



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

Volume 3: Annexes H – L

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RESEARCH
PROGRAM ON
Agriculture for
Nutrition
and Health

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Introduction and methods

This annex presents an analysis of A4NHs financial information. The main sources of data for this analysis were the information and data provided by Contracts and Grants Administrator of the A4NH PMU, the annual financial reports which the A4NH PMU submits to the Consortium Office¹, [IFPRIs audited financial statements and schedules](#), and the [annual financial reports of the CGIAR](#).²

An explanation of the different funding sources in the CGIAR is given in Table 1 below.

Table 1: Definitions of funding sources in the CGIAR

Type of funding	Definition
Window 1 funding (W1)	Donor funds to the CGIAR Fund which are the least restricted. The Fund Council decides how these funds are used, such as allocating them to CGIAR Research Programs, paying system costs or otherwise applying them to achieve the CGIAR mission
Window 2 funding (W2)	Contributions designated by Fund donors to specific CGIAR Research Programs. In phase 1, the Consortium treated Window 1 and Window 2 as interchangeable, so they are presented together in the figures as W1/W2.
Window 3 funding (W3)	Contributions allocated by Fund donors to specific CGIAR Centers
Bilateral funding	Grants that are received by Centers directly from donors, which can be unrestricted or restricted

Source: CGIAR Financial Report for Year 2013

Findings

The findings of the financial analysis have been divided into the following sections:

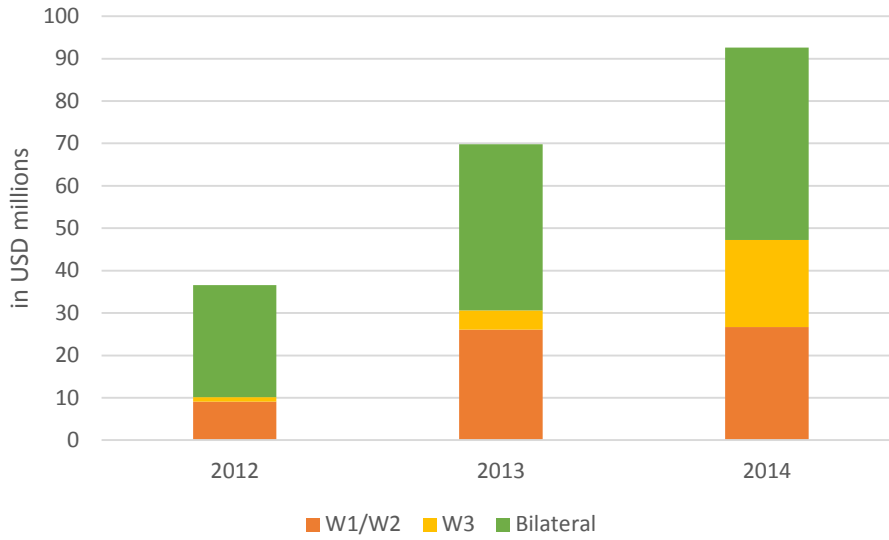
- A. Source of funding
- B. Expenditure by flagship
- C. Expenditure and funding by center
- D. Gender expenditure in 2014
- E. A4NH donors
- F. Comparison of W1/W2 funding with other sources

¹ These are submitted as part of the Annual Performance Monitoring Report to the CO and can be found [here](#). The evaluation team was provided with Excel version of these reports.

² At the time of this analysis, the 2014 report was not yet published

A. Source of funding

Figure 1: A4NH expenditure by funding source, actual amounts



Source: Evaluation team's analysis of A4NH Annual Financial Reports 2012, 2013 and 2014

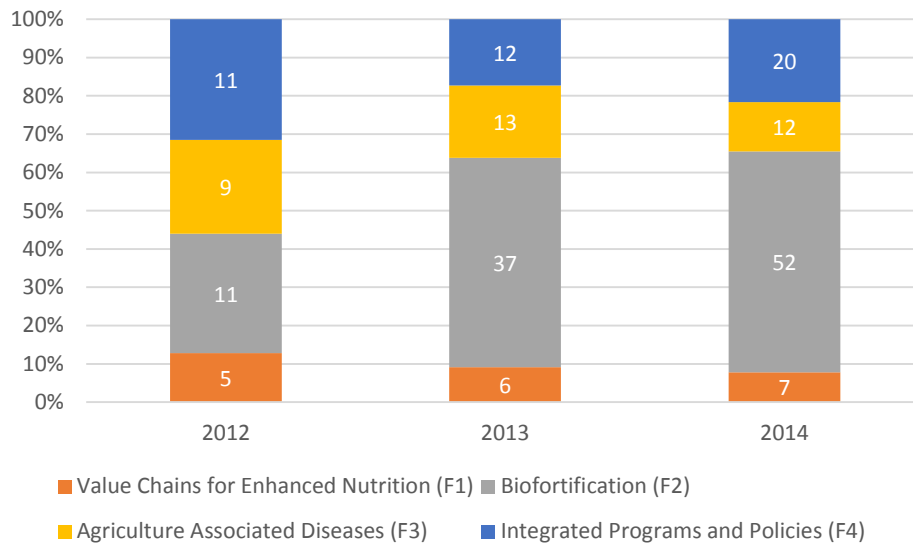
Figure 2: A4NH expenditure by funding source, percentages (actual amounts given in US\$ millions)



Source: Evaluation team's analysis of A4NH Annual Financial Reports 2012, 2013 and 2014

B. Expenditure by flagship

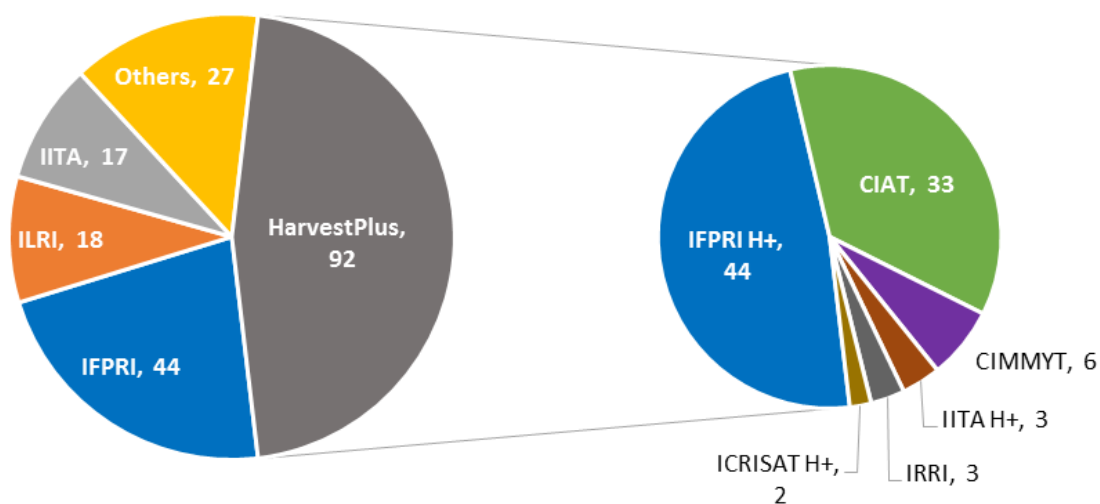
Figure 3: A4NH expenditure by flagship, percentages (actual amounts given in US\$ millions)



Source: Evaluation team's analysis of A4NH Annual Financial Reports 2012, 2013 and 2014

C. Expenditure and funding by center

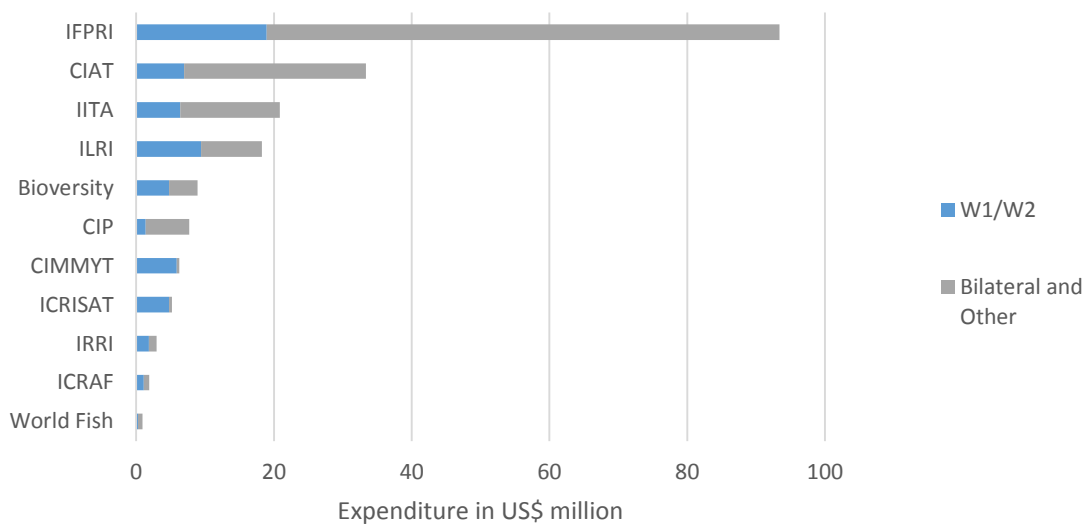
Figure 4: Expenditure by center in Phase 1 (HarvestPlus related expenditure combined)



Notes: Others includes expenditure by A4NH PMU, Bioversity, CIP, ICRAF, ICRISAT (other than HarvestPlus related expenditure) and WorldFish

Source: 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

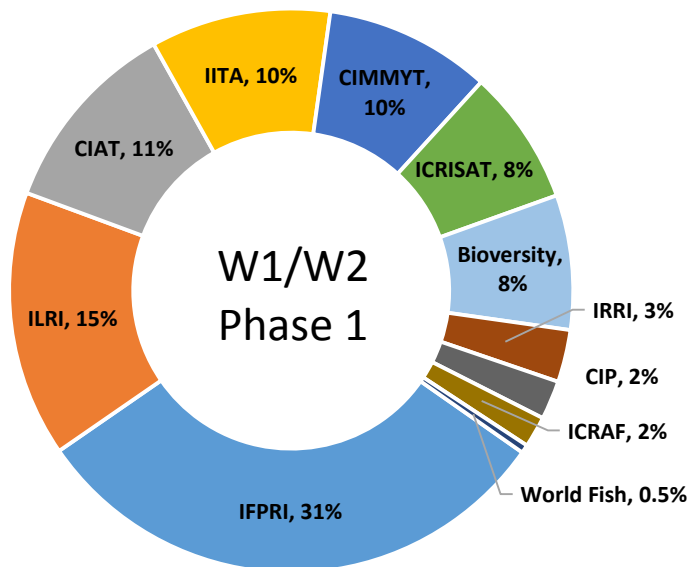
Figure 5: Center expenditure in Phase 1, by funding source



Notes: IFPRI includes HarvestPlus

Source: Evaluation team's analysis of A4NH Annual Financial Reports 2012, 2013 and 2014

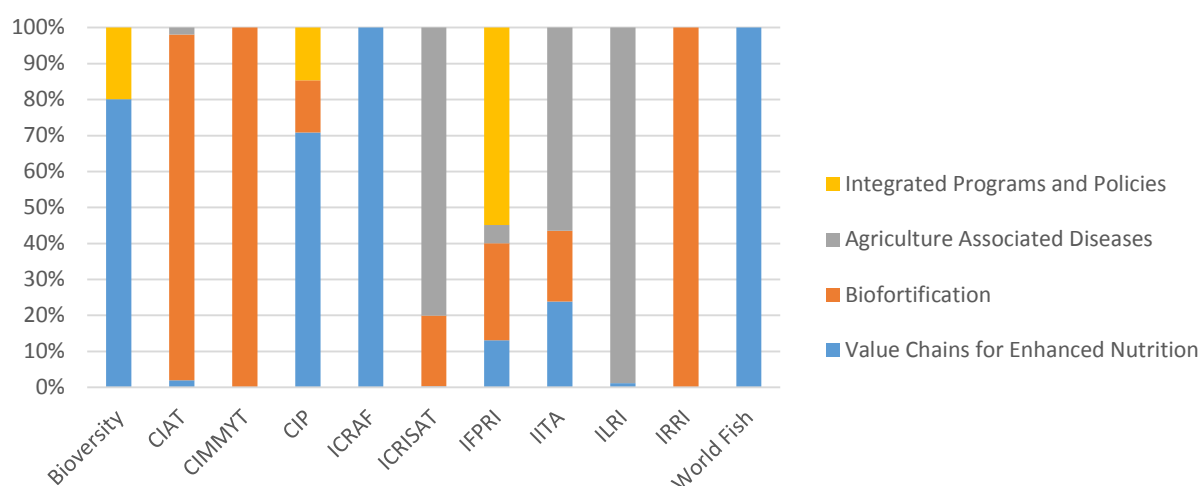
Figure 6: Distribution of W1/W2 funding among centers in Phase 1



Notes: IFPRI includes HarvestPlus

Source: Evaluation team's analysis of A4NH Annual Financial Reports 2012, 2013 and 2014

Figure 7: Distribution of expenditure on each flagship by center



Source: Evaluation team's analysis of A4NH Annual Financial Reports 2012, 2013 and 2014

D. Gender expenditure in 2014

Table 2: Gender expenditure in 2014, by flagship

Flagship	Expenditure		% of expenditure on gender
	Gender	Total	
F4 Integrated Programs and Policies	9	20	46%
F3 Agricultural Associated Diseases	2	12	17%
F2 Biofortification	1	52	3%
F1 Value chains for enhanced nutrition	0.1	7	2%
Total A4NH	12	91	14%

Notes: Amounts in US\$ millions, gender expenditure was not reported in 2012 and 2013

Source: Evaluation team's analysis of A4NH Annual Financial Reports 2014

Table 3: Gender expenditure in 2014, by center³

Center	Expenditure		% of expenditure on gender
	Gender	Total	
IFPRI	9	22	41%
CIMMYT	0.9	4	24%
ILRI	1	6	23%
ICRISAT	0.2	2	10%
IITA	0.4	8	5%
CIP	0.1	3	2%
World Fish	0.01	0.4	2%
Bioversity	0.04	4	1%
CIAT	0.2	21	1%
IFPRI HarvestPlus	0.2	20	1%
ICRAF	0.01	1	1%
IRRI	0.02	2	1%
Total A4NH	12	93	13%

³ Difference in total expenditure and consequently percentage of expenditure spent on gender is different in Tables 2 and 3 as the former does not include expenditure on A4NH PMU

Notes: Amounts in US\$ millions, IFPRI includes expenditure by A4NH PMU, gender expenditure was not reported in 2012 and 2013.

Source: Evaluation team's analysis of A4NH financial reports 2014

E. A4NH donors

Centers records donors as the source where the funds are coming from. In some cases these might not come directly from a donor but through a third party which has contracted a CGIAR center. We classified some of these donors from the list reported in A4NH to reflect actual bilateral donors. There may still be some in the list which could not be reclassified as information was not easily available. The numbers in Table 4 are therefore approximate.

HarvestPlus appears to be one of the larger donors in the A4NH list. Following the logic stated in the paragraph, HarvestPlus funding also was broken down into its bilateral donors according to the proportion of funding each of these donors provided to HarvestPlus in 2012, 2013 and 2014. The information on HarvestPlus donors was obtained from IFPRI's Financial Statements. (See Table 5 for a list of donors excluding HarvestPlus).

