director to have a formal role in recruiting and performance management for key positions for A4NH

Challenges for Center Focal Points:

- Most CFPs are ‘full-time’ researchers with an interest in ANH. Their ToR describes their key roles as being planning, monitoring and reporting A4NH-related activities in their Center, as well as maintaining communications about ANH work. Most have carried out a conscientious job, with timely and high-quality submission of Center workplans, budgets and reports to A4NH.
- In the judgment of the evaluation team, there is a mismatch between the current responsibilities of CFPs and their roles, interests and (insufficient) level of administrative support in their Centers. With one exception, CFPs are not in top management positions, and cannot fully speak for their Center in A4NH decision-making meetings. (Some of them have found ‘workarounds’ for this.) Several CFPs expressed frustration to the evaluation team at their role being less technically-focused and more administrative than they had originally expected. Furthermore, the huge burden of communications being generated by A4NH (and the CGIAR) – both technical and managerial – cannot be left to CFPs, who have many other responsibilities.
- We recommend transferring the management and monitoring functions of CFPs to top Center management (probably Deputy Director General (DDG)) and that the existing group of CFPs instead become technical focal points for a new ANH Community of Practice in the CGIAR (see [Recommendation A3](#))⁹⁶. We also suggest that A4NH undertake a study of its internal and external communications with a view to releasing CFPs from the main responsibility for this.

Challenges for decision-making and prioritization:

- The main decision-making body is the PMC, which normally takes decisions by consensus, although there is provision for voting. In practice, the evaluation team has noted (from both interviews and observation) a lack of challenge about key issues, such as whether and to what extent to support certain areas of research and the (perceived) quality of the research being undertaken in some parts of the program.

⁹⁵ Biofortification (HarvestPlus) which has significant amounts of its own funding, is a partial exception.

⁹⁶ This would also help resolve representational anomalies with CFPs – for example IFPRI and some collaborating Centers for HarvestPlus have no CFP, while the International Center for Agricultural Research in the Dry Area (ICARDA) and The World Vegetable Center (AVRDC) (neither officially in A4NH) send representatives to CFP meetings.

- The current governance set-up does not provide for an effective challenge function to A4NH management. Formal responsibility rests with the IFPRI-BOT, but the BOT does not currently have time for detailed technical oversight of A4NH and sees that as the responsibility of the IAC. Meanwhile, the IAC – a committee of distinguished professionals selected in their individual capacities -- does not have a formal governance function, and some of its members see it purely as a helpful and informal advisory group to “support” A4NH management and “act as a sounding board” for the A4NH Director. The current processes of the IAC –a single annual meeting where members are presented with large amounts of material and have about an hour together to make recommendations to A4NH– do not allow it to fulfill its oversight functions effectively, as set out in its Terms of Reference⁹⁷.
- The Consortium and Fund Council have agreed that CRPs will have Independent Steering Committees with stronger powers and responsibilities in Phase 2.
- We recommend ([Recommendation A8ii](#)) that the new CRP governance structure be adequately resourced to carry out its agreed functions (for example, by paying honoraria to committee members). *Inter alia* it should take on the oversight of A4NH M&E (see previous section), with this responsibility allocated to nominated individuals.

Addressing Potential/Perceived Conflict of Interest (COI)

160. While the evaluation team has not come across any evidence of actual instances of conflict of interest (COI) in the A4NH management and governance structures, some potential (*or potentially-perceived*) conflicts of interest do exist. For example:

- IFPRI is the highest management and governance authority for the CRP, as well as being a significant user of CRP (W1/W2) funds.
- The independent experts on the PMC and many on the IAC come from institutions that are on the current list of contract partners for A4NH. Some of them potentially have access to sensitive commercial information (such as cost structures) and technical information.
- Our interviews and surveys revealed some dissatisfaction and suspicions of possible COI in A4NH governance and management, from both internal and external stakeholders
- The issue of COI has been addressed at length in the evaluation of the CRP on Policies, Institutions and Markets (PIM) – the other CRP managed by IFPRI (CGIAR-IEA, 2015). While HarvestPlus has a clear COI policy, neither A4NH nor IFPRI have an appropriate policy in place (the IFPRI policy relates to individual rather than institutional interests).
- We recommend that A4NH adopt an appropriate COI policy (from the Consortium, if available), covering institutional as well as individual interests. This is important not only to avoid actual COI but also to protect individuals and institutions against the possible perception of COI.

V.5. Summary conclusions for EQ3

161. This section addresses a wide variety of structures, systems, processes and resources that are essential to attaining A4NH outputs, outcomes and impacts.

⁹⁷ In contrast, the HarvestPlus Program Advisory Committee (PAC), which confusingly still exists although HarvestPlus in theory has been incorporated into A4NH, has delegated powers from the BOTs of IFPRI and CIAT, and functions much like a Board – see Background Paper on Governance and Management for more details.

162. We find that A4NH, like other CRPs, has limited room for maneuver, as many of the key systems (e.g. science quality, human resources and contracting) are the direct responsibility of collaborating Centers rather than of A4NH. We make some suggestions for cross-CGIAR work to address some important issues which are beyond the control of CRPs. These include harmonized monitoring systems, which we consider an urgent priority, and also Center systems for assuring science quality and ethics.
163. We also make some recommendations to improvements to governance and management structures. These are in line with recommendations made for other CRPs in IEA evaluations.

VI. EVALUATION QUESTION 4: IS THE SCOPE AND FOCUS OF A4NH RELEVANT AND APPROPRIATE?

Evaluation subquestions addressed:

4.1 Internationally, within the changing national and international context and architecture, how has A4NH added value to date? Could its scope and focus be improved to increase its international 'value-added'?

4.2 Is there an appropriate balance within and among the three main areas of work of A4NH - i.e. A4NH's own research, improving what the rest of the CGIAR does to attain the Nutrition and Health System Level Outcome, and influencing international policy and programming?

Evaluation criteria addressed: Relevance, potential for Impact, Efficiency, potential for Sustainability

Main evidence sources: Evaluation Expert Panel Report, Focus group discussions on A4NH boundaries with senior CRP and Center managers Interviews with A4NH staff and external stakeholders, mini-survey of external stakeholders (Annex to Expert Panel Report), mapping exercise of ANH across the CGIAR, review of relevant recommendations from previous evaluations and ISPC commentaries.

For further details see: Evaluation Expert Panel Report; Annex L – Mapping nutrition and health work across the CGIAR; and Evaluation Background Paper 4: Gender and equity;

VI.1. Introduction

164. EQ4 is a challenging question, given the very broad scope of the A4NH program and the rapidly-changing context. As explained in Section II.4, alongside this evaluation A4NH has been holding in-depth technical consultations on public health, food systems, and livestock, involving experts from around the world, specifically to discuss the future technical scope and focus of the program in Phase II. For this reason, the value that this evaluation can add is more about *how* to prioritize than specifically *what* to prioritize. We have put together evidence from a variety of sources, and mobilized an Expert Panel to give us their views on the pros and cons of different options for A4NH. We also recommend that A4NH implement its plans for regular technical evaluations of different parts of the program to look in more depth at particular areas.

165. This section starts with some perceptions and evidence on the value that A4NH has added internationally. It goes on to address the question of the scope and focus of A4NH and the balance across types of research, adding value across the CGIAR, influencing national and international policy, and addressing gender and social equity. Finally, the discussion section sets out some recommended organizing principles for helping improve the scope and focus of A4NH in Phase 2.

VI.2. How has A4NH added value internationally?

166. We had very positive feedback from external stakeholders (both through interviews and through a minisurvey of experts⁹⁸) on the question of whether A4NH had added value to international policy and programming. Most said that A4NH had been influential, in raising agriculture- nutrition issues high on the international agenda and/or in improving the evidence base. The quotes below are from our minisurvey of expert stakeholders, but they also closely reflect views expressed in our other stakeholder interviews:

- *Yes, the work of A4NH and IFPRI have been hugely influential on Agriculture for Nutrition research and policy.*
- *Very little work is done on the linkages between agriculture and nutrition/health. A4NH fills in this gap.*
- *They raised nutrition high on the international profile; helped in nutritional policies development and local and national levels; long term project and planning is very important in the field.*
- *They helped in enriching the evidence base in nutritional sciences*
- *The tools and research instruments that are communicated by the program are also useful.*
- *A4NH and its partners worked closely together with the component nutrition security and resilience of a [new development initiative] ... to develop the metrics, indicators and baseline design of the component. This was valuable support and a very positive demonstration on how a partnership between the CGIAR and development cooperation can look like⁹⁹.*
- *Influencing international donors and create awareness about the area*
- *Capacity building and strengthening of institutional capacity is one of their strength.*

167. We also had specific positive feedback about HarvestPlus/biofortification:

- *The biofortification project HarvestPlus is the first in its kind that has shown how agriculture can provide high levels of essential nutrients to poor farmers and rural populations, in a cost effective and safe way.*
- *The long-term vision of the Harvest Plus crew has led to clear way forward, from discovery, via evidence to practice*
- *The achievements made by Harvest Plus are tremendous in the way the rolling out of biofortified crops is organized with local centers in target regions.*

168. Specific attribution of value added to the 'A4NH CRP' is not easy. Both HarvestPlus and some of the IFPRI work on agriculture and nutrition predate A4NH. However, our interviews have made it clear that respondents referring to the value added of 'A4NH' do mean the current program and leadership, and are not just using the term as short-hand for 'IFPRI' or another CGIAR Center. A4NH has been a beneficiary of international interest in ANH, as well as itself influencing that interest, and in the absence of A4NH perhaps another entity might have taken on part of its role. However A4NH can call on a unique set of research skills which covers a wide range of commodity expertise as well as economics, social sciences, health and nutrition.

⁹⁸ Interviewees are listed in Annex D. The minisurvey results cannot be taken as 'representative' since we had a very low response rate— only 30 responses, less than 10%. However respondents were a good mix of subject matter experts and policy makers from a range of institutions (United Nations (UN), academia, private sector) so we still think their responses are of interest. Full analysis is in the annex to the [Expert Panel Report](#).

⁹⁹ How much to get involved in individual development projects is a difficult issue - it is useful to ensure research is used, but there is clearly an opportunity cost.

169. Some of the accomplishments listed in the [2014 A4NH annual report](#) confirm the high global profile of A4NH work. They include not only the provision of research evidence, but also direct links with policy, for example:

- IPP Flagship:
 - *'A4NH researchers contributed evidence and support that led to consensus for a dichotomous indicator to measure women's dietary diversity)...[that has since] featured in high-level discussions laying out desirable indicators for the post-2015 development agenda...'*
 - *'An article in the Journal of Nutrition showed ...a steady increase in children's height deficit from birth all the way through age five ...with no plateauing after 1,000 days as previously thought[that] expands the window of opportunity for maternal and child interventions aimed at improving nutrition'*
 - *'A4NH-affiliated researchers contributed to the 2013 Hunger and Nutrition Commitment Index (HANCI) Report, which ranks governments on their political commitment to tackling hunger and undernutrition'*
 - *'The A4NH researcher seconded to IFAD was the lead author on [its policy document] Improving Nutrition through Agriculture, which outlines its goals, vision, and approach...'*

IPP researchers were also involved in the first Global Nutrition Report (GNR, 2014), although the GNR was not produced by A4NH.

- Biofortification Flagship (HarvestPlus):
 - *The 2nd Global Conference on Biofortification, hosted by the Government of the Republic of Rwanda and organized by HarvestPlus ... [resulted in] the Kigali Declaration on Biofortified Nutritious Foods...and commitments from the WFP to incorporate biofortified crops into its nutrition policy..... from CGIAR to mainstream breeding for mineral and vitamin traits into conventional food crop development programs, [and from] national policymakers from Uganda, Bangladesh, Nigeria, and Pakistan...and ... Malawi. There has also been progress toward recognition of biofortification by Codex Alimentarius...'*
 - *With the launch of an interactive biofortification priority index, interested national governments and partners will be able to identify the "highest opportunity" countries for expanding biofortification.*
- Agriculture-Associated Disease Flagship:
 - *'the publication of Food Safety and Informal Markets, a summary of 10 years of research on food safety in informal markets. With 25 case studies... from eight countries in ...Africa, the book offers policy makers and public health experts ... a realistic and pragmatic strategy for reducing the risk of foodborne diseases for consumers while ensuring market access for poor producers.'*
 - *'Donors and program implementers have been using the brief, "Child Stunting and Aflatoxins," [in programming...]*

170. The 2014 Annual Report was chosen as the source for the above examples because it is the most recent year, which might be expected to reflect more influence from the CRP. However, as might be expected (because research takes a long time to translate into policy), most of the accomplishments cited come from research carried out in programs that predate A4NH, and might have happened in the absence of the CRP. One example which does reflect the influence of A4NH is the aflatoxin and child stunting brief listed above: this involved collaboration between ILRI/AAD and IFPRI/IPP and was one of a series issued jointly between A4NH and IFPRI, involving several CGIAR Centers (Unnevehr and Grace, 2013).