The following donors were reclassified:

Donor as listed in A4NH Financial Report	Bilateral donor(s) for the project
FHI	USAID, Gates
Meridian	USAID
MSSRF	DFID
JSI Res. & Training/USAID	USAID
Helen Keller Intl./USAID	USAID
Save the Children/USAID	USAID
CIAT/IFPRI, CIAT, IFPRI	HarvestPlus
HarvestPlus	BMZ-GIZ, Gates, DFID, Sygenta Foundation, CGIAR Stability Funding, Zinc Project Group and other sources of income

Table 4: List of A4NH donors

Donors	2012	2013	2014	2012 - 14	%
DFID	2	17	23	41	18%
Bill and Melinda Gates Foundation	9	18	5	33	14%
USAID	4	9	7	20	9%
USAID/WB	4	-	7	11	5%
IDRC	5	0.1	-	6	2%
The Netherlands	4	0.1	-	4	2%
ACIAR	1	2	0.4	4	2%
UNEP-GEF	0.5	-	0.5	3	1%
European Commission	1	1	-	2	1%
Germany-GIZ	0.3	0.5	1.2	2	1%
Other donors	4	5	21	30	13%
CGIAR	6	38	27	78	31%
Total funding for A4NH	43	93	92	228	100%

Notes: Amounts in US\$ million

Source: Evaluation team's analysis of A4NH Annual Financial Reports and IFPRI Financial Statements and Schedules for 2012, 2013 and 2014

Table 5: List of donors, excluding HarvestPlus

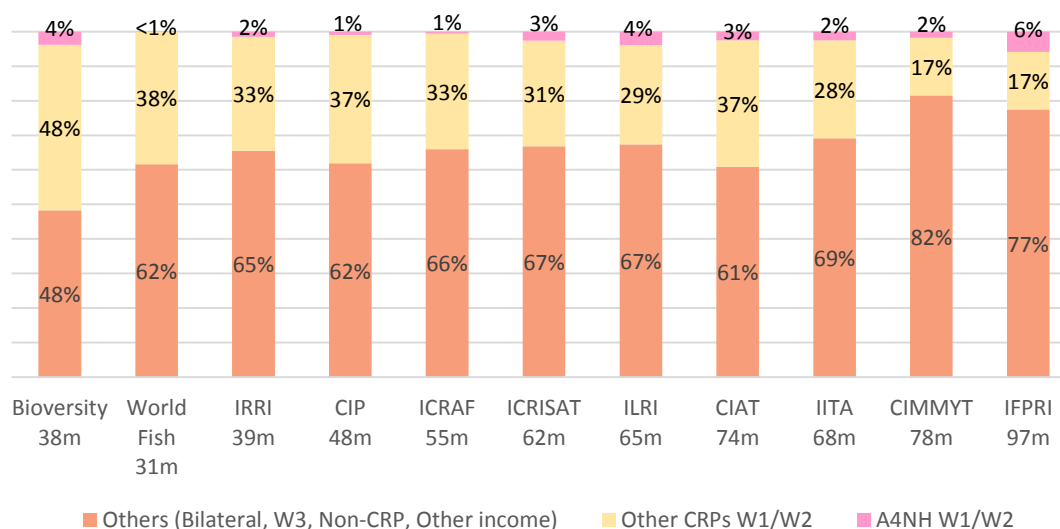
Donors	2012	2013	2014	2012 - 14	%
Bill and Melinda Gates Foundation	5	5	5	14	9%
USAID	3	7	3	14	8%
USAID/WB	4	-	7	11	7%
DFID	2	1	3	6	3%
IDRC	5	0.1	-	6	3%
The Netherlands	4	0.1	-	4	3%
ACIAR	1	2	0.4	4	2%
UNEP-GEF	0.5	2	1	3	2%
European Commission	1	1	-	2	1%
DFATD	-	-	2	2	1%
Other donors	4	5	19	28	17%
CGIAR	4	38	27	69	42%
Total A4NH, excluding H+	34	62	67	162	100%

Notes: Amounts in US\$ million; For 2012-14, HarvestPlus is principally funded by DFID (36%), Gates (25%) and United States (8%). The main donors for the rest of A4NH are shown in Table 3

Source: Evaluation team's analysis of A4NH Annual Financial Reports for 2012, 2013 and 2014

F. Comparison of W1/W2 funding with other sources

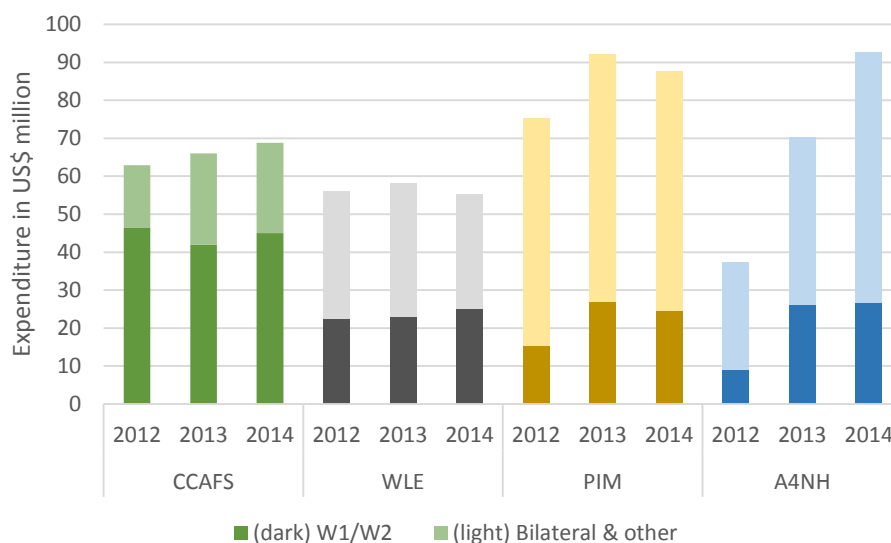
Figure 8: CRP W1/W2 funding versus other funding for A4NH centers, annual averages for 2012 and 2013⁴



Source: Evaluation team's analysis of CGIAR Financial Reports for Years 2012 and 2013

⁴ The 2014 financial report was not available when this analysis was carried out

Figure 9: Comparison of funding source for integrative CRPs, Phase 1



Source: Evaluation team's analysis of CGIAR Financial Reports for Years 2012 and 2013 and CGIAR Preliminary Financial Report 2014

References

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ANNEX I – ANALYSIS OF RESEARCH PROJECT PLANNING AND REPORTING DOCUMENTATION

Introduction

One of the sources of evidence in this evaluation was an analysis of program documents of a sample of research projects in A4NH. The objective of the document review exercise was to enable the evaluation team to provide some quantitative information about project processes such as planning and reporting and the extent to which project documentation is available on topics such as gender objectives, research ethics and capacity building. The review is predicated on the importance of documentation for use by management and for broader accountability, concepts that are discussed in the main report.

Methods

Sampling strategy

The sampling process consisted of two parts due to the differences in the structure of Flagship 2 (Biofortification, which is dominated by the HarvestPlus program)⁵. For Flagships 1, 3 and 4 a sample of projects was selected from the A4NH project database managed by the A4NH Program Management Unit⁶; for Flagship 2 a sample of sub-projects were chosen from a list of contracts maintained by Harvest Plus.

The A4NH project database contains 81 projects⁷ under Flagships 1, 3 and 4 and Cross-Cutting projects. The majority have project budgets of around \$1-\$2 million.

The sampling process involved the following steps:

- Excluding three 'cross-cutting' projects in the database judged unsuitable for this document analysis exercise.
- For accountability purposes, purposively sampling the highest-spending projects in the database (the eight with budgets of over \$3M, which collectively account for 42% of the total budget for these Flagships)
- Stratifying the remaining projects by Flagship and Cluster (see Table 1 for structure of sampling universe and Table 2 for the distribution of the final sample).

⁵Two different sampling processes were followed as HarvestPlus, which consists of several sub-projects and accounts for \$100 million of funding is shown as one project in the A4NH database

⁶ The database is visible to A4NH affiliated staff through the internal website, Teamspace.

⁷ As of 6th February 2015. 'Base Allocations' to certain CGIAR centers and 'Unplanned Deliverables' are also included in the database but as these are not projects they have been not been included in this sampling exercise

Table 1: Structure of sampling universe

Flagships/Clusters	Number of projects	Percentage
Flagship 1	22	31%
VCN-assessments	15	21%
VCN-interventions	5	7%
VCN-landscapes	2	3%
Flagship 3	34	49%
AAD-disease risks	13	7%
AAD-food safety, aflatoxins	16	19%
AAD-food safety, perishables	5	23%
Flagship 4	14	20%
IPP-cross-sectoral policies	3	4%
IPP-nutrition-sensitive agriculture	6	9%
IPP-nutrition-sensitive development	5	7%
Total projects in sampling universe	70	100 %

Source: Evaluation team, based on A4NH project database

Table 2: Structure of final sample from stratified random sampling

Flagships and Clusters	Large projects	Randomized sample	Total in sample
Flagship 1			
VCN-assessments	1	4	5
VCN-interventions		2	2
VCN-landscapes		1	1
Flagship 3			
AAD-disease risks		4	4
AAD-food safety, aflatoxins		5	5
AAD-food safety, perishables	1	2	3
Flagship 4			
IPP-cross-sectoral policies	2	1	3
IPP-nutrition-sensitive agriculture	1	2	3
IPP-nutrition-sensitive development	3	1	4
Total sample size	8	22	30

Source: Evaluation team, based on A4NH project database

- a. Taking a random sample of 40 projects from the stratified sample, weighted by the number of projects in each, for a project pool⁸.

Microsoft Excel has been used to draw the sample. A random number was generated for each project and then sorted from smallest to largest. Projects with the smallest random numbers were selected within each cluster. The number of projects selected for each cluster

⁸ The reason for creating the project pool is to have an agreed list of randomly-selected projects which were downloaded from the database on a specific date, that can be used as a project list for randomized resampling if we want to add additional projects later in the analysis (for example due to high variability).

were then rounded up or down (maximum by 1) to ensure that (a) total sample size does not change and (b) there is at least one project selected from each cluster.

- b. Taking a weighted stratified random subsample of 22 from the project pool.
- c. The total number of projects to be sampled in the initial analysis is then 30 – that is the sum of the 8 purposive (large) projects plus the 22 from the stratified random sample. See Table 3 and Table 4 for a list of these projects.

Table 3: Purposively-selected large projects (budget over \$3M)

Project Name	Lead Center	Flagship	Research Cluster	Total Budget
USAID Horticulture Project, CIP/AVRDC Bangladesh	CIP	1	VCN-assessments	\$9.2m
PROMIS: Prevention of Malnutrition through Integrated Systems (PROMIS) - CIDA	IFPRI-PHND	4	IPP-nutrition-sensitive development	\$7.2m
PM2A: Preventing malnutrition in children under 2 years of age (PM2A)	IFPRI-PHND	4	IPP-nutrition-sensitive development	\$6.6 m
Alive & Thrive (A&T)	IFPRI-PHND	4	IPP-nutrition-sensitive development	\$6.2m
Making agricultural innovations work for smallholder farmers affected by HIV/AIDS in southern Africa	IITA	4	IPP-nutrition-sensitive agriculture	\$6m
TN: Transform Nutrition Research Program Consortium	IFPRI-PHND	4	IPP-cross-sectoral policies	\$5m
Mainstreaming biodiversity conservation and sustainable use for improved human nutrition and well-being – Biodiversity for Food and Nutrition Project	Bioversity	4	IPP-cross-sectoral policies	\$4.1m
Reducing disease risks and improving food safety in small pig value chains in Vietnam (Pig Risk)	ILRI	3	AAD-food safety, perishables	\$3.4m

Source: Evaluation team, based on A4NH project database

Table 4: Selected projects from stratified randomized sampling (total 22 projects)

Project Title	Lead Center	Flagship	Research Cluster	Total Budget
Leveraging fruit value chains for sustainable and healthier diets in Kenya and Peru	ICRAF	1	VCN-assessments	\$0.1m
Investigating the current and potential role of local biodiversity in meeting nutritional requirements for complementary foods of infants and young children in Southern Benin	Bioversity	1	VCN-assessments	\$2.43m
Improve food quality and diets of nutritionally disadvantaged populations especially women and children	IITA	1	VCN-assessments	\$1.96m
Building a Framework for Assessing the Impacts of Efforts to Enhance Access to Nutritious Foods Through In-depth Analysis of the Grameen Danone Case	ILRI	1	VCN-assessments	\$0.1m
Improving nutritional health of women and children through increased utilization of local agrobiodiversity in Kenya (INULA)	Bioversity	1	VCN-interventions	\$1.88m
The effects of market integration on the nutritional contributions of traditional foods to the wellbeing of the rural poor in Africa	Bioversity	1	VCN-interventions	\$0.81m

Project Title	Lead Center	Flagship	Research Cluster	Total Budget
Nutrition Sensitive Landscapes	Bioversity	1	VCN-landscapes	\$0.67m
Dynamic Drivers of Disease in Africa: Ecosystems, livestock/wildlife, health and wellbeing (DDDAC)	ILRI	3	AAD-disease risks	\$1.18m
An integrated response system for emerging infectious diseases in East Africa (ICIPE)	ILRI	3	AAD-disease risks	N/A
Developing a lateral flow test for cysticercosis	ILRI	3	AAD-disease risks	\$1.07m
Healthy Futures	ILRI	3	AAD-disease risks	\$0.66m
Integrated pre and post-harvest management strategies to mitigate aflatoxin contamination	ICRISAT	3	AAD-food safety, aflatoxins	\$0.79m
Identifying International Public Goods in Food Safety	IFPRI-MTID	3	AAD-food safety, aflatoxins	\$1.02m
Mycotoxin contamination in Rwanda: quantifying the problem in maize and cassava in households and markets, and sensitization of targeted stakeholders based on a cost-benefit analysis	IITA	3	AAD-food safety, aflatoxins	\$0.28m
Partnership for Aflatoxin Control in Africa (PACA) - Expansion of biological control in Africa; Testing of large-scale manufacturing model for aflasafe	IITA	3	AAD-food safety, aflatoxins	\$1.78m
AgResult Aflasafe Pilot Project	IITA	3	AAD-food safety, aflatoxins	\$1.6m
Risk based approaches to improving food safety and market access in smallholder meat, milk, fish value chains in four African countries (Safe Food Fair Food)	ILRI	3	AAD-food safety, perishables	\$2.45m
Rapid assessment of potential benefits to human health and nutrition from research on livestock and fish market chains in Asia and Africa (RIA)	ILRI	3	AAD-food safety, perishables	\$0.36m
Expanding policy research	IFPRI-PHND	4	IPP-cross-sectoral policies	\$0.53m
HKI: Strengthening and evaluating HKI's homestead food production program in Burkina Faso	IFPRI-PHND	4	IPP-nutrition-sensitive agriculture	\$0.63m
RAIN: Realigning agriculture to improve nutrition	IFPRI-PHND	4	IPP-nutrition-sensitive agriculture	\$0.49m
Mali SNACK project evaluation	IFPRI-PHND	4	IPP-nutrition-sensitive development	\$0.95m

Source: Evaluation team, based on A4NH project database

Sampling from Flagship 2 projects

HarvestPlus maintains a database of over 200 research/institutional contracts which are classified according to country, crop and micronutrient. Additionally contracts are also classified according to type of activity (breeding, nutrition, delivery and impact). Sampling for Flagship 2 involved the following steps:

1. Narrowing down of the list of contracts to specific country/crop/micronutrient combinations. This was done in consultation with HarvestPlus management. The countries chosen were in line with the evaluation team’s plans for country visits. The following combinations were selected:
 - Nigeria/cassava/vitamin A
 - India/ pearl millet/iron
 - Bangladesh/rice/zinc
2. The narrowed list of contracts (n = 26), was stratified according to country and type of activity Table 5 shows the final structure of the sampling) and one contract was randomly chosen for each type of activity in each country.⁹ Since not all countries had all types of contracts, the total number of contracts chosen for review was eight. Table 6 lists the final sample.