VI.3. Is there an appropriate balance within and among A4NH's own activities?

Introduction: challenges in planning and prioritization in Phase 1

171. Before examining the balance in the A4NH program, it is important to understand the process for priority setting in Phase 1 of A4NH and how this was shaped by financial and political constraints. The volume and tone of comments on the CRP proposals from bodies such as the Fund Council and ISPC¹⁰⁰ as well as our own interviews, makes it clear that these constraints have not always been evident to external observers.

- Large parts of the A4NH research program were inherited from ongoing research programs, most notably HarvestPlus, a cross-Center 'Challenge Program' which had already been running for ten years, with its own strong management, quasi-board governance structure, and group of core donors, which accounted for nearly half of A4NH funding in Phase 1 (see footnote 93).
- Most funding in the program is bilateral, and the majority of this is agreed between bilateral donors and Centers without reference to the CRP management or Flagship leaders.
- A4NH had a relatively low amount of W1/W2 funding in Phase 1, compared to the other three 'integrative' (cross-cutting) CRPs, in particular CCAFS, which arguably had a very similar, ambitious cross-cutting remit to A4NH (Figure 15).
- The Consortium took an early decision in Phase 1 to allocate W1/2 back to Centers to replace lost core funding. Use of these W1/2 funds was mainly decided by Center, with little control by the CRP¹⁰¹. Flagship leaders normally had a role in resource allocation only in their own Centers
- One issue experienced by all CRPs was the use of W1/W2 funding to pay for additional overheads for donors who refuse to pay for full cost recovery, for example the Gates Foundation¹⁰². Although we have not made a formal recommendation on this point, this team fully supports Recommendation 4 of the PIM evaluation (CGIAR-IEA, 2015) to undertake 'a study on the problems that the Centers are facing in sustaining their research infrastructures and other research support under the CGIAR Reform' with the additional suggestion that the study also look at benchmarking costs and options for cost-recovery.

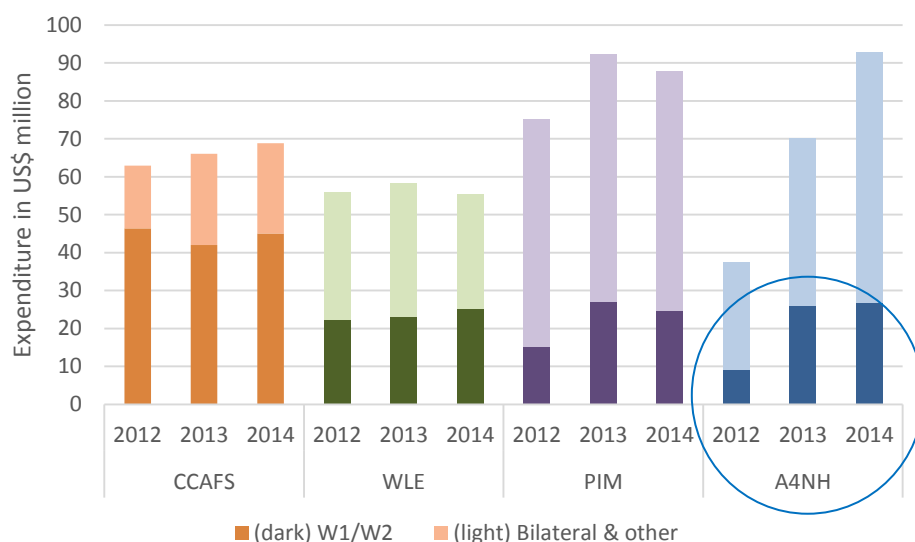
¹⁰⁰ While comments were sensible in themselves, their tone often implied that the CRP had much more knowledge and control of the program than it actually had in Phase 1. For example, "the revised [A4NH] proposal should include a strategy for how [activities and outputs] will be utilized to maximize the IPG benefits and the impacts on/for the specific communities identified." (ISPC, 2011)

¹⁰¹ The internal audit of A4NH (CGIAR Internal Audit Unit, 2014) had the following recommendation: "Mapping of Bilateral award to CRP approval procedures; given 60-70% of center funding comes from bilateral awards, there is no CG system wide policy for the involvement of CRP directors in the decision to associate bilateral awards to the CRPs that they direct. The consortium should develop policies and procedures that provide for involvement and or approval of CRP directors before a bilateral award is associated/mapped to a CRP"

¹⁰² For example, the FTA evaluation: "To the Evaluation Team, this situation is reminiscent of the situation before the CGIAR reform, when attempts were made to rid the CGIAR of so-called "free riders," i.e. donors issuing bilateral grants that require cross-financing by donors providing less restricted funds in order to be financially sustainable for Centers. ... The term "leveraging" has frequently surfaced during interviews in this context, but is considered inappropriate by the Evaluation Team because it sells a disadvantage as an advantage." (CGIAR-IEA, 2014) This issue was discussed in the [March 2012 Fund Council meeting](#) p 6 and plans were made for a study, but we are not aware if this ever took place.

- The upshot of the above was that the amount of truly unrestricted funding available for allocation by the A4NH PMC was severely limited in Phase 1 – less than 5% of total A4NH funds (Figure 16).
- Compounding the funding constraints were the problems of power. The A4NH leadership had to ‘keep on board’ all the CGIAR Centers who manage all the staff, finances and contracts through which the CRP works, as well as powerful parts of its own program led by very senior people with their own strong backing from bilateral donors.

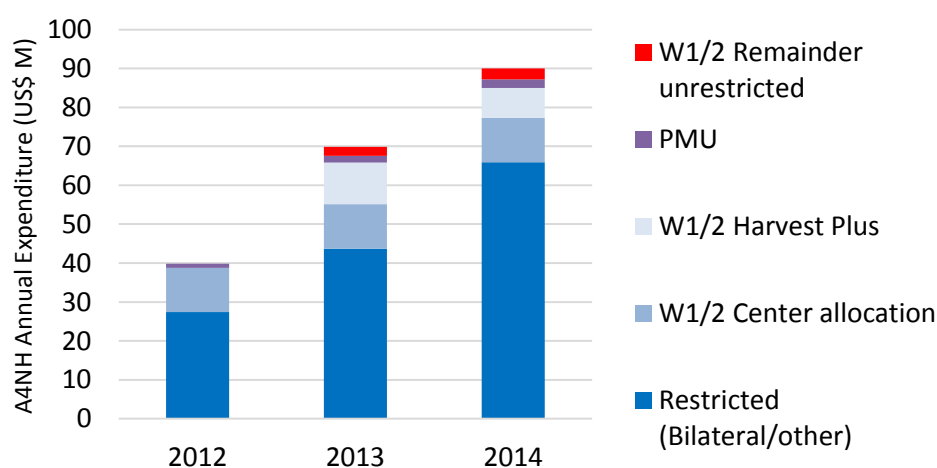
Figure 15: Funding sources for the four ‘integrative’ (cross-cutting) CRPs in Phase 1



Source: Evaluation team analysis of CGIAR financial reports for 2012 and 2013, preliminary numbers for 2014

Figure 16: Effective restrictions on funding for A4NH: Sources of funding in Phase 1

Blue indicates funding that was either fully (bilateral) or partially restricted: not under the full control of the A4NH PMU.



Source: Evaluation team financial analysis of A4NH (Annex H). PMU = Program Management Unit costs. W1/2 = Window 1 and 2 Funding from CGIAR Fund (theoretically ‘unrestricted’)

172. Given this situation, A4NH management struck a balance in its allocation funding - between well-established and well managed programs which were expected to ‘deliver’ and developing new collaborations with Centers and external partnerships, learning from experience what

institutional arrangements work best. W1/W2 funding was allocated to a relatively wide range of Centers. The CRP was early in setting up a monitoring system, and prepared Phase 1 performance reports for each collaborating Center, which have been used for serious discussions about performance and ways of working together. In general terms, this seems to the evaluation team to be a pragmatic management response for a new CRP faced with the above constraints¹⁰³.

173. The other principle adopted by A4NH in 2013 was to set minimum bilateral fund-raising targets. To quote from an internal A4NH memo (McDermott, 2015):

We also established targets for bilateral funding for A4NH research. For mature areas of research (e.g., biofortification, integrated programs), we wanted to provide a minimum of 20% of funding from W1/W2. For newer areas, sometimes initial seed funding was provided, but in general we planned to support up to 50% of funding from W1/W2. These funding targets were established to incentivize fund raising by A4NH research teams. This is critical as approximately 75% of A4NH funding in 2015 will come from restricted grants (W3 or bilateral).

This principle has been applied by some Center-based clusters within Flagships: for example, one cluster recently ceased to provide financial support to a part of its program that was not reaching the 50% target for bilateral fundraising.

174. The evaluation team is less comfortable with setting bilateral fundraising targets, although we recognize the forces driving this. There is a risk that donor fads and fashions will set the research agenda, instead of A4NH setting a clear research agenda that then attracts donor support (as HarvestPlus has done). There is already some evidence for this trend: many A4NH projects were set up in response to a donor 'call'. Many of these – especially, but not only, in the value chains Flagship - are essentially large development projects:

"USAID doesn't like the word research – they are putting a lot of money into what are fundamentally development projects – they have given us quite a lot of money to work on [a technology] – It's about scaling up and out - we then have to look for additional money to overlay the research questions, or somehow try to embed the research questions" Senior staff member from an A4NH collaborating Center

175. The observations of the 2009 STRIPE review highlight the risks of following bilateral funding:

"...To the panel, this is a clear sign of a revenue-driven enterprise rather than mission- and quality-driven organization. A striking number of projects ...respond to requests ...with little evidence of a careful research design that would ensure the generalizability of any findings such that the research might generate an IPG. These are straight development projects in which the CGIAR holds no comparative advantage. Centers frequently chase new donor funding opportunities of this sort, hiring new staff to pursue and complete the project. Then they need to pursue more such projects to keep those staff on payroll and on projects they can handle, thereby locking in the financial opportunism of the initial undisciplined pursuit of restricted funding in the absence of serious strategic thinking about comparative advantage and disciplined respect for the boundaries implied by such strategic assessment..."(Barrett et al., 2009) p.38

¹⁰³ There are examples of CRPs which took a more radical approach in Phase 1 - in particular CCAFS, another 'integrative' CRP, which set up large competitive grant schemes. This approach was facilitated by much larger initial allocations of W1/2 funding (Figure 15).

176. To sum up, we find that planning and prioritization in Phase 1 of A4NH has been pragmatic in the face of many constraints. However, we urge the program to take a bolder approach in Phase 2, following the HarvestPlus model of identifying a few clear areas of high-priority research and proactively searching for funding for these.

The balance in A4NH's own research

Balance between types of research

177. A4NH has a balance between upstream (discovery and proof of concept) and downstream (delivery) research which varies by Flagship. There are two types of research that we feel may be under-used:

- Impact evaluations. These are the 'bread and butter' work of IFPRI's research work in value chains (and also of Integrated Programs, although these are evaluations of development programs external to the CGIAR). Biofortification also commissions regular impact evaluations on its programs. However, there is no systematic application of impact evaluations in other components, in particular AAD. The food safety evaluation (Sridharan et al., 2015) recently recommended that impact evaluations be used more regularly. We support the use of impact evaluations to provide rigorous evidence. However, impact evaluations are expensive and it is not worth undertaking them until programs are mature¹⁰⁴. In addition, where impact evaluations are intended to show "proof of impact" of an A4NH technical intervention, it would be useful to ensure a degree of independence in commissioning and oversight. It would therefore be useful for the PMU M&E to have a role in prioritizing such "proof of impact" evaluations across the A4NH program, in oversight, and in mobilizing resources for these.
- Operational research and delivery science: Operational research is not new to A4NH. Both the IPP Flagship and the Biofortification have carried out operational research: for example, a major randomized control trial comparing delivery approaches for Orange Fleshed Sweet Potato in two countries (de Brauw et al., 2013). However there is much more potential for embedding small-scale operational research with a strong qualitative component across many activities. For example, recent small initiatives in the AAD component include comparing methods for obtaining ethical consent from participants and for disseminating information on new technologies (Delia Grace, personal communication). In some of the projects we visited, including some in biofortification, achieving high numerical targets for 'farmers reached' was a powerful driving force, and appeared to squeeze out time for operations research, even though such research is essential in terms of promoting sustainable uptake and benefits from technologies¹⁰⁵. This might be a good use of A4NH supplementary funds.

Scope and focus of individual A4NH Flagships

178. Making a definitive judgment on the focus and scope of individual Flagships was not possible since this evaluation did not envisage an in-depth study at this level. Based on our limited evidence, we have raised some specific questions directly with A4NH flagship leaders and A4NH

¹⁰⁴ The Integrated Programs cluster works closely with its partner programs to improve their implementation through operations research before they are considered ready for an impact evaluation. Without this step, an expensive impact evaluation might find simply that there was poor implementation, and be unable to test the underlying concept and design.

¹⁰⁵ HarvestPlus has recently set up a new M&E system that may address this.

management. These will be considered as part of the planned program of more in-depth CCEEs.

179. This report has already mentioned the dispersion of some Flagships across a number of areas of work. While the findings of dispersed research projects can still contribute to improving the sum of global knowledge, this is not the most efficient way to organize research or to mobilize resources. Getting a critical mass of researchers¹⁰⁶ behind a few key research questions linked to a clear development outcome has been an effective way to make progress, notably in HarvestPlus. This leads to our recommendations A1 and A2. These focus on organizing principles which should help A4NH governance and others to prioritise between the many potential options for Phase II¹⁰⁷.

Adding value to ANH-related work across the CGIAR

180. A4NH is not the only CRP which has activities in ANH. Other CRPs breed biofortified varieties, tackle water-related health problems and are increasingly interested in the nutrition and health aspects of their value chains (Table 9). The majority of CRPs are subscribed to the Nutrition and Health SLO of the CGIAR Strategic results Framework. Interest in ANH is increasing in Phase 2, as both the Consortium and bilateral donors have shown increasing interest in this area.

181. An investment by A4NH in supporting other CRPs and Centers could potentially have a large leverage effect. It is not practical (and would not be popular) for A4NH to take on a 'gatekeeper' role for ANH in the CGIAR, such as checking research proposals from other CRPs. However, other CRPs have demonstrated interest in centralized support from A4NH, and many of them have outlined a role for A4NH in their research proposals. The roles identified for A4NH in the extension proposals of other CRPs include, for example (see Annex L for the full table):

- Analyses: global, regional, national and household level analyses of health and nutrition issues that need to be addressed, e.g. in commodity value chains
- Certain types of trials: e.g. nutritional efficacy and bioavailability studies.
- Indicators: e.g. for monitoring and evaluating changes in food and nutrition security
- Methods and tools: e.g. for nutritional quality, dietary diversity, food safety, and health benefits
- Laboratory analysis and methods for micronutrients: e.g. high-throughput diagnostics
- Guidance: on methods, analyses and techniques
- Policy approaches: e.g. conducting research on political obstacles to coordination on nutrition.

182. The evaluation team agrees that it is more efficient and effective for A4NH to provide the above types of support centrally than for every Center and CRP to recruit staff and build capacity in specific ANH methods. A4NH can carry out complementary research to support the

¹⁰⁶ "By "critical mass" ... the panel does not mean a simple head count. Rather, the concept relates to the time effectively available for scientists' substantive interaction around shared research interests. Critical mass is absent even where headcounts are satisfactory if (i) staff are physically separated by space, (ii) functionally separated with little time or incentive to interact across distinct projects, or (iii) excessively fragmented in individual and collective effort so that the ... time nevertheless adds up to very little." (Barrett et al., 2009), 28

¹⁰⁷ Recommendations on whether particular Flagships should continue, expand or contract in Phase II were outside the scope of this evaluation for reasons previously explained. The evaluation Expert Panel (Box 3) made comments on the pros and cons of some potential areas of work, but not on Flagships as a whole.

development, validation and comparison of specific methods and tools which are needed for ANH research. (The A4NH gender team in A4NH is already doing this, for example they are investigating how to measure women’s time use in agriculture and its effect on women’s other nutrition-related roles such as childcare – this could be very useful in a variety of CGIAR research areas). A4NH can also support the dispersed community of CGIAR researchers working in this area and help build technical capacity, building on the positive experience of the gender-nutrition network currently supported by A4NH. Finally, A4NH can help raise quality and identify new opportunities by carrying out regular reviews of ANH-related work and meeting with other CRPs to discuss learning and opportunities.

Table 9: Involvement of other CRPs in nutrition and health activities

CRP type	Main NH-related activities	NH IDOs and indicators	Current collaboration with A4NH
Commodity CRPs: Dryland cereals, GRiSP, Grain Legumes, MAIZE, RTB, WHEAT, Livestock and Fish	Increasing production of the crop: aim to increase availability and access Incorporating micronutrients in crop breeding: across the board in rice (GRiSP) and to varying degrees in other crops Considering nutrition as an outcome in research to improve in commodity-based farming and food systems	Nearly all have nutrition IDOs. Main indicators: -Increased consumption or intake levels of a ‘nutritious commodity’ (e.g. livestock and fish, small grains and pulses) -Increased consumption of biofortified varieties. Nutrients of interest include Vitamin A, Iron, Zn and less commonly calcium (finger millet), low glycaemic index (rice), amino acids (quality protein maize) -Disability Adjusted Life Years (DALYs) lost from micronutrient deficiency (GRiSP) - Decreased mycotoxins (groundnuts and maize) Dietary diversity is only cited as an indicator by RTB in this group of CRPs. Most also measure gender empowerment / changes	Generally modest collaboration. - Some exchange with HarvestPlus-funded breeding work. A4NH has managed some dietary and impact evaluation work related to Orange Fleshed Sweet Potato (in RTB). - Close collaboration on food safety and zoonotics in livestock and fish. Little collaboration on fish-derived nutrition as yet.
Systems CRPs: Aquatic Agricultural Systems, FTA, Humid Tropics	Area-based research and development projects (‘hubs’, ‘action sites’) with nutrition included	All have NH-related IDOs: most relate to improved diet quantity and quality Dietary diversity is the main indicator Most measure gender empowerment / changes	Some collaboration, mainly around Nutrition Sensitive Landscapes.
Cross-cutting (integrative) CRPs: CCAFS, PIM, WLE	-WLE has a major workstream on contaminated water in irrigated crops and urban agriculture. -Integration of nutrition in some other models and activities, but fairly minor.	No nutrition or health IDOs or targets. CCAFS has a food security IDO. Most measure gender empowerment / changes	Modest current collaboration (a little around ‘Nutrition Sensitive Landscapes with WLE’). A major gap up to now has been collaboration around contaminated water for agriculture (WLE)

Source: Evaluation team analysis of CRP Extension Phase proposals (2015-16). The detailed version of this table is in Annex L. Notes: CCAFS = CRP on Climate Change, Agriculture and Food Security, FTA = CRP on Forests, Trees and Agroforestry, GRiSP = Global Rice Science Partnership, PIM = CRP on Policies, Institutions and Markets, RTB = CRP on Roots, Tubers and Bananas, WLE = CRP on Water, Land and Ecosystems

Influencing national and international policy

183. Policy is important for A4NH outcomes in a number of ways:

- The theory of change of some A4NH programs involves influencing international policy and programming: this applies to most of the impact evaluations carried out by IPP, for example. It is far from guaranteed that good evaluation evidence will lead to good policy, so it is important to understand the policy pathway and select effective partnerships (Herbert, 2014).
- A wide range of policy and regulatory issues can potentially affect the outcomes of technical work – from varietal release to the inclusion of high-nutrient value products in national school feeding programs.

184. There is a large policy research cluster in the IPP Flagship, with much of the research having a wide circulation and influence (Gillespie et al., 2013, 2015; Lapping et al., 2014; Menon et al., 2014) but the link to the rest of A4NH has been rather tenuous. The cluster includes a number of large donor-supported bilateral programs (e.g. LANSAs and Transform Nutrition) which are strategic and influential. However, their status as regards A4NH is unclear. People we met working in those programs were unaware of the link to A4NH - or did not consider it a strong link – and furthermore, a 2015 review of Transform Nutrition (DFID, 2015) referred only to ‘collaboration with’ A4NH.

185. A number of research programs within A4NH are nationally and internationally very influential in policy-making. The CRP Director and some PMU staff are very engaged and influential in international policy debates.¹⁰⁸ However, apart from their individual influence, we find that little of the policy success is attributable to A4NH as a CRP. A4NH has made no systematic investment in this area; there is no A4NH framework for policy engagement or monitoring policy influence¹⁰⁹, and no systematic capacity building of staff in this area.

186. Based on our project-level interviews, A4NH researchers are generally aware of policy issues affecting their research objectives. In our review of project documentation, 39% of projects sampled mentioned the national policy or regulatory environment (higher than many other issues). However, researchers do not necessarily have the skills or partnerships to deal with policy constraints. Some individuals are natural ‘political operators’ - highly persuasive, good networkers, and skilled at working with partners to translate research results into policy results. However, we found no indication that A4NH or its collaborating Centers have purposefully recruited, recognized or rewarded talent in this area. (As an example, we heard from one senior researcher that his Center had no interest in a major national policy success and refused to support any publication about it).

¹⁰⁸ For example the Flagship 4 Leader and A4NH Director have been involved in SDG expert meetings

¹⁰⁹ The IPP cluster of Flagship 4 has developed a framework for policy work on nutrition (Gillespie et al., 2013), but there is no indication from our interviews that A4NH has adopted this framework for use in the CRP, or that other parts of A4NH are familiar with the framework. IPP researchers and the M&E leader have been close contact with PIM, which leads in this area, and there has been one [joint workshop](#) on influencing policy, but again this work has not involved other parts of A4NH.

187. There is a large gap between research on how policy is made (the subject of the IPP research program) and policy influencing (a topic of interest to many A4NH researchers outside IPP). We would argue that most research-into-policy work is ‘more of an art than a science’¹¹⁰, and that the main need for most CGIAR researchers is capacity building in policy work, particularly on how to select appropriate partners and how to monitor policy changes to build a plausible case for contribution of the research. A4NH PMU could help with this - or possibly the PIM CRP could take on this role as part of its integrative program role in Phase 2.

Integrating social equity into A4NH work

188. Equity and discrimination are important issues for A4NH outcomes. For example, nutritional levels differ starkly by wealth, location, and by ethnic and other social groupings (GNR, 2014; Haddad, 2015).