Table 5: Structure of final sample from HarvestPlus contracts

Type of activity	Bangladesh	India	Nigeria	Total
Breeding	1	1	1	3
Nutrition	1	1	1	3
Delivery	-	-	1	1
Impact	-	-	1	1
Total	2	2	4	8

Source: Evaluation team, based on information provided by HarvestPlus

Table 6: Final sample of HarvestPlus contracts

Project Title	Country	Crop	Type
Testing Novel Biomarkers of Zinc Status for Use in Human Zinc Supplementation Trials: Phase IV	Bangladesh	Rice	Nutrition
Development of high-zinc rice for Bangladesh and Eastern India	Bangladesh/ India	Rice	Breeding
Partnership-based genetic enhancement of pearl millet for high grain iron density for improved human nutrition in India	India	Pearl Millet	Breeding
Effect of Iron and Zinc biofortified Pearl Millet Consumption on Growth, Immune competence, and cognitive function in children	India	Pearl Millet	Nutrition
Enhancing the nutritional quality of cassava roots to improve the livelihoods of million of farmers in marginal agriculture land	Nigeria	Cassava	Breeding
Multiplication and Dissemination of vitamin A cassava in Ondo State	Nigeria	Cassava	Delivery
Cassava varietal adoption study in three states in Nigeria: Data analysis, reporting and working paper writing	Nigeria	Cassava	Impact
Beta-carotene absorption and bioconversion to vitamin A in a biofortified cassava gari meal and a white cassava gari meal with added red palm oil	Nigeria	Cassava	Nutrition

Source: Evaluation team, based on information provided by HarvestPlus

Document review scoring process

1. The available project documents for each of the sampled projects (from here onwards ‘projects’ refers to A4NH projects as well as HarvestPlus contracts) were reviewed by members of the evaluation team. A checklist was developed for the assessment which

⁹ Randomization was done on Microsoft Excel

included topics such as consultation, analysis, objectives, impact pathway, science quality, monitoring and reporting and capacity development. A full list of criteria can be found in

Table 7: Document review scoring checklist and aggregate results

2. . These were individually judged and were assigned a scoring category. In order of importance the three possible scoring categories are:
 - Accessible and clear – The project documents are clear in their discussion of a particular criterion. Example: the description of consultation with the country government names the specific Ministries/institutions consulted, and briefly mentions the nature of the consultation (an event, written comments etc.)
 - Accessible – The project documentation mentions a particular criterion but does not give sufficient details. Example: The project document mentions only that “the government was consulted” without further details.
 - Not easily accessible – The evaluation team was unable to find any documentation on a criterion in the documents they reviewed, or (in a few cases) the information was buried in a remote document¹⁰.

It should be noted that the focus of this exercise was on the quality of documentation pragmatically accessible to managers and decision-makers. This means that even if a project had carried out an activity (e.g. ethics review or a consultation) but had no evidence of it doing so in its documentation (available to the evaluation team), the relevant criterion would be judged as not accessible.

Another important caveat was that the review team was not able to make a reliable judgment of how relevant a particular indicator was in this exercise. There might be cases where a particular indicator in the list (e.g. gender, policy or environment) might not be applicable to the project, and this would then mean that the overall percentages are understated in Table 7. However – as a glance through the lists of projects in Tables 2, 3 and 4 will show – we feel that this is not likely to be a widespread problem.

The individual project scoring sheets were shared with the relevant project PIs and CFPs for their review and comments, and to give them a chance to provide additional documents that the evaluation team may not have seen. Not all of the PIs/CFPs responded, therefore it is likely that our analysis underestimates the availability of project documentation to some extent.

Findings

3. The scoring sheets of the 38 sampled projects were compiled together to calculate aggregate numbers. In this section, some of the main findings from the review are discussed while the complete set of results can be found in Table 7.
4. **Consultation:** About a third of projects document consultations with governments and/or end-users but only a small proportion have clear details of the nature of the consultation. While partners were consulted by over half the projects, a very small number of the sampled

¹⁰ This was rare, but one example was that a helpful Principal Investigator sent us over 50 project-related documents to supplement the main project documentation held by A4NH. The ethical approval for the research was mentioned in one of these additional documents.

projects have documentation of consultation within the CGIAR. Only a quarter of the projects document any consultation with end-users on the products of their research.

5. **Awareness of A4NH and A4NH policies:** Only 37% of the sampled projects mention A4NH (even once) in their project documentation. A very small number (2 and 4) mention the A4NH partnership and gender strategies respectively. Many projects started before A4NH was set up and before its strategies were drafted so it would be unreasonable to expect their documentation to make such references. However, even many of the newer projects do not allude to A4NH partnership and gender strategies when they speak about these topics in the context of their own research.
6. **Objectives and analysis:** A high number of projects (87%) clearly discuss previous research in their documentation and situate the project in context. However, only 37% discuss why the CGIAR was well-placed to undertake the research, and only a small fraction (11%) include any ex-ante economic appraisal of costs and benefits of the research.
 - a. About half of the projects specify some policy objectives and two-fifths of the sampled projects discuss the policy and/or regulatory environments of the countries where the project is/was being conducted in.
 - b. Gender is covered in a background paper to the evaluation. In this sample, over two thirds (68%) state gender objectives, but only in a third are gender issues visible in the impact pathway. Of projects with gender objectives, about three-fifths of them have 'practical' gender objectives (i.e. they recognize gender differences), while the rest have 'transformational' aspirations.
7. **Impact pathway:** Two-thirds of the projects have clear outcomes and outputs specified, but only 5 of the 38 sampled projects (13%) link these to CGIARs System-Level Outcomes (SLOs) and Intermediate Development Outcomes (IDOs). The proportion of projects outlining key assumptions and risks in their impact pathways is also fairly low (37%).
8. **Monitoring and reporting:** The documents of 70% of the sampled projects mention indicators that can be used to measure the success of its activities. While almost half of the sampled projects disaggregate the key indicators by gender, less than 15% do so by other socio-economic groups. In three-fifths of the projects, there is evidence of regular reporting against the M&E framework, or plans to do so in the course of the project. But in a third of these projects, the reporting mechanism is not clearly discussed. A very small number of research projects report any external reviews being conducted.
9. **Partnerships:** A large number of projects (84%) clearly specify the partners they will be working with and four-fifths of these (68% of the total sample) clearly define the roles and responsibilities of each partner. As discussed earlier, very few projects refer to the A4NH partnership strategy.
10. **Science quality:** Almost all (95%) of projects report the methodologies and/or protocols to be utilized, but about 30% of these do so in only in very general terms.
 - a. Only a quarter of the sampled projects document ethical clearance for the research. It is likely that in many cases this is simply that documentation was not filed with A4NH; however we also have interview evidence that not all Centers require ethical

clearance for agricultural research involving interviews with households (for example).

11. **Capacity development:** In three-fourths of the sampled projects, there is evidence of some capacity-building in its project documentation. Most projects mention training beneficiaries to use products or technologies developed (58%) and about half of the projects build capacity in research methods (47%). Only 37% of the sampled projects mention capacity development in policy - and only half of these provide clear details.

Table 7: Document review scoring checklist and aggregate results

Broad Topic	Specific Category	Not accessible	Accessible	Accessible and clear	
CONSULTATION	Consultation within/across CGIAR	87%	13%	8%	
	Consultation with partners	42%	58%	39%	
	Consultation with governments	61%	39%	24%	
	Consultation with end-users/"beneficiaries"	68%	32%	18%	
KEY POLICIES	A4NH mentioned (at all)	63%	37%	37%	
	A4NH/CG Gender strategy mentioned	89%	11%	11%	
	National policies of countries mentioned	61%	39%	39%	
ANALYSIS	Situated in previous research	13%	87%	74%	
	Rationale for CGIAR value added	63%	37%	34%	
	Policy/regulatory environment discussed	61%	39%	37%	
	Cost benefit analysis (ex-ante appraisal)	89%	11%	11%	
OBJECTIVES	Clear target population specified	42%	58%	42%	
	Ultimate target numbers estimated	66%	34%	24%	
	Specific gender objectives	32%	68%	68%	
	<i>Of which: Practical gender objectives</i>				58%
	<i>Transformational gender objectives</i>				42%
	Specific policy objectives	55%	45%	32%	
IMPACT PATHWAY	Visible links to CGIAR IDOs and SLOs	87%	13%	13%	
	Clear outputs and outcomes	34%	66%	50%	
	Key assumptions and risks specified	63%	37%	34%	
	Gender reflected in pathway	66%	34%	18%	
	Policy reflected	63%	37%	24%	
	Environmental issues addressed	71%	29%	21%	
PARTNERSHIPS	A4NH Partnership strategy mentioned	95%	5%	5%	
	Clear partners specified	16%	84%	79%	
	Roles and responsibilities clear	32%	68%	63%	
SCIENCE QUALITY	Methods and protocols clear	5%	95%	68%	
	Evidence of peer review used ex-ante	95%	5%	5%	
	Ethics addressed	76%	24%	24%	
	Consultation with users on products	74%	26%	16%	
RESOURCES	Resource problems noted	66%	34%	34%	
CAPACITY DEVELOPMENT	Capdev in research methods	53%	47%	42%	
	Capdev in use of products/technologies	42%	58%	42%	
MONITORING AND REPORTING	Capdev in policy	63%	37%	21%	
	Monitoring responsibilities clear	58%	42%	37%	
	Measurable indicators	32%	68%	55%	
	Key indicators disaggregated by gender	55%	45%	32%	
	Key indicators disaggregated by other groups	87%	13%	8%	
	Regular reporting against M&E framework	37%	63%	42%	
External reviews conducted	92%	8%	5%		

Source: Evaluation team

Introduction

The A4NH PMU is to be praised for having made significant investments in developing monitoring systems, in contrast to some other CRPs¹¹. It has ‘projectized’ its research and regularly collects information on progress from research project PIs via their Centers. This information has been used to good effect in developing Center Performance Reports for each collaborating Center in A4NH (2015, unpublished) and in PMU discussions with Center management about factors affecting progress.

However, in methodological terms, there is no easy way to measure progress against CRP research outputs at an aggregate level. Monitoring systems (both those of the Consortium and of A4NH) report the sum of wildly differing outputs - e.g. policy changes, trials, publications, new varieties, training courses and people trained - as if they were equivalent. Moreover, the data is subject to numerous classification errors, despite the best efforts of those attempting to monitor the outputs. For example the Consortium list of products contains no place to put published ‘policy briefs’ (a common output of research projects), so these have all been categorized under “policies analyzed stage 1”, which is clearly misleading.

The only measure which can be roughly compared across groups is the number of ISI publications. However this measure favors “publish or perish” research groups (as well as individual researchers who invest time in writing up the same study from several angles) over those which concentrate less of their time on writing for a scientific audience.

Nevertheless, this is what information is currently available on outputs and publications. This annex explains how we got to the figures presented in the main evaluation report, based on our own analysis of existing A4NH databases and reports to the Consortium. The detailed results should be treated with caution, but we still discern some general points of interest.

‘Deliverables’ in the A4NH database

The A4NH PMU manages a database of all projects that each center maps to A4NH, based on each center’s project work plans.¹² In each work plan, centers list the ‘deliverables’ they expect to achieve in the project and the year in which they expect to complete the deliverable. Deliverables are self-defined by research leaders.

This database has been used to analyze the progress of deliverables at the end of the first phase. Our analysis was most recently updated using the version of the database accessed on 26 June 2015. Along with the database¹³, we have extracted information from the 2015 A4NH Center Performance Summaries mentioned above.

In general, this analysis follows a similar approach and terminologies as the Center Performance Summaries. The number of deliverables reported correspond to the sum of each “deliverable entry”

¹¹ For example, one recommendation from the evaluation of PIM (the other CRP hosted by IFPRI) was that the CRP projectise its research and put a monitoring system in place (IEA, 2015)

¹² This database is hosted on A4NHs internal website, Teamspace

¹³ As of 26 June 2015

in the work plan and not necessarily the actual number of products delivered. For instance, a deliverable from one project might include one publication, while another reported by another project might contain more than one publication. Similarly some Centers, for example, have reported a training course as a deliverable achievement while other Centers have listed the number of individuals trained.

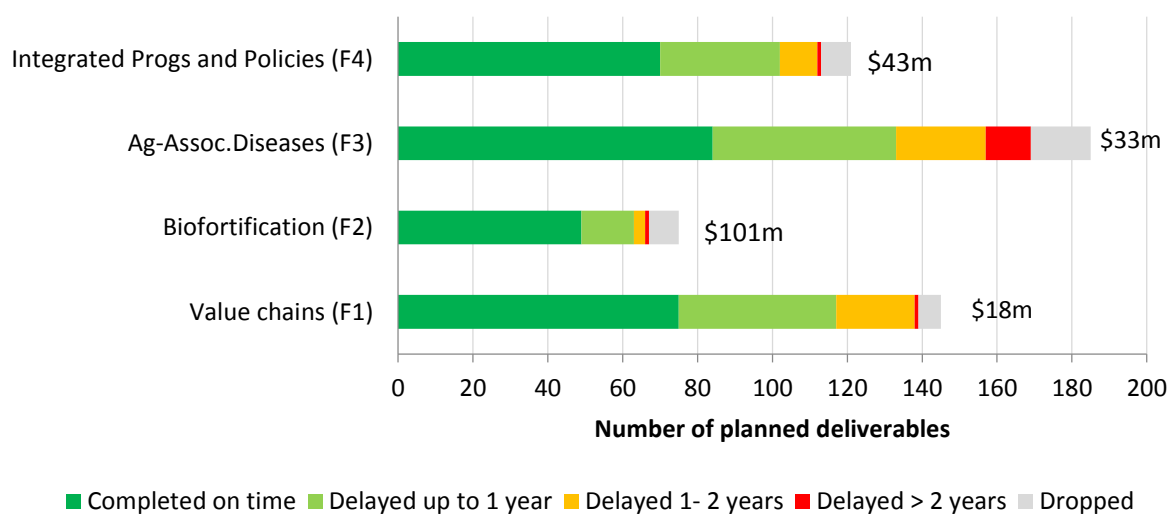
Terminologies used (adapted from the Center Performance Summaries):

- ‘Completed on time’ is the sum of deliverables completed in the target year of completion during Phase 1
- ‘Delayed deliverables’ are those were delayed during Phase 1, or are still delayed
- ‘Dropped’ refers to deliverables that were removed during Phase 1 (by decision of the research project leaders).

The analysis, done at the levels of a flagship, cluster and center, is reported in sub-sections 1, 2 and 3 respectively. As mentioned in the Center Performance Summaries, the numbers reported, and those that have been used for this analysis, are ‘best estimates’ as the work plans have been revised in each year and so the total number of planned deliverable has also varied slightly.

1. Performance by Flagship

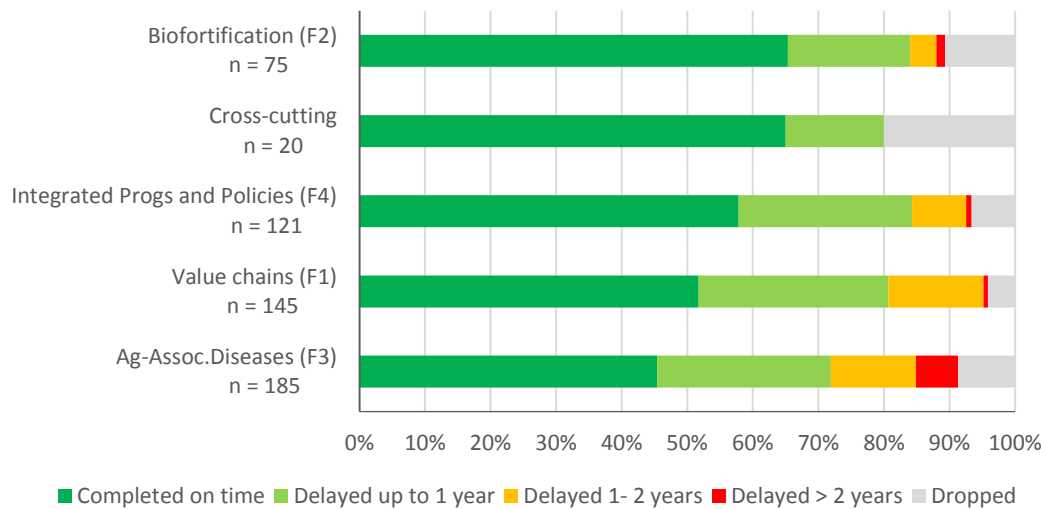
Figure 1: Number of deliverables planned in A4NH Phase 1 (2012 – 2014)



Notes: Figures in the graph are total flagship expenditure in Phase 1

Source: Evaluation teams’ analysis based on the A4NH project database, performance summaries for Phase 1 and A4NH Financial Reports for 2012, 2013 and 2014

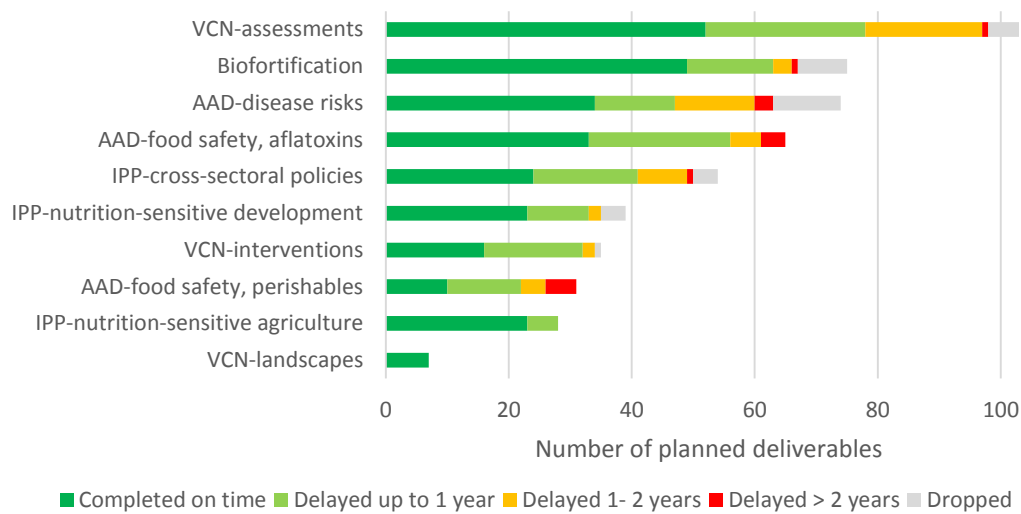
Figure 2: Number of deliverables planned in A4NH Phase 1 (2012 – 2014), performance in percentages



Source: Evaluation teams’ analysis based on the A4NH project database and performance summaries for Phase 1

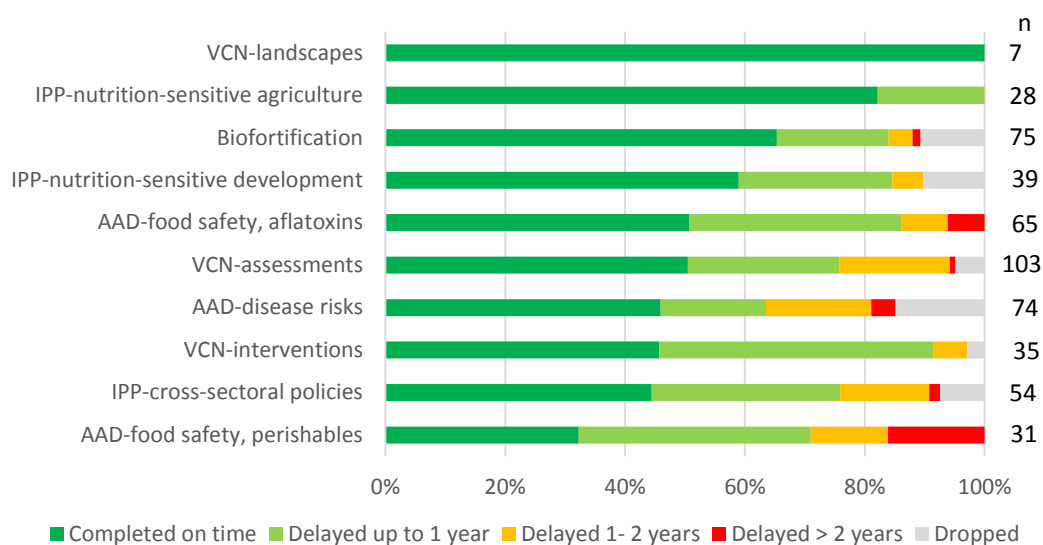
2. Performance by cluster

Figure 3: Performance of deliverables by clusters, in absolute numbers



Source: Evaluation teams’ analysis based on the A4NH project database and performance summaries for Phase 1

Figure 4: Performance of deliverables by cluster, in percentages

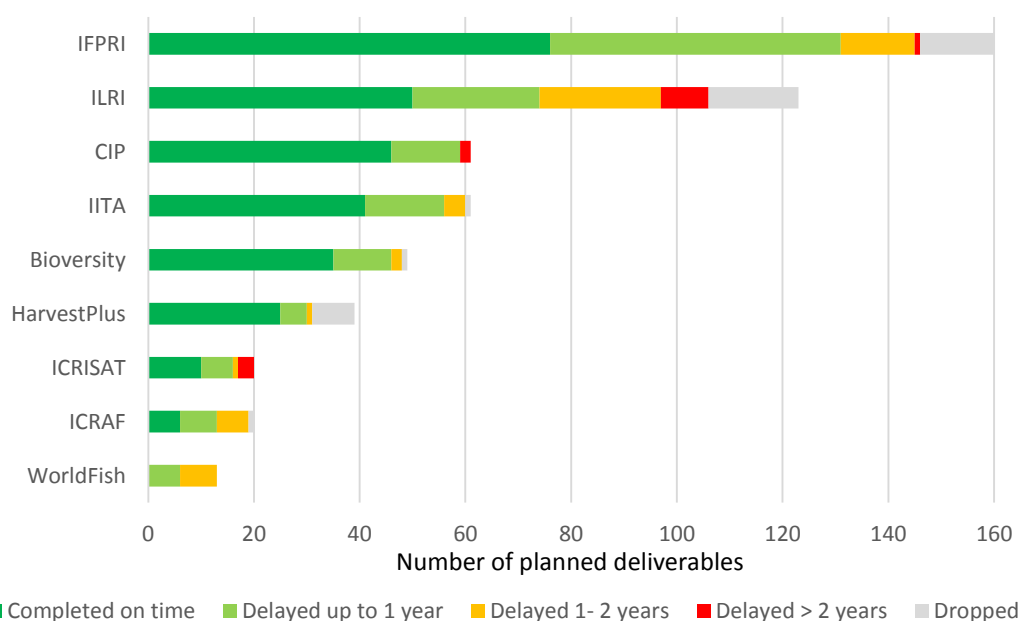


Notes: n is the total number of planned deliverables in a cluster

Source: Evaluation teams' analysis based on the A4NH project database and performance summaries for Phase 1

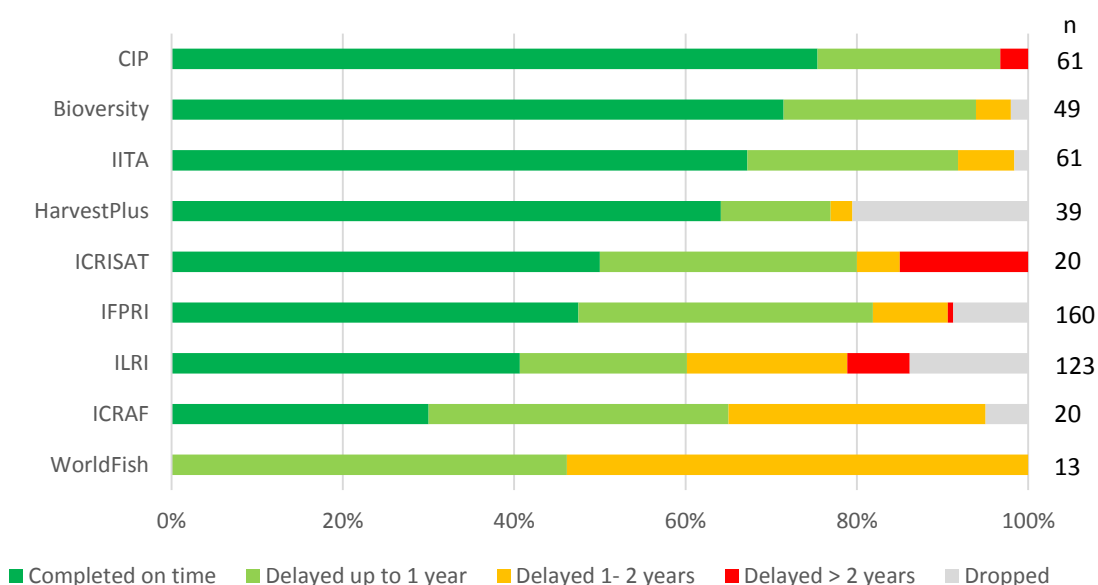
3. Performance by center

Figure 5: Performance of deliverables by center, in absolute numbers



Source: Evaluation teams' analysis based on the A4NH project database and performance summaries for Phase 1

Figure 6: Performance of deliverables by center, in percentages



Notes: n is the total number of planned deliverables for a center

Source: Evaluation teams' analysis based on the A4NH project database and performance summaries for Phase 1

Analysis of 'dropped' deliverables

Forty two planned deliverables from 17 projects (about 8% of planned Phase 1 deliverables) were marked as 'terminated' in the A4NH database. 40% of those were in Flagship 3, and 22 (over half) were from 3 projects (although one of those 'projects' was HarvestPlus). Over two thirds of terminated deliverables (69%) were planned research activities. About three quarters (77%) of these were described as "progress reports" or "research reports" although the remaining quarter listed very specific surveys, trials and lab analyses that had been planned. The remainder were downstream outputs such as published research papers (12% of total) tools and methods, policy work and workshops.

In 10 cases (23% of the total) there was no explanation given to A4NH PMU for dropping the deliverable. For those where an explanation was provided (n=33): in only one case (3% of total) was a deliverable deliberately dropped due to a management decision. The remainder were all related to funding in some way. In 39% of cases, delays in delivery ran into funding problems in the following period: this particularly affected deliverables for 2014, where it appeared that some researchers had been expecting CGIAR W1/W2 funding to be carried forward to the CRP extension phase, and were disappointed. In another 18% of cases, funding did not come up to original expectations, or was suddenly cut back either by the CGIAR fund or a bilateral donor, so that not all planned activities were covered. In the final 39% of cases, it appeared that deliverables were not actually dropped from the program, but researchers had restructured responsibilities or switched their reporting away from A4NH to other "donors"; reasons for this were not always given, but in some cases this was stated to be due to an unexpected drop in funding from the CGIAR fund.

'Research products' reported to Consortium

The Consortium Office (CO) requires each CRP to report progress on the research products produced and technologies that have been developed by the CRPs. These are reported in Annex 1 of the Annual Performance Monitoring Report that is prepared by the A4NH PMU every year. The CO has developed a set of indicators that each CRP reports against. Details on these indicators and the definitions used can be found in the [template for the annual reports](#) created by the CO. Most of the titles are self-explanatory; the term 'flagship products' refers to products that are significant enough to likely change the way stakeholders think and act (CGIAR Consortium, 2014). Table 1 lists the 'flagship products' produced by A4NH.

Table 1: Flagship products of A4NH, 2012 - 2014

Flagship Product	Year	Center
Sustainable Diets & Biodiversity-Directions & Solutions for Policy, Research & Action	2012	Bioversity
Orange-flesh sweet potato (OSP) fully in deployment	2012	HP
High iron bean fully in deployment	2012	HP
High iron pearl millet fully in deployment	2012	HP
DFID report mapping and prioritizing zoonoses and poverty	2012	ILRI
Pathogen detection platform	2012	ILRI
Diversifying food & diets: using agri biodiversity to improve nutrition and health	2013	Bioversity
Vitamin A cassava	2013	HP
Vitamin A maize	2013	HP
2013 Lancet paper on nutrition-sensitive interventions and programmes	2013	IFPRI-PHND
2013 Lancet paper on the politics of reducing malnutrition	2013	IFPRI-PHND
2020 Focus Briefs on aflatoxins	2013	ILRI
Intensification and disease emergence framework in PNAS	2013	ILRI
Zinc rice fully deployed in Bangladesh	2014	HP
Zinc wheat test marketed in India	2014	HP
Strategic gender assessment	2014	HP
Biofortification Prioritization Index	2014	HP
2nd Global Conference on Biofortification in Rwanda	2014	HP
Innovative marketing strategies	2014	HP
Promotion of the concept Convergent Innovation for Food System	2014	IFPRI-NDO
Publication and launch of the <i>Global Nutrition Report</i> and related products	2014	IFPRI-PHND
<i>Together for Nutrition Conference</i> in India	2014	IFPRI-PHND
HANCI products	2014	IFPRI-PHND
"Linear Growth Deficit Continues to Accumulate beyond the First 1000 Days in Low- and Middle-Income Countries: Global Evidence from 51 National Surveys" in <i>Journal of Nutrition</i>	2014	IFPRI-PHND
Publication on the link between increasing income and associated changes in diet, unhealthy weight gain and child growth in <i>Journal of Nutrition</i>	2014	IFPRI-PHND
<i>Measuring Progress toward Empowerment</i> , a cross country baseline report based on analyses of the WEAI in 13 Feed the Future Initiative countries	2014	IFPRI-PHND
Publication of <i>Food Safety and Informal Markets</i> book	2014	ILRI
Interactive livestock distribution maps available on a geo-wiki	2014	ILRI

Source: Annex 1 tables in A4NH Annual Performance Monitoring Reports for 2012, 2013 and 2014

Table 2 shows the achievements of A4NH (as a whole and by center) in Phase 1 using the indicators reported to the CO.

Table 2: Annex 1 indicators for 2012-14, by center

Annex 1 indicator	AVRDC ¹⁴	BIOV	CIP	HP	ICRAF	ICRIS AT	IITA	ILRI	IFPRI	WF	Total A4NH
Flagship products	-	2		11	-	-	-	6	9	-	28
Tools	-	6	9	11	1	-	6	5	5	-	43*
Open access databases	-	4		3	3	1	1	3	5	-	20*
Strategic VCs analyzed	1	2	6	4	6		3	32	14	2	70*
Technologies/NRM practices released by public and private sector partners globally (Phase I)	-	-	1	3	3	4	5	5	-	1	22
Technologies/NRM practices released by public and private sector partners globally (Phase II)	-	-	11	10	1	1	2	5	1	-	31
Technologies/NRM practices released by public and private sector partners globally (Phase III)	-	-	2	12	-	-	3	7	-	-	24
Policies/Regulations/Administrative Procedures Analyzed (Stage 1)	-	5	1	2	-	-	1	17	9	1	36
Policies...Drafted and presented for public/stakeholder consultation (Stage 2)	-	-	1	5	-	-	-	2	7	-	15
Policies...presented for legislation (Stage 3)	-	-		3	-	-	-	-	-	-	3
Policies...prepared/passed/approved (Stage 4)	-	-	2	1	-	-	-	-	1	-	4
Hectares under improved technologies or management practices as a result of CRP research	-	-	23	7385	-	-	-	-	-	-	7,408
Farmers and others who have applied new technologies or management practices as a result of CRP research	-	-	516	1m	-	-	4623	-	-	-	1.09 m
ISI Publications	-	8	1	101	5	7	14	114	104	1	355*

*totals have one or more item that has been double counted as it was jointly produced by two centers

Source: Evaluation teams' analysis based on Annex 1 tables in A4NH Annual Performance Monitoring Reports for 2012, 2013 and 2014

Estimating product "reach"

For the evaluation, we classified these indicators according to the scale of its reach i.e. whether the research, product or technology is applicable to a specific context or is applicable more widely (see Table 3)¹⁵. This calculation gives an extremely rough estimate of the scale of a particular piece of research. However it is important to note that 'local vs global reach' cannot be taken as a reliable proxy for the measurement of 'local vs global public goods'. Local research may well have a global

¹⁴ While AVRDC is not a CGIAR center, it received a seed grant from A4NH and its publication was reported by A4NH to the Consortium Office in their annual report

¹⁵ ISI publications (which are greater in number than all other indicators combined) have been excluded from this list and are analysed separately

research question in mind, and we cannot determine that from these data. Having said this, identifying that there is a widespread focus on adapting technology for locally-specific contexts – although clearly an important thing to do - could feed into wider debates about the CGIAR’s comparative advantage and whether it has been “dragged downstream” by donor pressures to “deliver”, into areas of adaptive research and extension that might arguably be better handled by national systems.