189. Equity issues are explicitly addressed in some areas of A4NH research, and are implicit in others, for example in the concept of “access” of poor people to value chains. However:

- There is no specific CGIAR or A4NH strategy or framework for addressing equity issues other than those related to gender. ‘Gender’ has been a prime focus of A4NH, as discussed earlier in this report, but we believe that it cannot be addressed in isolation while ignoring the way that gender interacts with other social differences (e.g. wealth, caste, ethnicity).
- Despite frequent mentions of “the poor”, equity issues are given little or no explicit attention in A4NH proposal and extension documents (A4NH, 2014b; IFPRI, 2011). The major exception is the Agriculture-Associated Diseases Flagship, which specifies “gender equity and social and economic fairness” as one of its three principles (IFPRI, 2011)p.72), and embeds equity into many of its research questions.
- A stratified randomized sample of A4NH research project documents examined by the evaluation team (see Annex I) found that 45% (nearly half) mentioned key monitoring indicators being disaggregated by sex, but only 13% (just over 1 in 8) by ‘other social groupings’. A stratified randomized review of A4NH research publications from 2014 (see Annex J) found that of 24 publications which could have been expected to consider equity issues, only about a quarter presented data that is disaggregated by some measure of equity, and some of these did not refer to it in the analysis.
- Many A4NH research projects target “the poor”; however this does not automatically mean that they disaggregate data by equity or investigate issues of equity. Our impression from document reviews and interview evidence is that a number of technology development projects in A4NH focus on “the small farmer” - or in some projects, “the community” - with (as yet) very little social analysis – e.g. who is producing, who is consuming, where consumers get their food over the year and how they pay for/access it, and within-household distribution and consumption. (In fact, only 42% of the sampled research projects specified a clear target

¹¹⁰ To quote a review of factors influencing the uptake of development research, including earlier IFPRI research: “There may be no single recipe for influence [of research] but there are some common impact/influence ingredients... [that] include: ‘Sticky messaging’ or ‘rallying ideas’ in the content and processes of knowledge generation and translation.. ‘Knit-working’ or the networking and building of coalitions of ‘connectors’ and ‘champions’ around ideas that lead to change... and ‘Strategic opportunism’ or the role of mapping contexts to identify windows of opportunity for impact/influence (not forgetting the role of serendipity).” (Sumner et al., 2009)p.36 The PIM CRP evaluation has come to the opposite conclusion, however, and has urged PIM to undertake more research in this area (CGIAR-IEA, 2015)

group.) Such an analysis might lead the research and development in different directions – for example, in biofortification, this could possibly mean more focus on larger farmers who supply the markets from which the poorest people are getting their staples, while in aflatoxin research, and it might mean an increased focus on the informal sector.

190. In our judgment, the institutional lack of attention to equity (other than gender) issues is a major gap in A4NH that should be addressed. This holds for the CGIAR generally, but we feel that A4NH should be able to move ahead with this without waiting for others.

VI.4. Discussion: How could the scope and focus of A4NH be improved?

191. As mentioned at the beginning of this section, there are many technical experts currently involved in discussing options for the future scope and focus of A4NH. We recommend reading our Expert Panel Report (selected highlights are in Box 3), which discusses the pros and cons of specific options. Here, however, we will concentrate on the broad challenges of prioritization and make some specific suggestions for addressing them.

192. A4NH is an umbrella program for a wide variety of research. Some research areas (accounting for the majority of funding) are highly focused. However, this is not the case for the whole of A4NH. The uncertain funding environment encourages CGIAR researchers to take on a variety of projects which are loosely relevant, but are not structured to collect a critical mass of evidence to answer a high priority set of research questions. This situation has been aggravated in Phase 1 of the CRPs by the way “unrestricted” funds (84% of A4NH W1/2) were allocated to Centers and the expectation that all Center projects would be mapped to CRPs¹¹¹. Managing a diverse portfolio and communicating with all those involved takes valuable management time. Dispersal of research activities among many small topics also has a negative effect on efficiency, as management costs are relatively larger for small research projects.

193. In addition, the current plan for A4NH to take on additional areas of work in Phase 2 (public health and food systems) poses new questions of prioritization. There is a high risk in our judgment that limited funds will be dispersed over a large number of research activities, instead of dedicated to attaining a critical mass in a few areas.

194. At the same time, A4NH cannot simply limit its attention to a small number of research questions, ignoring the rest of the ANH agenda. It needs to look outward as well, since the CRP has an important leveraging role in raising quality of ANH work across the CGIAR and beyond. In Phase 2, A4NH is expected to be one of the four ‘integrative CRPs’ in the CGIAR. While A4NH cannot act as a gatekeeper for the ANH work of other CRPs, it can provide essential technical guidance and support.

¹¹¹ This expectation was widely shared by interviewees: in fact one group of senior people we met discussed the recent ‘news’ that Centers were now ‘allowed’ to leave their bilateral projects outside CRPs. However it has been difficult to get documentary evidence on guidance to this effect. One earlier quote we found was from the [6th Fund Council meeting](#) (2011): “[The Consortium Head of Finance] clarified that it was always the intention that CRPs should embrace all funding. Many of the CRPs expect to finance growth and activity through bilateral funding negotiated with donors. Almost all bilateral funding is mapped to CRPs, and Lead Centers co-finance their program of work from Windows 1 and 2 and other sources of funding.”

Box 3: Selected findings of the evaluation Expert Panel

A five-person expert panel was contracted to consider the relevance and scope of the A4NH portfolio. The panel was requested not to make specific recommendations but rather to consider the pros and cons of various options, and key questions which should frame the planning process for Phase II. Space unfortunately does not allow us to present here the many rich ideas raised – readers are referred to the [Expert Panel report](#). Some key overarching ideas included:

Global trends

- **ANH will continue to be a high priority cross-cutting research area.** However climate change, population growth, economic growth, urbanization and changes in technology are driving **changes in global ANH priorities.** Trends include increased concern with: obesity and non-communicable diseases, penetration of urban products and the consumption of processed food into rural areas; rising consumption of animal-source foods; food and water safety including the use of wastewater; resistance to antibiotics for both humans and animals; mechanization and the move away from agricultural employment; and greatly-increased complexity in food systems.

Planning and prioritization

- A4NH could **consider new areas and target groups** where it has not done much in the past - e.g. health, poor urban consumers, and adolescent girls. A4NH should however **focus on a few specific research questions where it can add most value**, rather than trying to manage many small scattered research efforts. In particular, a move from a focus on small farmers and undernutrition to broader food systems and obesity issues is likely to stretch A4NH very thin and require many new skills. **Prioritization criteria and systems need to be very clear**, since A4NH cannot cover everything. Phase 1 appeared to follow a “business as usual” approach. **Clarity about comparative advantage and A4NH’s Unique Selling Point’ will be essential in Phase II.** For example, agriculture-nutrition linkages are context-specific and will require adaptive country-level research, which can create tensions with CGIAR objectives to produce global public goods and incentives to produce cutting edge research. Similarly, research on the political economy of ANH issues, and going beyond cross-sectoral policies that specifically mention NH to wider and more controversial policy issues that affect ANH outcomes (such as access to land) may not always sit easily with the “neutral broker” position taken by the CGIAR. An expanded agenda will also require an expansion of partnerships, especially in health and the private sector. **Strategic selection of partners will be important.**
- Some specific areas where A4NH could consider increasing efforts include:
 - a. helping to make **a better ‘business case’ for ANH** initiatives, in particular by collecting realistic data on costs and benefits at scale,
 - b. **addressing seasonality issues**, which are especially important in rural areas
 - c. considering how research results may improve the **training curricula** for ANH professionals
 - d. **broadening the agenda of policy work** away from a specific free-standing research flagship to supporting integrative policy work related to other ANH research.

Supporting A4NH research

- The nature of ANH often requires a shift from a reductionist to a comprehensive research approach, is often served best by a longitudinal rather than a cross-sectional design, and needs to incorporate confounding factors from various environmental and social determinants of health. **Long-term commitment and planning, flexibility in bringing in the necessary disciplines and a steady, secured budget** are among the implications that make special demands on the research consortium and donor support.

195. Mainstreaming A4NH research is also vital for the sustainability of some of A4NH’s current investments, particularly in crop breeding. In particular, the last evaluation of HarvestPlus (Abt Associates Inc., 2012) concluded that “the assumption that most released biofortified cultivars will be sufficiently superior in other desirable traits that they will be widely chosen over all

other varieties is unrealistic if the micronutrient trait is not mainstreamed". While HarvestPlus has already put a lot of effort into mainstreaming, with a number of other CRPs already investing in high-micronutrient crops (Table 9), there is much more to do.

196. A4NH will continue to operate in a rapidly-changing environment, with the majority of funding opportunities still coming directly from bilateral donors to Centers, which then seek co-funding from A4NH. It is therefore important for A4NH to establish a transparent and cost-efficient process to decide on which new projects can be added to the A4NH core research program in future.
197. Putting clear boundaries around A4NH, and defining a 'core research program' that is clearly separated from a broader 'ANH value added program'¹¹² would have several advantages. It would allow A4NH to focus its research efforts and resource mobilization on a few core research questions that would attract a critical mass of research talent. It would also give A4NH sufficient resources to continue to support innovative and relevant NH work across the CGIAR, without having to take on the management burden for this 'value added work' in its core flagships.
198. For the core research program, we recommend that A4NH identify a limited number of 'centerpiece' areas of research and proactively raise funds for these, following the model of HarvestPlus. This strategy does carry some risk that bilateral donors will not consistently fund these identified areas, and will continue to disperse their funding widely¹¹³.
199. For the 'value added' program, we recommend a concerted investment by A4NH to leverage other research across the CGIAR. Other CRPs look to A4NH to provide (and fund) core technical capacity, methods and tools for ANH, and the evaluation team agrees that it is more efficient and effective to provide this centrally. 'Value added' is technical work, which in the judgment of the evaluation team should not be considered an 'administrative overhead', and should be adequately managed and resourced through its own Flagship or cluster. Through this program, A4NH can also support the dispersed community of CGIAR researchers working in this area and help build technical capacity, building on the positive experience of the gender-nutrition network currently supported by A4NH. The 'value added' program can also support the development, validation and comparison of specific methods and tools which are needed for ANH research¹¹⁴. Finally, the program can fund innovative research projects in ANH: two possibilities are (a) small competitive grant processes for innovative areas of research, building on the experience of the A4NH seed grants, and (b) additional grants to support ANH improvements in high-priority research projects, for example, to improve nutrition metrics.
200. A4NH will also need to develop a clear process and criteria for prioritization, to decide transparently which activities should be supported as part of core research, which should be under the wider ANH 'value added' program and which should be refused by A4NH (although they can still go ahead in other CRPs or Centers). See [Recommendation A1](#).

¹¹² This could also be called integrative, mainstreaming or institutionalization

¹¹³ Attracting a few 'core donors' - and giving them representation in the A4NH steering group - is one possible strategy to help manage this risk.

¹¹⁴ At a recent international meeting session, that included many papers from CGIAR researchers, a renowned researcher made a public comment that the nutrition methods and metrics were often selected or applied wrongly (e.g. metrics validated only for individuals, but applied to households). Further research and validation work for certain methods is needed, as well as capacity building.

VI.5. Summary conclusions for EQ4

201. This section reviews the scope and focus of A4NH. This is a moving target, as A4NH gears up for the pre-proposal on Phase 2.
202. A major lesson from Phase 1 was that A4NH was not fully able to control what was “mapped” to the CRP, and as a result, some parts of the portfolio are more scattered than others. However, A4NH cannot cut itself off and concentrate only on one or two research questions. It will continue to have an important role not only in raising the quality of ANH work across the CGIAR but also in supporting innovation.
203. We conclude that putting clear boundaries around A4NH, and defining a ‘core research program’ that is clearly separated from a broader ‘ANH value added program’ is potentially an important organizing concept for A4NH in Phase 2. It would allow A4NH to focus its research efforts and resource mobilization on a few core research questions that would attract a critical mass of research talent. It would also give A4NH sufficient resources to continue to support innovative and relevant NH work across the CGIAR, without having to take on the management burden for this ‘value added work’ in its core flagships.
204. The evaluation Expert Panel (Box 3) has made specific suggestions on the pros and cons of specific activities within five key focus areas for A4NH: agriculture-associated diseases; value chains, food systems and the private sector; urbanization, obesity and dual burden; policy and enabling environment; and nutrition-sensitive agriculture/ development.