We have used four categories to define reach. These are:

- Global: Research/technology/product has worldwide reach e.g. the Global Nutrition Report dataset
- Multicountry: Research/technology/product has reach in more than one country or in a region e.g. Food Composition tables for Africa
- National: Research/technology/product limited to one country e.g. the Bangladesh Integrated Household Survey (2011-12)
- Local: Research/technology/product limited to certain regions of a country, e.g. Database on socio-demographic, anthropometry, biomarkers, and 24-hour recall for women and children under 5 in Akwa Ibom State, Nigeria

Table 3: Scale of Annex 1 indicators reported by A4NH to the Consortium Office

Indicators	Global	Multicountry	National	Local	Total
Flagship products	19	5	4		28
Tools	12	4	23	3	42
Open access databases	10	2	4	3	19
Strategic VCs analyzed	1		64	4	69
Technologies/NRM practices released by public and private sector partners globally (Phase I)	5	6	10	1	22
Technologies/NRM practices released by public and private sector partners globally (Phase II)	3	6	22		31
Technologies/NRM practices released by public and private sector partners globally (Phase III)		2	22		24
Policies/Regulations/Administrative Procedures Analyzed (Stage 1)	16	7	12		35
Policies...Drafted and presented for public/stakeholder consultation (Stage 2)	4		9	1	14
Policies...presented for legislation (Stage 3)			3		3
Policies...prepared/passed/approved (Stage 4)			2	2	4
Hectares under improved technologies or management practices as a result of CRP research		7,385		23	7,408
Farmers and others who have applied new technologies or management practices as a result of CRP research	1,084,000	4,623 (100 females, 4,523 males)	516		1,089,139
Total	70	32	175	14	291

Notes: Total excludes the last two indicators (improved hectares and farmers)

Source: Evaluation teams’ analysis based on Annex 1 tables in A4NH Annual Performance Monitoring Reports for 2012, 2013 and 2014

Table 4: Key consortium indicators, by reach

Consortium indicator	Global	Multicountry	National	Local	Total	n
"Flagship products" released	68%	18%	14%	0%	100%	28
"Tools" released	29%	10%	55%	7%	100%	42
Databases published open access	53%	11%	21%	16%	100%	19
Value chains 'analysed'	1%	0%	93%	6%	100%	69
Technologies released (all stages)	10%	18%	70%	1%	100%	77
Policies influenced (stages 2-4)	19%	0%	67%	14%	100%	21
Farmers applied new technologies (no. of reports)	1,084,000 (1)	4,623 (1)	516 (1)			
<i>of which: number of men (if reported)</i>		4,523	126			
<i>number of women (if reported)</i>		100	390			

Source: Evaluation teams' analysis based on Annex 1 tables in A4NH Annual Performance Monitoring Reports for 2012, 2013 and 2014

An analysis of indicators by flagship (Table 5) shows that Flagship 3 (AAD) reported the largest number of 'products' overall, but that Flagship 4, Integrated Programs and Policies had half of its products being assessed as of global reach. Overall, three-fifths of A4NHs products are focused at national level.

Table 5: Scale of Annex 1 indicators produced by A4NH, by flagship

Flagships	Global	Multicountry	National	Local	n
F4 - Integrated Programs and Policies	55%	16%	24%	5%	38
F3 - Agriculture Associated Diseases	22%	15%	61%	2%	103
F1 - Value Chains for Enhanced Nutrition	18%	3%	68%	11%	62
F2 - Biofortification	17%	12%	67%	4%	93
Overall A4NH	24%	11%	59%	5%	296

Source: Evaluation teams' analysis based on Annex 1 tables in A4NH Annual Performance Monitoring Reports for 2012, 2013 and 2014

Research publications

Introduction and methods

This section contains results and analysis from the publications review exercise carried out by the evaluation team which contributes to the Science Quality and Gender and Equity research questions of the evaluation.¹⁶ The publications review exercise was divided into two components:

1. a bibliometrics analysis of A4NH publications to determine the productivity and impact of A4NH research (Science Quality)
2. assessment of gender and equity issues covered in A4NH publications

For the purpose of this exercise, ‘publications’ refer to A4NH publications that have been published in ISI journals. As part of its Annual Report to the Consortium, the A4NH PMU compiles a list of A4NH ISI publications in collaboration with participating centers.¹⁷ There are in total 338 ISI publications in the first three years of A4NH (2012 – 2014). Table 6 shows the number of publications in each of the four Flagships.

Table 6: Number of ISI publications produced by A4NH, by flagship and year

Flagships	2012	2013	2014	2012 -14
1 – Value Chains for Nutrition	3	6	11	20
2 – Biofortification	46	24	23	93
3 – Agriculture Associated Diseases	42	33	56	131
4 – Integrated Programs and Policies	23	21	47	91
Flagships 2 and 4	3	0	0	3
Total A4NH ISI publications	117	84	137	338
<i>Of which core</i>	<i>110</i>	<i>79</i>	<i>131</i>	<i>320</i>

Source: Evaluation team’s analysis of Annex 1 tables in A4NH Annual Performance Monitoring Reports for 2012, 2013 and 2014

The following steps were taken to obtain a list of publications for the review exercise:

1. The list of publications was reviewed to remove those publications that were identified by Flagship leaders (at the request of the evaluation team) as not core to the A4NH program and research objectives. Examples of such publications are: “On the Structure and Function of the Phytoene Desaturase CRTI from *Pantoea ananatis*, a Membrane-Peripheral and FAD-Dependent Oxidase/Isomerase” (Schuab et. al. 2012) in Flagship 2 or “Effect of health insurance and facility quality improvement on blood pressure in adults with hypertension in Nigeria: a population-based study” (Henriks et. al. 2014) in Flagship 4. These publications (all from A4NH researchers) constituted about 5% of the total reported to the CO.
2. Only publications from 2013 and 2014 were included. There are two main reasons for excluding publications from 2012. (1)After the first year there were improvements in the reporting by centers of ISI publications mapped to A4NH. (2) It is more likely for 2012 publications to include research that was conducted before A4NH started.

¹⁶ The evaluation team is grateful to the A4NH gender team, especially Sophie Theis (Research Analysis, PHND) for their assistance with the gender review component of this exercise and to Indira Yerramareddy, Information and Knowledge Specialist with the Communications and Knowledge Management (CKM) division of IFPRI for helping us with the bibliometrics analysis.

¹⁷ This list is given under Annex 1 of the Annual Report

3. There were a few publications reported in Annex 1 that were in non-ISI journals. These have been removed. Similarly, publications that were reported twice by error have also been removed.
4. The publications analysis was conducted on all publications in 2013 and 2014.

Bibliometrics Analysis

There are several ways the impact of published research can be assessed. Since this exercise is a small component of the evaluation, two common metrics have been utilized – the number of citations for each publication and the impact factor of the journal the research has been published in.

Citation analysis

To determine the number of citations for each of the sampled publications, two sources have been used: [Web of Science](#) (WoS) and [Google Scholar](#) (GS). Web of Science (published by Thomas Reuters) reports citations in other ISI publications while Google Scholar has a broader net and includes, in addition to ISI publications, citations in other sources such as books, working papers and other journals. It is likely that our analysis underestimates the research impact of a publication as number of citations tend to increase with time for the first few years after publication. Table 7 which compares number of citations of 2013 publications and 2014 publications shows that a larger proportion of 2013 publications had more than five citations compared to 2014 publications.

Table 7: Citation analysis, by year

Number of citations	2013 n=79		2014 n=131	
	GS	WoS	GS	WoS
0	4%	9%	26%	40%
1-2	11%	29%	29%	37%
3-5	20%	32%	18%	16%
6-10	28%	15%	16%	5%
More than 10	37%	15%	11%	2%
Overall	100%	100%	100%	100%

Source: Evaluation team's analysis of Annex 1 tables in A4NH Annual Performance Monitoring Reports for 2013 and 2014 using citation data from Google Scholar and Web of Science compiled on 26 August 2015

As a result, only publications from 2013 have been used for further analysis. Table 8 shows an analysis of citation numbers of publications from 2013 disaggregated by flagship. Most publications from 2013 have more than 6 citations on Google Scholar and a third of 2013 publications have more than six citations according to Web of Science. A very small proportion (GS = 4%, WoS = 10%) do not have a single citation. It is difficult to compare Flagship 1 (Value Chains) with the other three flagships as it has a considerably lower number of publications compared to the others (6 compared to over 20 publications in other flagships). The three flagships have approximately the same proportion of publications with more than 10 citations. However, there is no clear trend for other categories and it varies according to the source of citation numbers (GS or WoS) being used. For example, in terms of citations from GS, Flagships 2 and 4 have a great proportion of publications with more than five citations as compared to Flagship 3 but all three flagships have a similar

percentage of publications with no citations. According to Web of Science data, Flagship 4 has a larger proportion of publications without any citations while almost half (43%) of Flagship 3 publications have one or two citations.

Benchmarking other CRPs

A comparison of citations of A4NH publications with other CRPs shows that A4NH is in line with other CRPs (that have been evaluated so far) in terms of publications with more than 10 citations (CGIAR-IEA, 2015a, 2015b, 2015c, 2014). However, since the CRPs vary with regards to field of research they operate in this comparison should be treated with caution as the likelihood of a publication being cited can vary across subjects.

Table 8: Citations analysis by flagship for A4NH research published in 2013

Number of citations	Flagship 1 n=6		Flagship 2 n=24		Flagship 3 n=28		Flagship 4 n=21		Total n=79	
	GS	WoS	GS	WoS	GS	WoS	GS	WoS	GS	WoS
0	0%	33%	4%	4%	4%	7%	5%	10%	4%	9%
1-2	17%	33%	4%	17%	14%	43%	14%	24%	11%	29%
3-5	17%	33%	17%	42%	29%	18%	14%	38%	20%	32%
6-10	67%	0%	38%	25%	14%	11%	24%	14%	28%	15%
More than 10	0%	0%	38%	13%	39%	21%	43%	14%	37%	15%
Overall	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: Google Scholar (GS) and Web of Science (WoS)

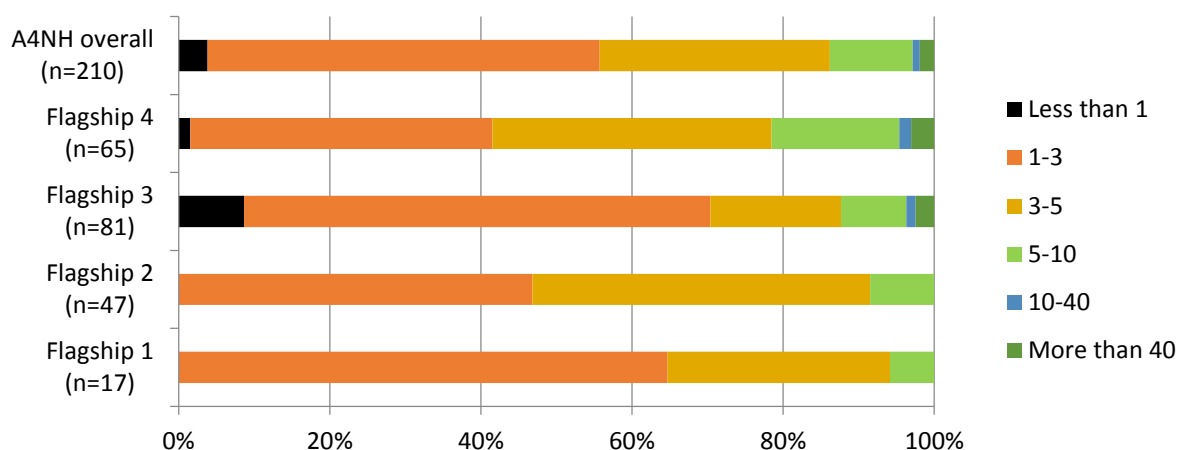
Note: Data on citations compiled on 26 August 2015

Journal impact factor

The impact factor of a journal is ‘a measure of the frequency with which an "average article" in the journal has been cited in a particular year or period’.¹⁸ About half of A4NH publications in 2013 and 2014 (52%) have been published in journals with an impact factor between 1 and 3 and 12% of publications in journals with an impact factor of over 5 (see Figure 7). A4NH average impact factor for publications published in 2013 and 2014 removing four outliers (3 in Lancet, Impact Factor 45.2 and one in nature, impact factor 41.5) is 2.94. Impact factors for other CRPs are: MAIZE 2.27 for all articles published in 2012-14 (calculated from Table 4-2 in the MAIZE evaluation report); WHEAT 2.34, for all articles published in 2012-14 (calculated from Table 4-2 in WHEAT evaluation report.

¹⁸ See <http://wokinfo.com/essays/impact-factor/> for more information on journal impact factors

Figure 7: Journal impact factor of A4NH publications in 2013 and 2014



Source: Journal impact factors from [InCites Journal Citation Reports 2014](#)

A4NH research covers a broad range of subject categories, for example, Economics, Biology, Agronomy, Veterinary science. Simple journal impact factor as described earlier does not account for the field of the research. To assess the standing of a journal in its field, we compared its impact factor with other journals in the same subject category (see Table 9) to calculate a ratio of a journal impact factor to the median impact factor of journals in the subject category. Some journals belong to multiple subject categories and for such journals the ratio was averaged across subject categories.

About 85% of A4NH research is published in journals which have an impact factor greater than the median of its field. All of Flagship 2s research is published in journals which have a greater impact factor than the subject median. Almost half of all A4NH publications have been given a ‘high’ rank as they have been published in journals with impact factors more than 1.5 times the median of the field. However, there are some differences across flagships. Flagships 1 and 2, for example, have little or no research that has been published in journals with an impact factor of less than 1 while 17% of Flagship 3 and 22% of Flagship 4 publications are in journals with impact factors of less than 1. There are some publications in Flagships 3 and 4 that have been published in journals with impact factor more than 10 times the field median.

Table 9: Ranking of impact factor of journals within subject fields, by flagship (for years 2013 & 2014)

Ranking	Flagship 1 n=17	Flagship 2 n=47	Flagship 3 n=81	Flagship 4 n=65	Total A4NH n=210
Extremely high (>10 times median of field)	0%	0%	5%	3%	3%
Very high (3 - 10 times median of field)	12%	28%	12%	9%	15%
High (1.5-3 times median of field)	35%	62%	41%	51%	48%
Moderate (1-1.5 times median of field)	47%	11%	25%	15%	20%
Under median (<1 times median of field)	6%	0%	17%	22%	14%
Total	100%	100%	100%	100%	100%

Source: Evaluation team’s calculations and analysis based on A4NH publication data from Annex 1 of Annual Reports to the CGIAR for 2013 and 2014 and bibliometrics data from [Incites Journal Citation Report 2014](#)

Assessment of gender and equity issues in A4NH publications

A sample of publications were reviewed by the evaluation team (with the support of the gender team on gender questions) to check for the following criteria:

Gender

- Is the study focused on women or are women the target group of the program being evaluated?
- Does the publication report any data that is disaggregated by sex?
- Does the publication have any gender research questions?

Equity

- Does the publication report any data that is disaggregated by an indicator of equity (e.g. location of respondent/household, income/wealth, ethnicity, social status)?
- What are the key equity issues discussed, if any, in the publication?

If the research and/or the publication was such that data could not be disaggregated by gender or equity, for example, research that only involved laboratory analysis it was marked as not relevant for this analysis

The following steps were taken to obtain a sample of publications for the gender and equity review:

1. The list of publications were restricted to 2014 only as emphasis on gender reporting was increased in the latter half of Phase 1 of A4NH
2. A random sample of 9 publications was taken from each flagship. The total size of the sample was 36. Microsoft Excel was used to assign random numbers to the list of publications and 9 publications with the smallest random numbers in each flagship were chosen to be part of the sample. To ensure that a single project was not over-represented, the number of publications from a project was restricted to two.

Tables Table 10 and Table 11 report the results of the analysis including the number of publications, within our sample, that are relevant to this analysis. Only a third of sampled publications from the Biofortification flagship are relevant while all the publications in the IPP flagship are relevant.

In general, in our sample, there were low levels of gender-related and equity-related research. Only 8% of relevant publications in our sample had some gender research questions, and only 20% included a discussion on equity issues in their analysis. All these publications belonged either to the Value Chains flagship or the IPP flagship.

Table 10: Gender assessment of sampled publications

Flagship	Total no of publications sampled	Number of relevant publications	Calculated as a percentage of relevant publications		
			Women as target group	Sex-disaggregated data	Gender research questions
1 – Value Chains for Nutrition	9	5	40%	60%	20%
2 –Biofortification	9	3	0%	0%	0%
3 – Agriculture Associated Diseases	9	7	0%	14%	0%
4 – Integrated Programs and Policies	9	9	33%	11%	11%
Total sample	36	24	21%	21%	8%

Source: Evaluation team

Table 11: Equity assessment of sampled publications

Flagship	Total no of publications sampled	No of relevant publications	Calculated as a percentage of relevant publications			
			Some equity disaggregated data	No equity issues discussed	Ethnicity discussed	Location/Income discussed
1 – Value Chains for Nutrition	9	5	60%	40%	0%	60%
2 –Biofortification	9	3	0%	100%	0%	0%
3 – Agriculture Associated Diseases	9	7	14%	100%	0%	0%
4 – Integrated Programs and Policies	9	9	44%	78%	11%	11%
Total sample	36	24	22%	79%	4%	17%

Source: Evaluation team

A fifth of the publications in our sample were focused on women and a similar proportion reported data that is disaggregated by sex. However, most of the publications that report sex-disaggregated data did not utilize it in their analysis. None of the publications in the Biofortification flagship and only one in the Agriculture-Associated Diseases flagship reported sex-disaggregated data or have women as the focus of their research studies.

A very small proportion of the sample (about a quarter) collected data that is disaggregated by some measure of equity. Like gender, some of these studies reported equity-disaggregated data but have not necessarily used it in the discussion of results and in the analysis. Of the 5 studies that discussed an equity issue, one publication (from the IPP flagship) included ethnicity differences while analyzing data, four publications (3 from the Value Chains flagship, 1 from the IPP flagship) discussed the impact of a rural versus an urban location, or income/consumption of the survey respondent, or both.

Publication productivity

We calculated the number of ISI publications that have been produced by each center in relation to the total A4NH funding it has received (see Table 12). For most centers, the total number of

publications is too small to calculate a meaningful ratio. A comparison of the remaining four (ILRI, IFPRI, HarvestPlus and IITA) show there to be great variability across Centers. This data should not be quoted uncritically: it is potentially subject to reporting errors, in particular whether Centers/projects report their ISI publications to A4NH or to other CRPs¹⁹. Table Table 13Table 14 shows the changes in productivity of A4NH across the three years of Phase 1 while Table 14 compares A4NH to other CRPs. The productivity of A4NH (in terms of publications) is lower than the average across the CGIAR but is close to two other integrative CRPs (CCAFS and PIM).

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 institutions²⁰, based on a number of published papers, estimated between 0.6 and 5 publications per 100k.

Table 12: Publications to funding ratio

Center	Number of ISI publications 2012- 14 (core)	Total A4NH funding 2012- 14 (US\$ million)	Publications/ \$100k expenditure
ILRI	99	18	0.6
IFPRI	103	44	0.2
HarvestPlus	100	87	0.1
Bioversity	8	9	0.09
IITA	12	21	0.06
ICRAF	5	2	0.3 (small n)
ICRISAT	7	5	0.1 (small n)
World Fish	1	1	0.1 (small n)
CIP	1	8	0.01 (small n)
Total A4NH	332*	195	0.2

Notes: *total is less than the sum of the row as four publications have been jointly produced by two centers Staff data are unreliable which is why funding was used as a proxy; however current publications are based on past funding.

Source: Evaluation teams' analysis based on Annex 1 tables in A4NH Annual Performance Monitoring Reports for 2012, 2013 and 2014 and A4NH Financial Reports for 2012, 2013 and 2014

Table 13: A4NH publication productivity in Phase 1

Year	Number of 'core' ISI pubs	Total expenditure (US\$m)	Publications /\$m	Cost/publication (\$000)
2012	110	37	3.0	336
2013	79	70	1.2	886
2014	131	93	1.4	710

Source: Evaluation teams' analysis based on Annex 1 tables in A4NH Annual Performance Monitoring Reports for 2012, 2013 and 2014 and A4NH Financial Reports for 2012, 2013 and 2014

¹⁹ PMU comments: We suspect reporting errors, which have already been identified and we are trying to document them. Even for something as straightforward as ISI publications (vs the more nebulous categories of tools or products), Centers were not sure how to report to A4NH - was it by scientist affiliated with A4NH or anything topically related to A4NH, for example.

²⁰ See <https://researchremix.wordpress.com/2011/02/23/papers-per-dollar/>

Table 14: Comparison of A4NHs publication productivity with other CRPs

CRP	ISI publications/\$m		Cost/publication 2013 (\$000)
	2012	2013	
A4NH	3.1	1.3	753
Aquatic Agricultural Systems	1.5	1.1	897
Climate Change and Food Security	1.2	1.5	673
Dryland Cereals	3.4	3.3	308
Dryland Systems		0.8	1,207
Forests, Trees and Agroforestry	2.1	3.1	322
Grain Legumes	0.7	1.7	585
Humidtropics		1.5	684
Livestock & Fish	4.9	3.2	312
Policies, Institutions & Markets	1.4	1.0	959
MAIZE	1.5	2.5	401
GRiSP	2.2	2.6	382
Roots, Tubers and Bananas	1.5	1.4	699
Water, Land & Environment		4.1	247
WHEAT	3	3.7	273
All CRPs (excl Genebanks)	2	2.1	472

Source: 2012 figures from (Ash, 2013), 2013 figures calculated by evaluation team using various CRP Annual Performance Monitoring Reports for 2013 and CGIAR Annual Report 2013

Portfolio analysis

The evaluation team carried out a mini-portfolio analysis of evaluations carried out under the value chains for nutrition flagship (Flagship 1) and the integrated programs flagship (Flagship 4). For Flagship 1 this included projects in the 'Interventions' and 'Assessments' clusters²¹ and for Flagship 4, projects in the 'Nutrition-sensitive agriculture' and 'Nutrition-sensitive development clusters'. We extracted information from the project descriptions in the A4NH projects database and, in certain cases, project documents were also used. The research projects were classified into two categories: (1) types (e.g. the commodity in the case of value chain interventions, or the type of intervention evaluated in the case of the integrated programs flagship) and (2) partner countries where the project is being carried out. Tables Table 15 and Table 16 summarize the findings.

²¹ Two projects from Flagship 1 have been excluded from the analysis as these projects relate to frameworks for value chain assessments and do not focus on any specific commodity

Table 15: Portfolio analysis of value chains interventions and assessments in Flagship 1

Type of value chain	Number of projects	Number of countries
Agro biodiversity	4	4
Cassava and potato	1	4
Dairy	2	2
Dried small fish	2	1
Fruit	3	6
Livestock	1	1
Orange fleshed sweet potato	1	1
Pulses	1	1
Soybean	1	2
Various	2	5
School-feeding	1	3

Source: Evaluation team's analysis of project information from the A4NH projects database

Table 16: Portfolio analysis of programs evaluated in Flagship 4

Type of intervention	Number of projects	Number of countries
Agricultural practices and input use	1	2
Cash transfer with BCC	2	1
Food rations, health and BCC	1	2
Homestead food production and BCC	4	3
Innovations approach to improve agricultural productivity and nutrition targeted to HIV affected communities	1	4
Metrics for diet diversity	1	N/A
Multi-sectoral nutrition interventions	2	6
Nutrition interventions only	1	3
Orange fleshed sweet potato and health services	2	1
Nutrition screening platforms with BCC	1	3

Notes: BCC = Behavioral change communication

Source: Evaluation team's analysis of project information from the A4NH projects database

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Summary

There were 148 responses by CGIAR staff working with the CGIAR Research Program (CRP) on Agriculture, Nutrition and Health (A4NH) to a short ‘mini-survey’ on the pros and cons of working through A4NH/CRPs²². More people agreed (51%) than disagreed (18%) that it is more effective to work through A4NH than directly through Centers, although a substantial fraction (30%) were “not sure”. Only a small fraction (about 3%) said that they “strongly disagree” that it is more effective working through A4NH, in contrast to the 20% who “strongly agree”.

In response to open questions on positive and negative aspects of working with A4NH, nearly half of those who commented cited better coordination across Centers and disciplines as a major plus point of working with A4NH. Other frequently-cited advantages were the inspiring mission and leadership in this CRP, the improved potential for practical impact of the research, the flexible funding supporting new areas of work, and the opportunities for learning and professional development.

Asked for the most negative aspects of working with A4NH/CRPs, nearly half of those who commented cited increased workloads due to the additional layer of planning, reporting and financial administration created by CRPs, while one in six comments highlighted the problem of unstable funding. (Reduced administration and stable funding were supposed to be among the gains from introducing CRPs, but they are very difficult to achieve unless donors make a significant behavior change towards harmonizing their systems or move away from individual bilateral projects to more core funding).

The other important problem raised was failure of communication, and resulting tensions between and among CRP leaders and different Centers and areas of work. Many comments called for increased transparency around key decisions – particularly structuring A4NH and funding choices. Some researchers and technicians feel isolated and unaware of what’s going on in the CRP. Improving transparency of decision-making and cross-CGIAR (including within-Center) communications could be a useful area of focus for A4NH management.

²² 152 responses were originally received – 148 was the final number analysed after data cleaning (removing two duplicates and two responses missing key information).

Introduction

The evaluation team sent a short “mini-survey” to staff working with A4NH, using SurveyMonkey software in February 2015.²³ The survey closed on 25 February²⁴. The main purpose of the survey was to kick off the evaluation and give CGIAR staff an initial opportunity to state what they like and don’t like about working with A4NH and CRPs in general. The raw survey data is confidential, and steps have been taken to protect the identity of respondents²⁵.

Who responded to the mini-survey?

A list of “staff working with A4NH”²⁶ was compiled with the help of the A4NH Management Unit and checked with A4NH Center Focal Points. A total of 148 people answered the survey, out of 449 who received the link. Unfortunately, we don’t have a reliable list of everyone working with A4NH and it is likely that many people who received the email link to the minisurvey (especially in IFPRI) were not actually in the intended target audience²⁷. So we don’t have a clear idea of the overall survey response rate, although we believe it was not lower than 30%. We have a similar difficulty in calculating response rates for different Centers or groups of people. However, examination of responses by Center showed that there was broad representation across all the Centers represented in A4NH, roughly in proportion to the total budget in each Center attributed to A4NH activities²⁸. We feel that the results are likely to be reasonably representative of CGIAR staff working with the CRP, although some groups may be under-represented²⁹.

The distribution of respondents is tabulated in Sub-Annex 2: Characteristics of respondents to the minisurvey. Almost half (48%) of minisurvey respondents had been with the CGIAR since before the CGIAR reforms started in 2009, while a quarter (26%) were relatively new, having joined the CGIAR

²³ We are very grateful to Nancy Walczak of IFPRI for her technical support with SurveyMonkey, to Nancy Johnson and Ben Emmens for their comments on the survey wording, to Amanda Wyatt and Tigist Defabachew for assisting with creating a list of A4NH-related staff, and to Kimberly Keeton for communications advice.

²⁴ Preliminary results of the survey (an earlier form of this paper) were shared with A4NH Center Focal Points in mid-March.

²⁵ The raw data is held in a confidential location and only accessible to external independent members of the evaluation team. SurveyMonkey only identifies people by code, but nonetheless it might be possible to identify some people – for example by personal remarks on their work made in their comments, or the fact that they were the only person responding from their Center. Data has therefore been cleaned and aggregated so that individuals are not identifiable, and once analysis is completed the whole dataset will be made available.

²⁶ There is no official “staff list” for A4NH. CGIAR staff are normally employed by Centers, and work with A4NH on specific research projects. Our list also included administrative staff and other service providers (eg Human Resources, communications) of the 11 CGIAR Centers working in A4NH.

²⁷ We asked people to email us to let us know if they had been contacted in error and were not actually working with A4NH (using a quick ‘two-click’ mechanism to facilitate response). We are very grateful to the 33 people who responded to our request; however we believe a larger number of people in that situation simply did not bother to respond to the survey. There is no Center Focal Point for IFPRI and we believe our initial list was seriously over-estimated for this Center. We later corrected this by asking the main PIs within each IFPRI division to send a list of staff within their division who are currently working on the projects mapped to A4NH.

²⁸ Number of minisurvey responses by Center with (in parenthesis) percent of A4NH funding in 2013 as proxy measure of Center staff involved: IFPRI 52 responses (56% of total funds, of which the majority is for Harvest Plus); ILRI 24 (16%); IITA 19 (13%); Bioversity International 15 (10%); ICRISAT 12 (8%); World Agroforestry Centre 10 (7%); CIAT 6 (4% but this may under-represent CIAT as they are partners with IFPRI in Harvest Plus); Other Centers: CIP, CIMMYT, WorldFish, and Africa Rice 12 (8%)

²⁹ Two groups that may be under-represented are: lab/field technicians (only 3 completed the mini-survey, despite encouraging emails), and CIAT staff (only 6 respondents, in comparison to the large amount of Harvest Plus funding going through CIAT).

only after the launch of A4NH in 2012. Nearly half (45%) of respondents identified their primary role as 'researcher', compared to 28% who identified their primary role as 'research manager' and 21% who were primarily administrators or service providers (e.g. finance, HR, IT services). Geographical representation was dominated by sub-Saharan Africa (39% of respondents) and North America (30%) with lower numbers from Asia, Europe, Latin America and MENA. Men and women responded to the minisurvey in almost equal numbers.

Results

Is working through A4NH more effective than working through Centers?

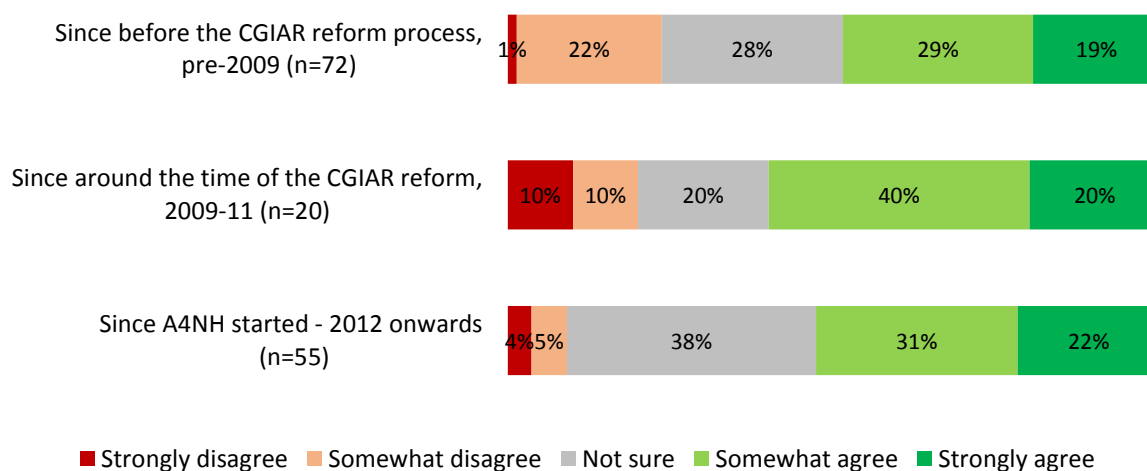
Overall, more people answered this question positively (51%) than negatively (17%), although a substantial fraction (30%) were "not sure"³⁰. Only a small fraction (about 3%) "strongly disagree", in contrast to the 20% who "strongly agree" that it is more effective working through A4NH.