VII. CONCLUSIONS AND RECOMMENDATIONS

VII.1. Overarching conclusions

205. Specific findings for each Evaluation Question are summarized at the end of the relevant Chapter. In this section we have summarized our overarching conclusions in tabular form, through a SWOT¹¹⁵ analysis (Box 4), and a mapping of the main findings and conclusions against international evaluation criteria, using traffic light coloring to represent our overall judgments (Table 10).
206. In brief, we conclude that A4NH has many strengths. The CRP is tackling highly relevant issues, has been influential both internationally and within the CGIAR, and includes some world-renowned researchers and research programs. At the same time, there are significant areas for improvement, as detailed in Box 4 and Table 10.
207. As previously mentioned, the evaluation team has worked closely with A4NH decision makers. The recent pre-proposal for A4NH Phase II (prepared after the first draft of this report, and many previous discussions) contains specific commitments responding positively to the evaluation recommendations (specifically A1-A4, A7 and A8). A4NH has also prepared a draft capacity development strategy and an updated partnership strategy⁸³ (referencing this evaluation).
208. In Phase I, the majority of work supported through A4NH closely followed on pre-existing research programs, mainly due to financial constraints. In the Phase II pre-proposal A4NH has proposed new Flagships and research topics, as well as the strengthening of some areas. The main risk we identify is that the proposal is very ambitious (given limited human resources and management time) – and A4NH may spread itself too thin. As detailed in the Recommendations below, we believe that distinguishing a few core areas of A4NH research from broader ‘value added’ work is potentially an important organizing principle as A4NH moves into developing the final proposal¹¹⁶.
209. Finally, a number of the difficulties that we noted in A4NH – for example, fragmented funding and multiple systems for planning and reporting - have their roots in incomplete CGIAR reforms. While not all of these are easily soluble, we make three recommendations here for central CGIAR institutions that we believe to be feasible. These are: setting minimum quality standards for science quality (including ethics); agreeing cross-CGIAR principles and policies (on things like conflict of interest and working with the private sector) that can be adopted by all CRPs; and agreeing harmonized systems for planning, monitoring and reporting.

¹¹⁵ Strengths, Weaknesses, Opportunities and Threats

¹¹⁶ See Recommendations A1-A3 below. All comments received on the first draft (including from the PMC, IAC and IFPRI-BOT) were supportive of this principle.

Box 4: SWOT Analysis of A4NH, based on evaluation findings

STRENGTHS OF A4NH (Phase 1)

- A4NH is a genuinely cross-cutting issue, which exemplifies the potential benefits of a CRP approach (VI.2)
- Inspiring vision and leadership, both within the CGIAR and internationally (IV.2)
- Adds value to international policy and programming (III.6, VI.2)
- Includes world-renowned researchers and research teams (V.2)
- Excellent personal networking and some strategic partnerships (V.2)
- Improved information sharing and learning on ANH among researchers in the CGIAR (IV.2)
- Dedicated, efficient and well-liked Program Management Unit (IV.2)
- Strategic use of unrestricted funding to support innovative ANH work across the CGIAR (IV.2)
- Strong focus on gender, leading a network aiming to raise the quality of gender and nutrition research across the CGIAR, and strategic research on methods (IV.3)

WEAKNESSES (Phase 1)

- Little control over the full research portfolio, with projects being mapped to A4NH (0)
- Flagship leaders without power or incentives to manage Flagship activities beyond their own Center, or take coordination beyond information-sharing (V.4)
- Current management and governance arrangements do not provide an effective challenge function for planning and prioritization (V.4)
- Underinvestment in internal and external communications (IV.2, V.3)
- Partnerships and capacity development often rather ad hoc (V.2)
- Lack of attention to social equity issues in the research (VI.3)
- Problems with the current CGIAR systems for managing CRPs, including: multiple and frequently-changing systems for planning, monitoring and reporting, unstable funding, and a sense of insecurity due to changing messages about the future. These can reduce productivity and threaten partnerships (IV.4).
- Lack of control over key inputs and processes for research, including human resources and science quality assurance (V.2, V.3)

OPPORTUNITIES (Phase 2)

There is a major opportunity for A4NH to expand in Phase II, given the level of interest generated in ANH and in some of the specific areas of work e.g. on food safety.

Other opportunities identified in the report include:

- Building on the A4NH Theory of Change work to integrate it better into programming and risk management (now reflected in the pre-proposal for Phase II) (III.4)
- Building on the experience of the gender group in A4NH, e.g. to support a wider CGIAR Community of Practice in ANH incorporating lessons from the cross-CGIAR gender-nutrition group (VI.3)

THREATS/RISKS (Phase 2)

- The CGIAR Reform fails to deliver its promise, including economies of scale (e.g. through harmonized systems) and stable funding for long-term research (IV.4)
 - A4NH scale of ambitions for Phase II is not commensurate with resource availability (not only funding, but also human resources and skills, e.g. for management and partnerships) – and the program is spread too thin, with limited funds dispersed over a large number of research activities, instead of attaining a critical mass in a few areas. (VI.4).
-

Table 10: Main findings and conclusions according to CGIAR evaluation criteria

Criterion	Main findings, conclusions and suggestions of the evaluation
Relevance	<ul style="list-style-type: none"> • A4NH is a high priority cross-cutting area of research, and the CRP is addressing a wide range of relevant research questions, ranging from nutrition policy to highly technical studies in zoonotic diseases. How has A4NH added value internationally? (VI.2) • Some research areas (accounting for the majority of funding) are highly focused. However, the uncertain funding environment encourages CGIAR researchers to take on a variety of projects which are loosely relevant, but are not structured to collect a critical mass of evidence to answer a high priority set of research questions. (V1.8) • The initial ideas for Phase II are ambitious, and there is a risk that limited A4NH funds will be dispersed over a large number of research activities, instead of dedicated to attaining a critical mass in a few areas. At the same time, A4NH cannot turn its back on support to other CRPs venturing into ANH. We have made specific recommendations on how to handle this challenge. (VI.4, recommendations A1-A3) • Gender and social equity issues are critical to ANH outcomes. While gender has received sustained investment and expert inputs, social equity has been relatively neglected by A4NH in Phase I. (VI.3, Recommendation A7)
Effectiveness and Potential for Impact	<ul style="list-style-type: none"> • A4NH has largely delivered its planned outputs for Phase I. (III.2) • As with all research (particularly in developing country agriculture) significant risks are normal, and it is likely that only a fraction of research lines will result in large-scale impact. There are three main types of route from research to impact according to the A4NH proposal: value chains, integrated programs and policy. Most routes take many years to show impact. For most areas of A4NH research, we cannot assess with any accuracy the probability that A4NH outputs will lead to the hoped-for outcomes and impacts. However, there are some indications from similar research that impacts are likely in many areas. For example, there are rigorous impact evaluations demonstrating large-scale uptake of some biofortified varieties and their effects on human nutrition, and there are examples of informal food safety programs which have been scaled up to millions of people. (III.4) • Theories of Change have been developed for major A4NH research areas in Phase I and this work will be further expanded in Phase II. It increases the chances of reaching outcomes and impacts when Theories of Change are used to identify the pathways to impact, assumptions and risks, and to systematically address these. (III.4)
Efficiency	<ul style="list-style-type: none"> • Section III.3 discusses issues that constrain productivity and timely delivery of planned outputs. Researchers report excessive amounts of time spent on non-research activities such as resource mobilization (chasing successive short-term grants) and cumbersome and multiple systems of planning and reporting. Many of these stem from incomplete reforms of the CGIAR. (IV.4, V.3) • Dispersal of research activities among many small topics (see Relevance) and stop-start research project funding also have a negative effect on efficiency, as management costs are relatively larger for small research projects. (IV.4) • The cost of coordinating work across Centers can be significant, considering the distances involved. The biggest example of a specific investment in coordination by A4NH illustrates the challenges of improving efficiency – this was a \$150,000 project for coordinating aflatoxin research across six Centers. The potential efficiency pay-offs are great (joint planning, harmonizing processes, sharing labs) but so far few of these have materialized, most likely (we hypothesize) because underwriting the costs of coordination is not sufficient to overcome pre-existing incentives for researchers to work separately. More time and larger amounts of investment to fund joint research may be effective in moving beyond information sharing and joint publications – which have been the main benefits to date - to realizing the efficiency benefits of coordination across Centers. (IV.3)

Quality of science	<ul style="list-style-type: none"> • <i>Inputs:</i> A4NH has a number of renowned researchers and research teams. We found no evidence of systematic imbalances in junior/senior staffing levels. More social scientists with qualitative skills might be helpful, including to address social equity issues, but we do not have solid evidence on this although the issue has been raised by previous evaluators (Barrett et al 2009). (V.2) • <i>Outputs:</i> A4NH covers many research areas with diverse types of outputs, and there are no agreed measurements of scientific quality for the majority of these outputs. Publications are a much-used (although imperfect) cross-disciplinary measure of output quality. Judged by standard bibliometric criteria (citations and journal impact factors) A4NH publications generally rate highly. (V.2) • <i>Processes:</i> Our analysis of science quality, however, found that the <i>processes</i> for supporting high-quality science varied across collaborating A4NH Centers, and some aspects were weak in some Centers. For example, research designs are not always vetted, ethical clearance is not always rigorous (ethical review is of particular concern for A4NH due to extensive work with human and animal subjects), and data collection may be weak even when the design and analysis is strong. We have made recommendations both to the CGIAR and to A4NH on this point. (V.2, R4)
Sustainability	<ul style="list-style-type: none"> • Long-term, predictable funding is needed to address most of the complex research questions addressed by A4NH, as well as to sustain national and international partnerships for research and delivery. Until now, there is no indication that the CGIAR reform has been able to generate sufficient funding (for A4NH at least) to overcome the problems of stop-start research funding from bilateral grants (IV.4, VI.3) • Environmental sustainability can be a major issue in some aspects of A4NH research (e.g. livestock, harvesting wild vegetables) but was not a main focus of this evaluation. Like other aspects of science quality, it is addressed at Center level, and Centers vary in quality. We have recommended that A4NH adopt and operationalize Consortium or other suitable policies, including on the environment. (V.2, R5) • Mainstreaming A4NH research is vital for the sustainability of some of A4NH's current investments, particularly but not only in crop breeding of high-micronutrient varieties. (While HarvestPlus has already put a lot of effort into mainstreaming, with a number of other CRPs already investing in high-micronutrient crops, there is much more to do.) We have recommended that A4NH address mainstreaming under a 'value added' workstream (Recommendation A3).

Notes: Traffic light judgements by evaluation team: Light green: Good, but with some areas for improvement, Amber: Significant room for improvement

VII.2. Recommendations

Introduction

211. This wide-ranging evaluation has generated much discussion along with many minor suggestions from the evaluation team, which can be found in the main report and annexes. However the evaluation recommendations can only focus on a few key issues. As previously mentioned, A4NH has been consulting widely and developing the pre-proposal for Phase 2, thinking is evolving rapidly, and some of our early suggestions have already been implemented. In this section, we have opted to focus on a few strategic organizing principles for A4NH in Phase 2, as well as systems issues that in our view pose potential constraints to research productivity and quality.
212. Our key recommendations do not exactly match up to the original evaluation questions (EQs), because the first two EQs concentrate on practical findings (Has A4NH achieved its results? Has it added value?), and the last two EQs on more analytical questions (Does A4NH have the right structures and systems? Has it got an appropriate scope and focus?), which have generated recommendations¹¹⁷. For this reason, we have structured this section so that a summary of relevant findings immediately precedes each recommendation.
213. There are six main Recommendation Areas¹¹⁸. These are
- R1 ANH scope and focus. To avoid overloading a single recommendation, we have split this Recommendation Area into three:
 - Boundaries around A4NH
 - Management of core research
 - ‘Value adding’ activities of A4NH
 - R2 Quality of Science
 - R3 Policies governing research
 - R4 Social equity
 - R5 Monitoring and evaluation
 - R6 Management and governance
214. We have made eight main recommendations for A4NH (**A1-A8**) and three for central institutions of the CGIAR (**C1-C3**). In all cases, recommended timing is before the start of Phase II of the CRPs, with most of the recommendations for A4NH aimed at the development of the final Phase I proposal. Some specific suggestions have also been made for implementation.

Please note that evaluation recommendations require a management response (CGIAR Independent Evaluation Arrangement, 2014), while Suggestions do not.

¹¹⁷ R1 and R4 relate mainly to EQ4, and the others mainly to EQ3

¹¹⁸ These have been numbered R1 to R6 for ease of cross-referencing

R1 A4NH scope and focus

Relevant findings

- A4NH is an umbrella program for a wide variety of research, ranging from nutrition policy to zoonotic diseases. While some areas of A4NH research are highly focused, some are more diffuse, covering a range of research questions (R2). Managing a diverse portfolio and communicating with all those involved takes valuable management time.
- At the same time, A4NH cannot simply limit its attention to a small number of research questions, ignoring the rest of the Agriculture, Nutrition and Health (ANH) agenda. It needs to look outward as well, since the CRP has an important leveraging role in raising quality of ANH work across the CGIAR and beyond. In Phase 2, A4NH is expected to be one of the four 'integrative CRPs' that work across the CGIAR.
- Putting clear boundaries around A4NH, and defining a 'core research program' that is clearly separated from a broader 'ANH value added program' that includes both research and capacity strengthening would have several advantages (R2 R3)
- A4NH will continue to operate in a rapidly-changing environment, with the majority of funding opportunities still coming directly from bilateral donors to Centers, which then seek co-funding from A4NH. It is therefore important for A4NH to establish a transparent and cost-efficient process to decide on which new projects can be added to the A4NH core research program (R2) which can be supported under the wider ANH 'value added' program (R3) and which should be refused by A4NH (although they can still go ahead in other CRPs or Centers).

Recommendation A1 Establish clear boundaries around A4NH in the final Phase II proposal, clearly distinguishing two primary modalities of A4NH work: (a) A4NH's 'core' research activities (R2) and (b) 'A4NH value added activities', supporting ANH work in the CGIAR and elsewhere (R3)

- Establish a transparent and cost-efficient process for decisions on whether and under which modality to support new research proposals. Resist 'mapping' of Center research activities to A4NH that do not fall into one of the two core areas of work or that do not meet CGIAR policies and standards.**

Suggestions for implementation:

- A4NH could ask Centers to submit short concept notes for all new research projects for which they are requesting A4NH support. Concept notes should either show how the research will help to provide evidence for the A4NH centerpiece research questions (R2) or make a bid for support under the 'ANH value added' program (R3)
- A4NH could consider contracting external peer reviewers as needed to review important new areas of work.

R2 Management of core research

Relevant findings

- Currently, the majority of funding in A4NH goes to research programs with a clear and coherent program of work with well-focused research questions, around which they have proactively mobilized resources – notably the inherited programs of Biofortification (HarvestPlus) and the IFPRI work on evaluation of integrated programs for nutrition¹¹⁹
- However, this is not the case for the whole of A4NH. The uncertain funding environment encourages CGIAR researchers to take on a variety of projects which are loosely relevant, but are not structured to collect a critical mass of evidence to answer a high priority set of research questions. This situation has been aggravated in Phase 1 of the CRPs by the way “unrestricted” funds (84% of A4NH W1/2) were allocated to Centers and the requirement to map all Center projects to CRPs. Without having a substantial amount of unrestricted funding under its own control, this situation is not easy for A4NH to manage.
- In addition, the current plan for A4NH to take on additional areas of work in Phase 2 (public health and food systems) poses new questions of prioritization. There is a high risk in our judgment that limited funds will be dispersed over a large number of research activities, instead of dedicated to attaining a critical mass in a few areas.
- We therefore recommend that A4NH identify a limited number of ‘centerpiece’ areas of research and proactively raise funds for these, following the model of HarvestPlus. This strategy does carry some risk that bilateral donors will not consistently fund these identified areas, and will continue to disperse their funding widely. Attracting ‘core donors’ and giving them representation in the A4NH steering group is one strategy to help manage this risk.

Recommendation A2 Build up a high-quality A4NH-branded core research program focusing on a few ‘centerpiece’ research areas linked to the CGIAR Strategy and Results Framework (SRF).

- i. Prioritize a limited number of research areas as the ‘centerpieces’ of A4NH research in Phase II, and concentrate ‘core’ research mobilization efforts on these. Each proposed ‘centerpiece area’ should have a clear set of initial research questions based on a theory of change, identified evidence gaps and clear links to SRF Outcomes. The selection of centerpiece areas should follow a transparent prioritization process, overseen by the IAC/CRP governance body.**

Suggestions:

- Prioritization should be based insofar as possible on quantitative and qualitative analysis, scenario analysis and scrutiny of assumptions, including the ‘comparative advantage’ of A4NH.
- Some examples of current centerpiece areas are Biofortification, Integrated Programs and Food Safety. We are not suggesting that these have to be changed, but rather that a clear process should be established for adding new centerpiece research areas, and for deciding when a current centerpiece area may cease to be one.
- The evaluation expert panel has set out pros and cons of different areas of research for A4NH, which would be useful to consider in the prioritization process.

¹¹⁹ Biofortification and Integrated Programs (IFPRI-PHND component) together represented 62% of A4NH expenditure in Phase 1, and 40 % of W1/W2 expenditure.

R3 'Value adding' activities of A4NH:

Relevant findings

- Beyond its own research, A4NH has a clear role in promoting high-quality, well-targeted ANH research across the CGIAR. A lot of work in the CGIAR is already going on in ANH, and this is set to increase in Phase II. A concerted investment by A4NH could leverage all this other research. A4NH cannot act as a gatekeeper for the ANH work of other CRPs, but it can provide essential technical guidance and support. Other CRPs - in their proposals - look to A4NH to provide (and fund) core technical capacity, methods and tools for ANH, and the evaluation team agrees that it is more efficient and effective to provide this centrally. A4NH can also support the dispersed community of CGIAR researchers working in this area and help build technical capacity, building on the positive experience of the gender-nutrition network currently supported by A4NH. A4NH can also support the development, validation and comparison of specific methods and tools which are needed for ANH research.
- 'Value adding activities' are technical work directly linked to the research program, which in the judgment of the evaluation team should not be considered an 'administrative overhead', and should be adequately managed and resourced through its own Flagship or cluster.

Recommendation A3 Make a coordinated investment in support to 'A4NH value added', managed as a coherent program, with clear goals and targets, adequate funding and human resources.

- Create and support an ANH Community of Practice (CoP) across the CGIAR. This should focus on specific CGIAR technical (research) and institutional needs, and draw upon but not duplicate the work of relevant external communities of practice such as [Ag2Nut](#).**
- Conduct (or commission) regular technical reviews of ANH work undertaken across the CGIAR, and convene regular meetings with other CRPs to discuss learning and future opportunities.**
- Fund or co-fund innovative ANH research across the CGIAR. Set clear objectives and criteria for this support, and establish a transparent process for prioritization and allocation of funds. This support should be managed separately from the core A4NH research program.**

Suggestions:

- Potential CoP activities include: training courses, a helpdesk, webpage, and technical meetings/webinars. Some of these could be outsourced.
- The CoP could integrate the existing ANH gender and nutrition network as a subgroup for the broader CoP, building on its successes and also giving it a wider audience.
- A4NH could support key research on methods and metrics (in collaboration with IMMANA)
- A4NH could develop and promote technical competency frameworks for ANH and related topics (e.g. gender and nutrition) that could form the basis for capacity development - and potentially in future, recruitment and other HR functions.
- Two modalities to consider for supporting ANH research across the CGIAR are: (a) small competitive grant processes for innovative areas of research, building on the experience of the A4NH seed grants, and (b) additional grants to support ANH improvements in high-priority research projects, for example, to improve nutrition metrics

R4 Quality of Science (EQ3)

Relevant findings

- A4NH supports some renowned researchers and research groups producing high quality research outputs. A4NH has made some efforts to raise research quality in its projects, for example publicizing links to e-courses on ethics, but these are not always taken up.
- Clearly, ensuring science quality in collaborating Centers cannot be the responsibility of an individual CRP, and we make a recommendation below that this be addressed at the level of the CGIAR. In the meantime, A4NH should clarify expectations about the minimum processes that its research projects should follow.

Recommendation C1 We recommend that scientific leadership¹²⁰ in the CGIAR System set standards for science quality and research management, and monitor and support Centers to achieve these.

Suggestion: Science quality standards expected from Centers could include, *inter alia*:

- Clear ex-ante review of project proposals against standard criteria, involving specialists where needed (e.g. for environmental impact assessment)
- A process for checking research protocols with appropriately-qualified people (including specialist methods for areas such as nutrition and health)
- Rigorous ethical review and appropriate ethical training for both researchers and field staff undertaking work with human or animal subjects, including partners and subcontractors, building on previous CGIAR Science Council work (Sandøe et al., 2006).
- Compliance with A4NH/Consortium policies, as relevant, for example open data

Recommendation A4 Adopt CGIAR standards of research quality as soon as these become available. In the meantime, set out clear expectations of the minimum research management processes required for all A4NH-supported research, making reference to these in key contractual agreements (e.g. PPAs), research program strategies, and in the Phase II proposal.

- A4NH should require Centers to adequately document all research projects supported by A4NH, showing what science quality processes have been followed. This would apply both to core A4NH research and that supported under the A4NH wider 'value added' program..**

Suggestions:

- As a strictly interim measure, A4NH could continue to provide additional information and support to researchers where strong Center systems do not exist, for example publishing links to e-courses on ethics, or links to statistical support

¹²⁰ This recommendation was originally addressed to the ISPC and the Consortium, but we have reworded it in general terms, as there is an ongoing task force - set up following the MidTerm Review of the CGIAR Reform - to consider the ISPC's role and powers (ISPC Secretariat, 2015).

- Definition of basic researcher competencies in A4NH research management could include understanding of the principal ANH frameworks and some key ANH methods, as well as general research management and ethics competencies.

R5 Policies governing research (EQ3)

Relevant findings

- Various sections of this report raise issues that have implications for policies governing A4NH research - for example the issues of potential conflicts of interest, selection and management of partnerships and capacity building. Rather than making separate recommendations for each of these, the evaluation team believes that there is an overarching management issue, which is that A4NH needs to publicize the policies that it is following in each area, and its expectations of collaborating researchers. This also would help to minimize reputational risk.
- The Consortium already has policies on some key areas (such as Open Data), but not all. We recommend (Recommendation C2) that the Consortium move swiftly towards developing and promulgating such policies for use in phase 2, building on existing policies and experience.
- In the meantime, while suitable Consortium policies are not available, there are a number of fundamental policy areas in which we recommend that A4NH should 'adopt' policies from any suitable available source. This will normally mean a simple statement that Policy X applies to A4NH activities. In a few cases A4NH PMU may have to develop additional more specific guidance for the interpretation of the policy as it applies to nutrition and health issues.
- There may be a role for Internal Audit to check compliance with relevant policies.

Recommendation C2: The Consortium should develop key CGIAR-wide policies that can be adopted by CRPs, in areas where these do not already exist: for example on conflict of interest, social equity, partnerships

Recommendation A5 A4NH should publicly 'adopt' key CGIAR policies as soon as these become available, making reference to them in key contractual agreements (e.g. PPAs), research program strategies, and in the Phase II proposal. In the absence of CGIAR policies, A4NH should adopt existing policies from the Lead Center or other suitable sources.

- i. **These should cover at least the following areas: Conflict of Interest (including institutional COI), Gender and social equity; Environment Research ethics; Partnerships; Working with the private sector; Intellectual property; Data management and open data**

R6 Addressing social equity (EQ4)

Relevant findings

- Social equity is not adequately addressed in A4NH, although it is crucial for ANH.
- 'Gender' has been a prime focus of A4NH, but it cannot be addressed in isolation while ignoring the way that gender interacts with other social differences (e.g. wealth, caste, and ethnicity).
- Many A4NH programs target "the poor", but social analysis and even disaggregated data are often lacking.

- The lack of information about differences between and within communities affects practical decisions made by technical programs, e.g. which types of households should be targeted for certain technologies, or whether to work mainly with the formal or informal private sector.
- Social equity is an issue that ANH can and should take forward even without the rest of the CGIAR: although equity is important everywhere, it is arguably most urgent in ANH.

Recommendation A6 Make a commitment to systematically address social equity issues, including attention to disaggregated data and social analysis.

- i. **Include ‘attention to social equity’ as a basic quality expectation for A4NH research, wherever relevant.**
- ii. **Build researcher capacity on social equity issues in ANH.**

Suggestions:

- Commission a study on systems and resources needed to integrate equity more fully into the research program.
- The existing gender and nutrition network could broaden out to cover wider equity issues – or these could be covered by another subgroup in a wider A4NH Community of Practice.
- Definition of basic researcher competencies in ANH could include understanding of basic social equity issues and their implications for ANH research and development work.

R7 A4NH monitoring and evaluation (EQ3)

Relevant findings

- A4NH deserves praise for its investment and progress in M&E. Steps taken include:
 - setting up a monitoring function for ‘deliverables’, and using the data as the basis for A4NH Phase 1 Center Performance Summaries and negotiation with collaborating Centers;
 - integrating gender into the monitoring system – including studying the quality of research plans;
 - Agreeing a plan for CRP-Commissioned External Evaluations (CCEEs), with a CCEE on Food Safety. Good-quality CCEEs are much needed for management and governance
 - working with Flagships and clusters to develop Theories of Change for their work and using these as the basis for M&E;
 - Impact evaluations are used effectively to ‘tell a story’ about some technologies and interventions, especially biofortification
- Despite the above, the evaluation team found some areas for improvement:
 - Managers - and other stakeholders to whom A4NH research should be accountable – often do not have access to essential information on research projects. Many pieces of key information – such as the research target group, the monitoring indicators, and process issues such as who was consulted and whether ethical approval was obtained - are lacking in many project documents. Such information is normally only documented if the bilateral project donor requires it. Even when information is included in a project proposal, it may be ‘aspirational’ and there is often no information available on whether planned indicators etc. were implemented.

- The output indicators used by the Consortium (for so-called ‘Annex 1’ reporting) and A4NH (‘deliverables’) are not very useful for either management or reporting, as most are lagging indicators, and they attempt to add up ‘apples and oranges’ such as numbers of products, papers, and policies influenced.
- The proliferation of reporting systems across CRPs (as well as donors and Centers) is causing stress to A4NH researchers and reportedly reducing their productivity
- A program of CRP-Commissioned External Evaluations (CCEEs) has been agreed with the IEA but it is still in its infancy, and until now there has been no defined responsibility for independent oversight of CCEEs
- Impact evaluations are commissioned as part of A4NH research, but not systematically across the CRP, and are usually not independent of those promoting the intervention

Recommendation C3: The Consortium should urgently work with CRPs and funders to agree a harmonized monitoring system that meets management and reporting needs for all CRPs and (if possible) key bilateral funders, taking into account the balance between management and accountability needs and not imposing excessive demands on researchers. This should include agreeing minimum standards and harmonized formats for basic information to be provided on every research project.

Suggestions:

- This could include a common research project summary sheet, updated annually by the Principal Investigator / research leader to ensure information is current. *Inter alia* this would include minimum information on compliance with key policies and science quality standards. A simplified sheet could be used for smaller projects.
- CGIAR Internal Audit could be involved in developing and checking compliance with this system.

Recommendation A7 Strengthen the A4NH monitoring and evaluation function

- i. **Work with Consortium Office and other stakeholders to agree and adopt a harmonized CGIAR/CRP research project monitoring system that meets management and reporting needs and sets minimum standards of basic information required for all research projects in Phase II.**
- ii. **Implement the plans for a regular rolling program of CCEEs of different Flagships and key areas of work, with sufficient resources to allow technical areas to be investigated in depth.**
- iii. **Invest in strategic evaluations, including impact evaluations, of research which is in the ‘adoption phase’. Develop a clear strategy for prioritizing such evaluations.**
- iv. **Make institutional arrangements for oversight of all A4NH evaluations to safeguard their independence from those promoting the interventions being evaluated. Oversight should include inputs into questions to be addressed in the evaluation.**

R8 Management and governance (EQ3)

Relevant findings

- As for other CRPs, the current management and governance structures reflect the complex matrix in which A4NH operates.
- Currently formal governance responsibilities rest with the IFPRI-BOT, which does not have time to oversee A4NH in detail. The Independent Advisory Committee makes general advisory recommendations to A4NH, to which management responds, but the current set-up of IAC does not allow for close scrutiny of plans, budgets and progress, as set out in its ToR. The Consortium and Fund Council have agreed that CRPs will have Independent Steering Committees with stronger powers and responsibilities in Phase 2.
- Management of A4NH (like other CRPs) is challenging because the contractual responsibilities of those involved are not to A4NH but to their home Centers. In particular, Flagship leaders have neither power nor incentives to manage their Flagships beyond their own Center. Center Focal Points are the mechanism established for planning, reporting and communicating to Centers, but the current CFPs are researchers who have neither the power to speak for their Center DGs nor the time and resources for the heavy administrative load involved.
- The A4NH Director has been personally active in resource mobilization (RM) for research connected to A4NH, but this needs to be supplemented with more day-to-day RM support (e.g. spotting calls, writing applications). Resource mobilization functions are mainly with Centers and also with individual researchers (with an opportunity cost in lost research time). There is a strong argument for strengthening A4NH resource mobilization as this is a cross-sectoral area.
- Internal communications have been highlighted as a weak point in the program by many A4NH-related staff. Branding and recognition of A4NH is also weak, with many partners and researchers not even aware they are involved in an A4NH program. Good progress has been made, for example with an A4NH website and regular reports, as well as a blog on gender and nutrition research. However this is severely constrained by resources: A4NH currently has only one person working half time in communications, insufficient for a large and complex program which needs to communicate both across the CGIAR and externally.

Recommendation A8 Strengthen A4NH governance and management to support the above agenda

- i. Conflict of Interest policies should be operationalized in management and governance structures.**
- ii. The CRP governance structure should be adequately resourced to carry out its agreed structure and functions (following Consortium/Fund Council agreements). Inter alia it should take on the oversight of A4NH M&E, with this responsibility allocated to nominated individuals.**

Suggestion: If feasible, include key donors to A4NH and institutional representatives of UN agencies and key regional bodies on the governance body

- iii. Strengthen the A4NH management structures, in alignment with central CRP agreements.**

Suggestions:

- Wherever feasible, fund the positions of Flagship leaders and other key A4NH staff through A4NH W1/W2 funding. Where not feasible, negotiate with the relevant Centers for the A4NH

Director to have a formal role in recruiting and performance management for key positions for A4NH

- Create a Program Executive Committee that deals with day to day decisions and reports to a wider Program Management Committee that takes strategic decisions.
- Move the Center Focal Point (CFP) planning, reporting and budgeting function to Center management, e.g. the DDG-Research. Existing CFPs could then become focal points for a new ANH Community of Practice
- Consider including DGs/DDG representatives in the wider Program Management Committee, instead of in the Governance structure¹²¹

iv. Strengthen the Program Management Unit to support the A4NH agenda, in particular resource mobilization and communication

Suggestions:

- Revisit which functions need to be included in the PMU. ‘Value added’ to research should be managed separately and not counted as an administrative overhead,
- Take on additional capacity for resource mobilization. This needs to work closely with wider efforts on resource mobilization in the CGIAR.
- Conduct a review of A4NH communications and branding, both internal and external, with a view to strengthening this area.

¹²¹ In the judgment of the evaluation team, DGs/DDGs would be a valuable addition to the A4NH broader management committee, being able to input more effectively and also because they are not independent from the program (note that there would need to be some representation/rotation of DGs due to the large number of Centers with an interest in A4NH). However the Consortium agreements put DGs on the Independent Steering Committee instead. We are not sure if there is scope to revisit this decision.

VIII. REFERENCES FOR THE MAIN REPORT

- A4NH (2012a) *Agriculture for Nutrition and Health Gender Strategy: November 16, 2012*. Available from: <http://www.a4nh.cgiar.org/2012/12/18/a4nh-gender-strategy-submitted-to-the-cgiar-consortium/>.
- A4NH (2012b) *Agriculture for Nutrition and Health - Strategies and principles for transformative partnerships*. Available from: <http://www.a4nh.cgiar.org/files/2012/07/A4NH-Draft-Partnership-Strategy2.pdf>.
- A4NH (2013) *Agriculture for Nutrition and Health - Results Framework, Future Research Areas and Potential for Impact*.
- A4NH (2014a) *A4NH Performance Report Submitted to the Consortium for 2013*. Washington, D.C. USA: International Food Policy Research Institute (IFPRI).
- A4NH (2014b) *Extension Proposal 2015-2016, submitted to the CGIAR Consortium Board April 2014*. Available from: <http://www.a4nh.cgiar.org/files/2014/03/A4NH-Extension-Proposal-2015-2016FINAL.pdf>.
- A4NH (2015) *Using Theories of Change to Manage and Monitor Progress towards Outcomes: Updated August 2015*. Unpublished report - available on website., A4NH. Available from: <http://www.a4nh.cgiar.org/files/2014/03/Using-Theories-of-Change-to-Manage-and-Monitor-Progress-towards-Outcomes.pdf>.
- A4NH PMU (2015) *Guidelines for Reporting on Gender Research in the 2015 A4NH Centers' Work Plans*. Internal guidance document.
- Abt Associates Inc. (2012) *Evaluation of HarvestPlus Phase II*. Seattle, WA: Bill and Melinda Gates Foundation.
- Ash A (2013) *Managing the CCAFS Theme by Region matrix for international public goods and development outcomes*. Unpublished report commissioned by the CCAFS Independent Science Panel.
- Atherstone C, Grace D and Johnson N (2014) *CGIAR coordinated aflatoxin research plan*. Draft September 2014, ILRI.
- Barrett CB, Agrawal A, Coomes OT, et al. (2009) *Stripe Review of Social Sciences in the CGIAR*. Available from: www.sciencecouncil.cgiar.org/.../ISPC_StripeReview_SocialScience.pdf.
- Bos R, Gazdar H, McClafferty B, et al. (2015) *Independent CRP-Commissioned External Evaluation of the CGIAR Research Program on Agriculture for Nutrition and Health (A4NH): Expert Panel Report on Research Gaps and Potential A4NH Involvement*. A4NH.
- Bouis H, Low J, McEwan M, et al. (2013) *Biofortification: Evidence and lessons learned linking agriculture and nutrition*. FAO/WHO. Available from: <http://r4d.dfid.gov.uk/Output/195646/Default.aspx> (accessed 4 September 2015).
- CGIAR Consortium (2013) *CGIAR Open Access and Data Management Policy*. Available from: <http://library.cgiar.org/bitstream/handle/10947/2875/CGIAR%20OA%20Policy%20>

%20October%20202013%20-
%20Approved%20by%20Consortium%20Board.pdf?sequence=1.

CGIAR Consortium Board (2011) *Consortium Level Gender Strategy: November, 2011*. Available from: http://library.cgiar.org/bitstream/handle/10947/2630/Consortium_Gender_Strategy.pdf?sequence=4.

CGIAR Consortium Office (2011) *A Strategy and Results Framework for the CGIAR*. Available from: http://library.cgiar.org/bitstream/handle/10947/2608/Strategy_and_Results_Framework.pdf?sequence=4.

CGIAR Consortium Office (2014a) *2014 CGIAR Branding Guidelines*. Available from: <http://library.cgiar.org/handle/10947/2699> (accessed 28 January 2015).

CGIAR Consortium Office (2014b) *CGIAR Research Programs Second Call for Proposals 18 December 2014, version 3*. Available from: <http://library.cgiar.org/handle/10947/3427>.

CGIAR-IEA (2014) *Evaluation of the CGIAR Research Program 'Forests, Trees and Agroforestry' (FTA): Synthesis Report*. Rome, Italy: Independent Evaluation Arrangement (IEA) of CGIAR. Available from: <http://iea.cgiar.org/sites/default/files/Synthesis%20report.pdf>.

CGIAR-IEA (2015) *Evaluation of the CGIAR Research Program 'Policies, Institutions and Markets' (PIM): Volume 1 - Evaluation Report*. Rome, Italy: Independent Evaluation Arrangement (IEA) of CGIAR. Available from: http://iea.cgiar.org/sites/default/files/PIM_Volume%20FINAL.pdf.

CGIAR Independent Evaluation Arrangement (2014) *CGIAR Standards for Independent External Evaluations*. Guiding Documents. Available from: <http://iea.cgiar.org/publication/cgiar-standards-independent-external-evaluations> (accessed 28 January 2015).

CGIAR Independent Review Panel (2008) *Bringing together the best of science and the best of development: Independent Review of the CGIAR System Synthesis Report*. Independent Review of the CGIAR System. Report to the Executive Council., Washington DC. Available from: http://www.cgiar.org/pdf/agm08/agm08_independent_review_synthesis_report.pdf (accessed 20 March 2011).

CGIAR Internal Audit Unit (2014) *Internal Audit of CGIAR Research Program 4 (CRP-4) on Agriculture for Nutrition & Health (A4NH): FY 2013-14*. IFPRI.

Compton J, McLean D, Emmens B, et al. (2015) *Independent CRP-Commissioned External Evaluation of the CGIAR Research Program on Agriculture for Nutrition and Health (A4NH) Background papers*. A4NH.

Dalberg Global Development Advisors (2014) *Independent Review of Integrated Delivery in the CGIAR*. Prepared for CGIAR Fund Council and Consortium.

DFID (2015) *Title: TACKLING THE NEGLECTED CRISIS OF UNDER-NUTRITION – TRANSFORM NUTRITION (TN) Annual Review - Summary Sheet, 15th January 2015*. Available from: http://iati.dfid.gov.uk/iati_documents/4830295.docx.

Elsevier (2014) *Research Performance of CGIAR Research Programs: A Report prepared for the CGIAR*.

- Evenson RE and Gollin D (2003) *Crop Variety Improvement and Its Effect on Productivity: The Impact of International Agricultural Research*. CABI.
- Fortin J-M and Currie DJ (2013) Big Science vs. Little Science: How Scientific Impact Scales with Funding. *PLoS ONE* 8(6): e65263.
- Gelli A, Hawkes C, Donovan J, et al. (2015) *Value chains and nutrition: A framework to support the identification, design, and evaluation of interventions*: IFPRI discussion paper, International Food Policy Research Institute (IFPRI). Available from: <https://ideas.repec.org/p/fpr/ifprid/1413.html#download> (accessed 12 July 2015).
- Gillespie S, Haddad L, Mannar V, et al. (2013) The politics of reducing malnutrition: building commitment and accelerating progress. *The Lancet* 382(9891): 552–569.
- Gillespie S, Menon P and Kennedy AL (2015) Scaling Up Impact on Nutrition: What Will It Take? *Advances in Nutrition: An International Review Journal* 6(4): 440–451.
- GNR (2014) *The Global Nutrition Report*. IFPRI. Available from: <http://globalnutritionreport.org/> (accessed 25 January 2015).
- Grace D, Mutua F, Ochungo P, et al. (2012) *Mapping of poverty and likely zoonoses hotspots*. Report, ILRI. Available from: <https://cgspace.cgiar.org/handle/10568/21161> (accessed 11 December 2014).
- Grace D, Mahuku G, Hoffmann V, et al. (2015) International agricultural research to reduce food risks: case studies on aflatoxins. *Food Security* 7(3): 569–582.
- Haddad L (2015) Equity: Not Only for Idealists. *Development Policy Review* 33(1): 5–13.
- Herbert JL (2014) Researching Evaluation Influence A Review of the Literature. *Evaluation Review* 38(5): 388–419.
- Hirsch JE (2005) An index to quantify an individual's scientific research output. Available from: <http://arxiv.org/abs/physics/0508025> (accessed 3 September 2015).
- IEA (2014) *CGIAR Standards for Independent External Evaluations*. Guiding Documents. Available from: <http://iea.cgiar.org/publication/cgiar-standards-independent-external-evaluations> (accessed 27 January 2015).
- IFAD (2014) *Improving nutrition through agriculture*. International Fund for Agricultural Development (IFAD). Available from: www.ifad.org/pub/thematic/nutrition/nutrition_e_web.pdf.
- IFPRI (2011) *CGIAR Research Program 4: Agriculture for Improved Nutrition and Health: A revised proposal submitted to the CGIAR Consortium Board by IFPRI on behalf of Bioversity, CIAT, CIMMYT, CIP, ICARDA, ICRAF, ICRISAT, IITA, ILRI, IWMI and WorldFish*. Available from: http://www.ifpri.org/sites/default/files/crp4proposal_final_oct06_2011.pdf.
- ILRI (2008) *ILRI's partnership strategy and management system*. Report, International Livestock Research Institute. Available from: <https://cgspace.cgiar.org/handle/10568/566> (accessed 29 June 2015).

- ISPC (2011) ISPC Commentary on the Revised Proposal for CRP 4: Agriculture for Improved Nutrition & Health. Available from: <http://library.cgiar.org/handle/10947/2579> (accessed 11 June 2015).
- ISPC (2014a) ISPC Commentary on A4NH Response to ISPC and CO Comments. Available from: <http://library.cgiar.org/handle/10947/3265> (accessed 11 June 2015).
- ISPC (2014b) ISPC Commentary on the Extension proposal for A4NH for 2015-2016. Available from: <http://library.cgiar.org/handle/10947/3259> (accessed 11 June 2015).
- ISPC Secretariat (2015) *11th Meeting of the Independent Science & Partnership Council 30 March - 1 April 2015 CIFOR Headquarters, Bogor, Indonesia END OF MEETING REPORT*. Available from: http://ispc.cgiar.org/system/files_force/ISPC11_MeetingReport.pdf?download=1.
- Johnson N, Guedenet H and Saltzman A (2015) *What Will It Take for Biofortification to Have Impact on the Ground? Theories of Change for Three Crop-country Combinations*. CGIAR Research Program on Agriculture for Nutrition and Health. Available from: <http://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/id/129089>.
- Jost C, Kristjanson P, Alvarez S, et al. (2014) *Lessons in theory of change: experiences from CCAFS*. Denmark: Copenhagen: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Available from: https://ccafs.cgiar.org/publications/lessons-theory-change-experiences-ccafs#.Ve_OFJewRjA (accessed 9 September 2015).
- Lapar MLA, Deka R, Lindahl J, et al. (2014) Quality and safety improvements in informal milk markets and implications for food safety policy. In: . Available from: <https://cgspace.cgiar.org/handle/10568/65208> (accessed 8 September 2015).
- Lapping K, Frongillo EA, Nguyen PH, et al. (2014) Organizational factors, planning capacity, and integration challenges constrain provincial planning processes for nutrition in decentralizing Vietnam. *Food & Nutrition Bulletin* 35(3): 382–391.
- Litwin J (2013) Who's getting the biggest research bang for the buck. *Studies in Higher Education* 39(5): 771–785.
- Mayne J and Johnson N (2015) *Using Theories of Change in the CGIAR Research Program on Agriculture for Nutrition and Health (Draft)*. A4NH. Available from: <http://www.a4nh.cgiar.org/files/2014/03/Mayne-and-Johnson-2015-for-Website.pdf>.
- Menon P, Covic NM, Harrigan PB, et al. (2014) Strengthening implementation and utilization of nutrition interventions through research: a framework and research agenda. *Annals of the New York Academy of Sciences* 1332(1): 39–59.
- Mid-Term Review Panel (2014) *Final Report from the Mid-Term Review Panel of the CGIAR Reform*. Available from: <http://library.cgiar.org/handle/10947/3368> (accessed 13 July 2015).
- Mokoro (2015) *Independent Comprehensive Evaluation of the Scaling Up Nutrition (SUN) Movement*. Available from: <http://scalingupnutrition.org/resources-archive/independent-comprehensive-evaluation> (accessed 8 September 2015).
- Parks B, Rice Z and Custer S (2015) *The Marketplace of Ideas for Policy Change: Who do developing world leaders listen to and why?* Williamsburg, VA: AidData and The College of William and Mary. Available from: <http://www.aiddata.org/marketplace-of-ideas-for-policy-change>.

- Patton MQ and Horton D (2009) *Utilization-focused Evaluation for Agricultural Innovation*. Institutional learning and change initiative (ILAC). Available from: http://www.cgiar-ilac.org/files/ILAC_Brief22_Utilization_Focus_Evaluation.pdf.
- Perrin B (2002) How to — and How Not to — Evaluate Innovation. *Evaluation* 8(1): 13–28.
- Porras E, Burgos G, Sosa P, et al. (2014) *PROCEDURES FOR SAMPLING AND SAMPLE PREPARATION of sweetpotato roots and potato tubers for mineral analysis*. CIP. Available from: <http://sweetpotatoknowledge.org/use-consumption/research-methods-and-tools/Procedures%20for%20sampling%20and%20sample%20preparation%20of%20sweetpotato%20roots%20and%20potato%20tubers%20for%20mineral%20analysis.pdf>.
- Quinn Patton M (2002) *Utilization-Focused Evaluation (U-Fe) Checklist*. Available from: www.wmich.edu/evalctr/archive_checklists/ufe.pdf.
- Quinn Patton M (2008) *Utilization-Focused Evaluation*. Fourth Edition edition. Thousand Oaks: SAGE Publications, Inc.
- Ruel MT and Alderman H (2013) Nutrition-sensitive interventions and programmes: how can they help to accelerate progress in improving maternal and child nutrition? *The Lancet* 382(9891): 536–551.
- Sandøe P, Adair L and Dias C (2006) *Research Ethics and the CGIAR*. CGIAR Science Council. Available from: http://library.cgiar.org/bitstream/handle/10947/4027/SC5_Item_11_Ethics_Study.pdf?sequence=1.
- Sridharan S, Tschirley D and Stark K (2015) *CRP-Commissioned External Evaluation of the Food Safety Research at the CGIAR Research Program on Agriculture for Nutrition and Health*. A4NH. Available from: http://www.a4nh.cgiar.org/files/2014/03/Report-of-External-Evaluation-of-A4NH-Food-Safety-Research_May-14-2015.pdf.
- Stein AJ (2015) The Poor, Malnutrition, Biofortification, and Biotechnology. Available from: <http://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780195397772.001.0001/oxfordhb-9780195397772-e-005> (accessed 8 September 2015).
- Sumner A, Ishmael-Perkins N and Lindstrom J (2009) Making Science of Influencing: Assessing the Impact of Development Research. *IDS Working Papers* 2009(335): 01–45.
- SUN Movement (2013) *State of the SUN Movement Progress Report*. Scaling Up Nutrition (SUN) movement. Available from: <http://scalingupnutrition.org/wp-content/uploads/2014/05/SUN-Progress-Report-2013-EN.pdf>.
- TANGO International (2015) *Theory of Change on Use of A4NH Research by INGOs: A Study prepared for the CGIAR Research Program on Agriculture for Nutrition and Health (A4NH)*.
- UK Government (undated) *Government Social Research Competency Framework*. Available from: <http://resources.civilservice.gov.uk/wp-content/uploads/2011/09/GSR-professional-competency-framework.pdf>.
- Unnevehr L and Grace D (2013) *Aflatoxins: Finding Solutions for Improved Food Safety: Tackling Aflatoxins: An Overview of Challenges and Solutions*. Focus 20, Washington, D.C. USA:

International Food Policy Research Institute. Available from:
http://www.ifpri.org/sites/default/files/publications/focus20_01.pdf.

Vogel I (2012) *Review of the use of 'Theory of Change' in international development*. UK Department for International Development. Available from:
r4d.dfid.gov.uk/pdf/outputs/mis_spc/DFID_ToC_Review_VogelV7.pdf.

Waized B, Ndyetabula D, Temu A, et al. (2015) *Promoting Biofortified Crops for Nutrition: Lessons from Orange-fleshed Sweet Potato (OFSP) in Tanzania*. Brighton, UK: Institute for Development Studies. Available from: <http://www.ids.ac.uk/publication/promoting-biofortified-crops-for-nutrition-lessons-from-orange-fleshed-sweet-potato-ofsp-in-tanzania> (accessed 1 June 2015).

World Bank OED (2003) *The CGIAR at 31: An Independent Meta-Evaluation of the Consultative Group on International Agricultural Research Volume 1: Overview Report*. World Bank Operations Evaluation Department. Available from:
[http://lnweb90.worldbank.org/oed/oeddoelib.nsf/DocUNIDViewForJavaSearch/726D2AAA78434F3A85256D2100742A27/\\$file/CGIAR.pdf](http://lnweb90.worldbank.org/oed/oeddoelib.nsf/DocUNIDViewForJavaSearch/726D2AAA78434F3A85256D2100742A27/$file/CGIAR.pdf) (accessed 8 September 2010).