³⁰ We have learned some lessons from this first minisurvey, including that in future we will give separate options for 'neutral' and 'don't know'.

Figure 8 shows responses categorized by the length of time respondents had been in the CGIAR. About half of respondents who had been working in the CGIAR since before the reforms - and therefore have a clear point of comparison - agreed that CRPs (specifically A4NH) are a more effective way to organize research; while nearly a quarter of this group disagreed (albeit only 1% “strongly”), and the remainder were not sure. However, statistical testing (see Sub-Annex 3) did *not* show a significant difference in responses between those who joined the CGIAR before the reform process and those who joined the CGIAR only after A4NH started in 2012³¹.

³¹ Further investigation would be needed to understand how the comparison was framed in the mind of respondents who arrived in the CGIAR after 2012 (and therefore have no before/after comparison for A4NH). However, most respondents work for Centers, and are therefore in theory able to make some judgement on the likely situation with/without A4NH.

Figure 8 “Working through the structure of a CRP (A4NH) is more effective than organizing research directly through CGIAR Centers.” Agreement/disagreement with this statement, categorized by how long respondents had worked in the CGIAR.



Source: Minisurvey conducted by evaluation team

When responses were categorized by principal working role, nearly two thirds (64%) of research managers (n=41) agreed that working through the CRP is more effective, compared to just under half of researchers (n=65) and administrators/service providers (n=31), and nearly a third in the latter two groups were “not sure”. Such differences are plausible, as research managers are often in a better position to see the “big picture” on A4NH, whereas a number of researchers complained of being to some degree in the dark (see specific comments in Sub-Annex 1: In their own words: examples of comments by survey respondents. However, analysis of the difference in response between researchers and research managers (Sub-Annex 3: Numerical and statistical results) did not show statistically significant difference between the two groups.

What are the positives and negatives of working with A4NH?

The survey asked open (free text) questions about the most positive and negative aspects of working with A4NH. To see how frequently certain views were expressed, each answer was allocated one or more codes³², and these were then amalgamated into broad category codes. The overall results are shown in Tables 1 and 2. Sub-Annex 1: In their own words: examples of comments by survey respondents contains many examples of specific comments.

³² For example “DISC” – coordination across disciplines, “CENT” – coordination across Centers. See Miles, MB et al (2014) Qualitative Data Analysis: a Methods Sourcebook. 3rd edition, Sage More detail is available from the evaluation team if required.

Table 17: Positive aspects of A4NH: frequency of comments by broad category

Category of comment	Percent of comments
Better coordination of work e.g. between Centers, disciplines	47%
Inspiring mission/leadership of A4NH	27%
More potential for practical impact of research e.g. scaling up, links to policy	24%
Flexible funding and support from the CRP	18%
Opportunities for learning, e.g. on nutrition and health	12%
Good systems /management	11%
Improvement in partnerships	11%
Improved work on gender	2%
Total number of comments	123

Source: Minisurvey conducted by evaluation team

Table 18: Negative aspects of A4NH: frequency of comments by broad category

Category of comment	Percent of comments
Increased admin/reporting workload	32%
Poor communications within the CRP /Centers	28%
Inefficiencies or lack of realism in management	28%
Lack of trust; tensions and competition e.g. between centers	19%
Disagreements on boundaries of A4NH and choices made	19%
Instability of funding	16%
Lack of opportunities for personal development	3%
Nothing/nothing negative to say	14%
Total number of comments	118

Source: Minisurvey conducted by evaluation team

It is important to remember that the frequency of responses in this minisurvey reflects what is currently on people’s minds rather than a structured analysis – for example, “improvements in gender” were only spontaneously mentioned by 3%, but if we had asked a specific question on improvements in gender, the percentage might have been much higher. Similarly, recent cuts in expected funding probably made “funding instability” a more frequent comment than it might have been in 2014³³.

Despite this caveat, the results were illuminating and the evaluation team hopes that they will stimulate some useful discussion, moving beyond simply reiterating the criticisms made in the minisurvey to looking at how some of the issues can be addressed.

³³ Conversely, if the survey had been administered two weeks later, just after an unexpected mid-year funding cut of 20% which resulted in immediate losses of some research staff, funding instability might have been at the top of the list.

Sub-Annex 1: In their own words: examples of comments by survey respondents

“The most positive aspects of working with A4NH”

- a. **Better coordination:** Many people commented on A4NH promoting the increased working across Centers and disciplines, and some cited specific benefits. Examples included:
- *I am Working on [my specific area] since long time and A4NH gave the opportunity to link with other centres working on same aspect in large scale population. Working as a team from different centres reduces the overlapping of experiments and helps in sharing the knowledge and experience.*
 - *Discussing and sharing ideas with colleagues from other centers; seeing perspectives on Nutrition and Health that are not from your own discipline.*
 - *It is a CRP that has brought together scientists representing diverse disciplines. This has helped in broadening my perspective with regard to research.*
 - *A4NH work has stimulated me to work with groups or consider working with groups that I would not have otherwise considered.*
- b. **Potential for impact:** Although many comments referred to the potential practical impact of the research, only about a quarter of these actually linked this to the influence of A4NH (rather than simply the benefits of their own research area). Examples included:
- *Possible impact of the program on the CGIAR itself, especially in areas like gender and nutrition Forced to be more strategic about workplan and direction of research portfolio*
 - *...pulling together the critical mass needed to achieve the objectives;*
 - *The most positive aspect of working on the A4NH is the improvement of services delivered to communities and other stakeholders.*
 - *It has the possibility of a global perspective and global work*
 - *A4NH is specific to enhancing agricultural potential in helping improve nutrition and health, this aim facilitates the theory of change within which my work is oriented.*
 - *Provides a platform to think about [my specific area] in a much wider and possibly more policy relevant context.*
- c. **A4NH mission and leadership:** 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. 20 comments (13%) referred to the inspiring mission of A4NH while 11 people mentioned inspiring personal leadership. Examples:
- *It's an exciting time to be part of research on nutrition and health as it relates to agriculture.*
 - *The rationale and theory of change for A4NH is pretty clear, so it's relatively easy to buy into it. ...*
 - *(from a respondent in biofortification):...The program is a very inspiring one, especially thinking about the impact that it could have ... [the Directors of A4NH and HarvestPlus] are both very enthusiastic leaders. Their passion for the programs drives my energy every day. ...*
 - *I'd like to ...commend the leadership of A4NH, especially [the CRP Leader]...he understands research and the work of researchers, and has managed to find ways to keep us engaged and supported.... The leadership has set the right tone and this has been very very important*
 - *Working with A4NH is the most beautiful experience to help fight hunger*
- d. **Flexible funding and support for research:** A number of researchers were full of praise for the flexible support they got from A4NH (see some examples below). However, some Centers felt more marginalised from A4NH and less able to access support (see point i below). There are also potential tensions between responding flexibly to research gaps and innovative ideas identified

by individual researchers - versus getting researchers themselves to be more flexible and support a prioritised research agenda rather than their own interests.

- *I find A4NH to be truly supportive as a CRP and a real enabler. I have never felt bogged down or boxed in by A4NH and have found the structure and the team to be really flexible, understanding, respectful of us as researchers, and more. It is truly challenging to link the CRP and the work of the individual centres and individual researchers within centres, but A4NH has found a way to make this happen well.*
- *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. A4NH has kept a clear research agenda, but also shown great flexibility at times to respond with support of research that researchers themselves have identified as important. This makes a big difference in promoting a strong culture of research innovation.*
- *[The A4NH Director] is extremely open-minded and reasonable with respect to ideas on how to move forward and is willing to put up adequate resources to support initiatives, which makes working in A4NH a pleasant and rewarding experience.*
- *I have been able to work on related and follow-up topics that under the Centers would have been more difficult to justify and find support for.*
- *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*
- *It is not very dictatorial - there is a good degree of freedom in what one can work on. Thematically inclusive.*
- *Process to access funding is clear and simple; relative freedom in setting-up tasks and timeline; not too high pressure on the deliverable.*
- *At least the funds were made available in good time to complete our planned activities*

e. Professional development and growth: 12% of comments spontaneously mentioned this as an advantage of A4NH (although two other respondents mentioned under their negative points that there were no or insufficient opportunities for professional development) Examples included:

- *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.*
- *...update on the professional knowledge and new tools*
- *Allows to tap into expertise (methods, tools, frameworks) that is not available within my own organization. A4NH is tackling important development issues that require much more research, so it is very interesting. It is also using innovative tools and methods*
- *It is an innovative topic for the CGIAR... Another aspect is the interaction among disciplines and centers. This is something that help us to think in a systematic way, not linear.*
- *This allows us access to latest methodologies and results relevant to planning our own work program in the country*

f. Good administration: Despite many complaints about the increased administrative burden generated by CRPs (see point h) below), 11% of comments did focus on positive aspects of A4NH administration. Many of these related to good personal experiences working with the A4NH Program Management Unit staff. Examples include:

- *There is a clear attempt from A4NH leadership to simplify reporting processes, not as burdensome as others.*
- *Very good monitoring of outcomes, outputs and milestones*
- *It has been great working with A4NH and especially the administration team who are always willing to assist and to respond to any queries. Financial reporting has been made easier by the user friendly reporting template.*
- *I use to contact many of finance people of a4nh, the people are very cooperative, helpful and kind nature*

- *[The A4NH finance and administration person] is always very helpful and friendly.*
- *program management team is very supportive and responsive*

g. Broader partnerships: Examples:

- *Good networking and increased portfolio of collaborators/ partners*
- *[The A4NH leadership] approach to partnership building is really appreciated, so I would like to flag this as a real positive at this point in time for A4NH.*
- *[A4NH] has provided me with more of a platform from which to discuss partnerships with other organizations that are more focused on a particular theme in their own work.*
- *The interaction between the A4NH center/partners/collaborators and seeing the outcome of partnerships come to life.*
- *the opportunity to work on issues/problems that may not necessarily be easily done within the context of my center's own mandate and focus commodity; working with an expanded range of collaborators/partners*
- *...stronger collaboration with non-traditional CG collaborators*

“The most negative aspects of working with A4NH”

h. Increased administrative burden: Many comments focused on the additional layer of administrative requirements (especially planning, budgeting and reporting) created by CRPs (including A4NH) and the fact that reporting to the Center and to bilateral donors has not declined as had been an implicit expectation in the CGIAR reforms. Bilateral donors within A4NH still have individual requirements including different reporting timetables and individual project evaluations. Some of the many examples:

- *Administrative reporting burden, difficulties in harmonizing between institutes and CRP management especially with respect to budgets*
- *After CRPs reporting frequency has been increased and make bit dilution on concentrating our research*
- *Additional time spent in reporting; additional layer of administrative structure.*
- *Extremely cumbersome in terms of reporting requirements, meetings, evaluations, proposal writing, etc.; difficult to actually get the research done*
- *Donor reporting and workplanning 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*
- *There should be some uniformity/consistency across the CRP's in terms of reporting mechanisms and templates. The reporting structures should be made as straight-forward as possible and the template/format provided minimize the amount of time and resources that are allocated to reporting both within CRP's and across CRP's.*
- *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*

i. Competitive tensions and lack of trust among some Centers and areas of research and the CRP leadership, particularly through researchers in some Centers feeling they are not getting a sufficient share of the A4NH “cake”. (This of course raises the question of whether “a fair share of the cake for each Center” should be a principal consideration in research prioritisation for a CRP.) Failures in internal communication appear to be at the root of many of these tensions, and that is addressed in point j below. Another long-standing issue is that nearly all staff working “with” A4NH work *for* Centers, and their incentives are therefore linked to Centers rather than the CRP.

Six respondents (5%) were specifically critical of IFPRI which they saw as taking advantage of its lead position in the CRP to dominate the decision making and funding. It is worth noting that this is a low frequency of criticism of the lead Center in comparison to that seen in some other CRP evaluations! However, a couple of these comments (part of one is shown below) specifically raised the wider issues of transparency in management and governance of the CRP, including in selection of research partners; selection of PMC and IAC members; and (it is implied, deliberately) poor communication and information dissemination, dominated by IFPRI and ILRI. These are potentially very serious criticisms, the veracity of which will be explored in the evaluation.

Examples of comments in this category include:

- *Experts are not ready to work together. They are always thinking of their centre.*
- *A4NH has so many "different" areas and somehow communication is not very good. Too many for the cake.*
- *Funding allocation amongst centers/partners is not equitable, and it leaves room for uncertainties.*
- *Is there enough mutual trust and trust in the lead centre/CRP leadership as an honest broker? making sure the leadership has no conflict of interest is key*
- *Lack of funding security, lead center taking majority of funds and making it difficult for other centers to have large scale projects*
- *The lead Center has performed poorly on transparency, governance (see report), and facilitation of the research agenda. The incentives are lacking for accountability to the broader CG and this has meant money being allocated to favored partners without any competitive process, for gender, and for capacity building. ...The Coordinator is answerable to the lead center and therefore the decision making has a fundamental conflict of interest. Significantly for the future, the design of the next phase is highly scripted serving the corporate interests of the lead Center....*
- *The original themes and specifically the sub themes or components do not seem to generate the same level of importance from the CRP management perspective. And many of the sub-themes with which we work in, and deliver on, are rather over-looked. Possibly 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. There should be some mechanisms in place for the CRP to support centres in resource mobilization through other funding Calls/ Opportunities.*
- *It is not always the same to get everyone on the same level of understanding for the same goal, as people will also have personal motives*

j. Poor communication within the CRP: Some respondents felt (as above) that there was a lack of transparency in decision-making and allocating funds and a feeling that decisions are ‘pre-cooked’ before being brought to discussion meetings. Others highlighted a lack of visibility of their own work. And some were simply in the dark. Clearly there are some communication failures, but it is difficult to diagnose at what level communication breaks down – between the PMU and the CFP, between the CFP and others in the Center, or elsewhere? Should CFPs be the only or main channel of communication? Do CFPs have access to adequate human resources to support all the communication they need to do? These would be useful issues to discuss in the meeting. Examples of comments include:

- *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*
- *Even though my work is closely tied to A4NH, sometimes I struggle to connect effectively with the A4NH structure*
- *As researchers, we are not even informed on how the A4NH functions, how it fits into our daily operations and what difference it brings to our operations*
- *I find it is somewhat confusing with the flow of money and how the system works.*

- *I have very limited knowledge of my division's involvement with A4NH. I know we receive funding from them, and I know we include our activity in their reports. Other than that, I don't understand how or if we influence them or they influence us.*
- *A little concern in that I've heard A4NH is expanding its activities and it's not clear (to me anyway) why the expansion and how it might affect existing activities.*
- *Remote control for research operation Communications flow top-to-bottom or vice versa when decision made and reach the bottom very late*
- *I was expecting that, through this platform, I will understand and learn from other CG Centers how they are using agriculture to respond to HN needs. I am not aware of any event of sharing learning on A4NH among Centers. I report what I do and achieve but I don't know how is my report being used.*
- *Almost no engagement with the Themes (formerly Components) or with Theme leaders. No real sense that these have an identity or organizational reality. It may be that they exist and have relevance more within IFPRI's and ILRI's A4NH work, rather than for the smaller set of A4NH activities involved in most other Centers.*
- *Not very transparent system in terms of how the finances are disbursed, it seems the CRP leader have a control on how they use and spend the money*
- *Often top-down decision and fund distribution. We will be informed after decisions are made and funds distributed*
- *Remotely operated and not listening bottom researchers voice/problems.*

And some specific suggestions:

- *A4NH has been communicating only with the focal points. It would be good if they could also have a contact list of the administrative assistants of those focal points, so admin issues could be dealt in a more efficient way rather than the focal point has to forward every single email to their assistant or spend their time in providing admin information.*
- *At times the work becomes a bit to 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? why should we want this, why should donors want to fund it.*
- *Minimum interactions or none among different projects under the CRP, hence the objectives and goals are not clear for example for staff working in the laboratories. Improve in communicating CRP issues even to lower level staff.*

k. Disagreements or confusion about boundaries and limits of A4NH. This category includes a wide variety of comments. Many relate to previous points on communications and tensions about whether all impact pathways to nutrition and health are (or should be) given equal attention – what about trees, or animal source foods? Some comments reflect long-standing debates in the CGAR (should it focus more upstream or downstream?). Others relate to the role of A4NH and how it links to other CRPs. Here is a sample:

- *Focus on impact is too prominent and distracts from the CGIAR's main mission, which is to do high-quality research*
- *Limiting MOST of the work to producing evidence through research, there should be concerted efforts to transitioning research outputs to development interventions (promoting/showcasing the worth of the outputs, and not living the role to policy makers only since nothing much has happened on the implementation bit.*
- *Giving more importance to the basic science than applied research ... [is a problem]*
- *... even though capacity development is recognized in principle as being important in the impact pathway, the specific capacity development activities are few and ad hoc and primarily funded not by A4NH but by bilateral projects 'mapped' to A4NH.*
- *Engagement with government and private sector for significant investment has widely unexplored. Certainly there is an anticipated gap to connect distant dots of innovative research learning through A4NH and scope for scale up with increased out reach.*

- *the biggest challenge is trying to align with our commitments to other CRPs which overlap sometimes. The allocation of outputs to only one CRP or the other as well as mapping of projects to one CRP or another is not always easy.*
- *Some areas (after 3 years) are still under construction, this creates ambiguities.*

l. Inefficiencies in A4NH management. This category includes a mixture of points, relating to both higher and lower levels/aspects of management; examples are below:

- *No structured workplanning, no discussion within theme.*
- *The so called "seed grant" funding of small A4NH projects was badly organised with no clear guidelines, structure and communication (timing was not clear, no reporting guidelines etc.) and no possibility to apply for a larger project which was announced in the beginning.*
- *Sometimes I have the feeling the activities being carried out [in my area] are not completely integrated in the framework of the A4NH, and I do not know what I could do in order to better integrate in the A4NH team.*
- *Staff time was not adequately covered as the activities took more time than the staff time covered. Expected deliverables did not match with time allocated to staff (e.g. a publication when staff time is only one month. It takes time to do good research work and write a journal paper) Allocated funds were revised downwards (reduced) at some point after approval*
- *The negative effect is the absence of supervision and discussion on the protocol before implementation. I think in future there is a need to meet with supervisor for discussing before implementation of the project. The shortage of the project is negative aspect for country where there is medium term project align to A4NH.*
- *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.*
- *Unfortunately, this working together does not happen easily and the management of the CRP and the strategic work going forward could be more efficient. There are too many meetings without clear outcomes.*

m. Unstable and fragmented funding: The comments below highlight some of the practical effects of unstable funding. Some of the comments reflect a sense of betrayal since one of the main selling points of CRPs for many CGIAR researchers, was more stable and sustainable core (Window 1 and 2) funding, which has not come to pass.

- *The constant changes in the way budgets are done, in retrospective budget cuts, in uncertainty in the future (despite the advertised certainty when CRPs came in) etc all make for a rather stressful management of programmes.*
- *Instead of guaranteeing funding, the[CRP] structure created the opposite. Not only did it create uncertainties of future funding, funding was reduced mid-year after we have already committed funds to partners. This resulted to us having to fund "supposed A4NH funded activities" from other sources.*
- *Unstable situation year after year for funding*
- *Severe financial uncertainty - never know how much funding the program will have until mid year or so*
- *Partners are made to pre-finance activities of the CRP due to the perennial delays in disbursement of funds.*
- *Fight with the uncertainty of not knowing which are the real funds for the year, until at the end of the year; is another negative aspect.*
- *the budget allocation is too fragmented and does not allow to build up a strong A4NH research component within my unit; I can only do small studies and cannot develop a longer term (multi-year) topic.*
- *On the finances, it took a long time to get clear answers on budget available for this year and we then saw our budget cut quite significantly which creates a number of challenges - having confidence on budgets over a longer time frame would be helpful for planning. Much of the work we do under the A4NH umbrella is funded by external donors, with very limited financial input from A4NH. Our outputs contribute to A4NH intellectually.*

Sub-Annex 2: Characteristics of respondents to the minisurvey

The following tables report some of the characteristics of survey respondents. Overall total number of participants varies from table to table, as some respondents chose not to answer some questions.

CGIAR Center where respondent based

Response	Count	Percentage
AfricaRice	1	1%
Bioversity International	14	10%
CIAT	7	5%
CIMMYT	4	3%
CIP	4	3%
ICRISAT	12	8%
IFPRI	52	35%
IITA	18	12%
ILRI	24	16%
World Agroforestry Centre	10	7%
WorldFish	1	1%
Overall	147	100%

Source: Minisurvey conducted by evaluation team

Region where respondent currently based

Response	Count	Percentage
Asia	19	13%
Middle East and North Africa	1	1%
Europe	15	10%
North America	44	30%
Central America and the Caribbean	3	2%
South America	9	6%
Sub-Saharan Africa	57	39%
Overall	148	100%

Source: Minisurvey conducted by evaluation team

Gender

Response	Count	Percentage
Female	76	51%
Male	69	47%
Decline to state	3	2%
Overall	151	100%

Source: Minisurvey conducted by evaluation team

Length of time with CGIAR

Response	Count	Percentage
Since before the CGIAR reform process, pre-2009	72	49%
Since around the time of the CGIAR reform process, 2009-11	20	14%
Since A4NH started – 2012 onwards	55	37%
Overall	147	100%

Source: Minisurvey conducted by evaluation team

Primary role in A4NH

Response	Count	Percentage
Researcher	65	44%
Research Manager	41	28%
Administrator or service provider	31	21%
Lab or field technician	3	2%
Other	5	3%
Overall	148	100%

Source: Minisurvey conducted by evaluation team

Work time spent on A4NH programming

Response	Count	Percentage
< 10%	45	30%
10-50%	56	37%
> 50%	38	25%
Don't know	11	7%
Overall	150	100%

Source: Minisurvey conducted by evaluation team

Sub-Annex 3: Numerical and statistical results

The following tables report the response to the question on whether respondents feel that working under A4NH is more effective than working directly through Centers. Answers were provided on a Likert scale (in the tables, green indicates agreement and red disagreement).

Results of statistical tests have been reported after each table. The Mann-Whitney test (MW test) was used to test whether the variation in responses between two groups of respondents was statistically significant. Where respondents have been classified in more than 2 groups (e.g. centers), the Kruskal-Wallis test (KW test) was used.

By gender

	N	Strongly disagree	Somewhat disagree	Don't know	Somewhat agree	Strongly agree	Total
Gender		1	2	3	4	5	
Female	76	5%	11%	34%	33%	17%	100%
Male	69	1%	19%	28%	29%	23%	100%
Overall	145	3%	14%	31%	31%	20%	100%

Source: Minisurvey conducted by evaluation team

There is no statistically significant difference in response between men and women (MW test, $p = 0.74$)

By CGIAR Center

	N	Strongly disagree	Somewhat disagree	Don't know	Somewhat agree	Strongly agree	Total
Center		1	2	3	4	5	
ICRISAT	12	0%	8%	8%	17%	67%	100%
ILRI	24	0%	17%	29%	25%	29%	100%
IFPRI	52	6%	12%	44%	17%	21%	100%
World Agroforestry Centre	10	10%	10%	10%	60%	10%	100%
Bioversity International	14	0%	14%	21%	57%	7%	100%
CIAT	6	0%	17%	0%	83%	0%	100%
IITA	18	6%	22%	50%	22%	0%	100%
Other (including no ID)	12	0%	25%	8%	50%	17%	100%
Overall	148	3%	15%	30%	31%	20%	100%

Source: Minisurvey conducted by evaluation team

There is a statistically significant difference in response between at least two Centers (KW test, $p = 0.02$). However this is hard to interpret, as the results from some Centers are from a small number of people and they may not have been fully representative of that Center.

IFPRI (A4NH lead Center) versus other Centers

	N	Strongly disagree	Somewhat disagree	Don't know	Somewhat agree	Strongly agree	Total
Center		1	2	3	4	5	
IFPRI	52	6%	12%	44%	17%	21%	100%
Other	96	2%	17%	23%	39%	20%	100%
Overall	148	3%	15%	30%	31%	20%	100%

Source: Minisurvey conducted by evaluation team

There is no statistically significant difference between responses of staff belonging to IFPRI (lead Center of A4NH) and those belonging to other A4NH centers (MW test, $p = 0.23$).

By time

	N	Strongly disagree	Somewhat disagree	Don't know	Somewhat agree	Strongly agree	Total
Time in CGIAR		1	2	3	4	5	
Since before the CGIAR reform process (pre 2009)	72	1%	22%	28%	29%	19%	100%
Since around the time of the CGIAR reform (2009-11)	20	10%	10%	20%	40%	20%	100%
Since A4NH started - 2012 onwards	55	4%	5%	38%	31%	22%	100%
Overall	147	3%	14%	31%	31%	20%	100%

Source: Minisurvey conducted by evaluation team

There is no statistically significant difference in responses between those who joined CGIAR before, during or after the formation of CRPs (KW test, $p = 0.596$).

By role

	N	Strongly disagree	Somewhat disagree	Don't know	Somewhat agree	Strongly agree	Total
Main role		1	2	3	4	5	
Researcher	65	2%	15%	37%	25%	22%	100%
Research manager	41	7%	12%	17%	44%	20%	100%
Administrator/Service provider	31	3%	13%	35%	26%	23%	100%
Other	8	0%	25%	38%	25%	13%	100%
Not specified	3	0%	33%	0%	67%	0%	100%
Overall	148	3%	15%	30%	31%	20%	100%

Source: Minisurvey conducted by evaluation team

There is no statistically significant difference in responses among different types of staff within the A4NH centers (KW test, $p = 0.89$).

By proportion of time dedicated to A4NH

	N	Strongly disagree	Somewhat disagree	Don't know	Somewhat agree	Strongly agree	Total
Time in A4NH		1	2	3	4	5	
< 10%	43	0%	16%	33%	26%	26%	100%
10-50%	55	9%	18%	25%	36%	11%	100%
> 50%	38	0%	11%	26%	32%	32%	100%
Don't know	11	0%	0%	64%	27%	9%	100%
Overall	147	3%	14%	31%	31%	20%	100%

Source: Minisurvey conducted by evaluation team

There is a statistically significant difference in responses between at least two groups but only at the 10% significance level (KW test, $p = 0.08$).

Sub-annex 4: Mini-survey questionnaire

The survey was administered through SurveyMonkey. Options for the multiple choice questions are shown in the table below each question. Questions 2, 3 and 4 were open (free text) questions.

Box 1: Mini-survey questionnaire

1. To what extent do you agree with the following statement:

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

- Strongly agree
- Somewhat agree
- Not sure
- Somewhat disagree
- Strongly disagree

2. Thinking specifically about your own work, please comment on the most positive aspects of working in/with A4NH.

3. Thinking specifically about your own work, please comment on the most negative aspects of working in/with A4NH.

4. Is there anything else you would like to tell us at this initial stage of the evaluation?

5. How long have you been working in the CGIAR (please choose the longest time category applicable, e.g. "2012 onwards" if you just joined)?

- Since before the CGIAR reform process (pre 2009)
- Since around the time of the CGIAR reform (2009-11)
- Since A4NH started - 2012 onwards
- Other (please specify)

6. Which best describes how much of your work time is spent on A4NH programming?

- < 10%
- 10-50%
- 50%
- Don't know

7. In relation to A4NH, do you primarily think of yourself as a:

- Research manager
- Researcher
- Lab or field technician
- Administrator or service provider (Includes services such as finance, admin, HR, IT, communications, facilities support)
- Other (please specify)

8. In which Center are you employed?

- AfricaRice
- Bioversity International
- CIAT
- CIFOR
- CIMMYT
- CIP
- ICARDA
- ICRISAT
- IFPRI
- IITA
- ILRI
- IRRI
- IWMI
- World Agroforestry Centre
- WorldFish
- Other (please specify)

9. In what region are you principally based?

- Asia
- Middle East and North Africa
- Europe
- North America
- Central America and the Caribbean
- South America
- Sub-Saharan Africa
- Australia and Oceania

10. What is your gender?

- Male
- Female
- Decline to state

ANNEX L – MAPPING NUTRITION AND HEALTH WORK ACROSS THE CGIAR

This Annex provides supplementary evidence on the current involvement of CRPs other than A4NH in Nutrition and Health work, and on the potential demand for specialist support and backstopping from A4NH.

Table 1 is summary information extracted from the Phase 1 Extension Proposals (2015-16), which provide the most up-to-date picture of CRP activities. A summarized version of the key points in this can be found in the main report. This does not cover Center-bilateral donor projects which are not in any CRP, as there is no easy way to get this information (although we heard in interviews of quite a few such projects).

Table 2 summarizes potential roles for A4NH, extracted from selected CRP proposals (and extension proposals, where mentioned).

Table 1: Involvement of other CRPs in nutrition and health: Extension phase proposals (2015-16)

CRP	Main areas	Nutrition and Health IDOs, indicators and activities in extension phase (2015-16)	Collaboration with A4NH (if specified)	Average annual budget allocated to nutrition and health activities (2015-6) (approx), and percentage of total
Aquatic Agricultural Systems	Nutrition	<ul style="list-style-type: none"> - AAS IDO 2: Nutrition: Improved diet quality of low income households in aquatic agricultural systems, especially by nutritionally vulnerable women and children. - Activities in AAS hubs in 6 countries. Example indicator: 600,000 households using improved quality crop, fish, fodder and vegetable seed leading to improved productivity, and increased food and income for households. - Nutrition sensitive landscapes work on wider ecosystems (with other CRPs including A4NH) 	Working with A4NH on nutrition aspects in research hubs, within Nutrition Sensitive Landscapes	Not stated. Budget by gender and flagship, not by IDO
Climate Change, Agriculture and Food Security (CCAFS)	Food security	<ul style="list-style-type: none"> Food security IDO. - building adaptive capacity, with important impacts on food security and incomes 	Not clear	Not stated
Dryland systems	Nutrition, Food Security	<ul style="list-style-type: none"> - IDO 3: Increased consumption of nutritious dryland cereals by the poor, especially among nutritionally vulnerable women and children - Indicators: Increased consumption or intake levels, increased use of biofortified food.) 		3M (IDO3) (14%)

CRP	Main areas	Nutrition and Health IDOs, indicators and activities in extension phase (2015-16)	Collaboration with A4NH (if specified)	Average annual budget allocated to nutrition and health activities (2015-6) (approx), and percentage of total
		- Targets include specified increases in iron and zinc intake levels from pearl millet, barley, sorghum and finger millet in regions where these are staples; also calcium intake from finger millet by women in East Africa		
Forests, Trees and Agroforestry	Nutrition, Food security	- IDO 4 - Increased and stable access to nutritious food supports rural and urban poor (Indicators – Prevalence of undernourishment and dietary diversity) - Quantification of the livelihood [implied including nutrition] and environmental consequences of trees, as part of land use patterns and changes - “Learning landscapes in which stakeholders of local change are supported in their connection with national and global issues” - Minimal mention of collaboration with A4NH		Not stated: Expenditure by flagship not IDO
Global Rice Science Partnership (GRiSP)	Nutrition	IDO 5: Increased health and nutrition from rice and from diversification Indicators: includes Disability Adjusted Life Years (DALYs) lost from micronutrient deficiency. “From 2016, We will mainstream ... the inclusion of nutritious traits [and multiple stress tolerances] into all our breeding pipelines.” Focus: Iron, zinc, VitA, low glycaemic index		Not stated: Expenditure by IDO not given
Grain Legumes	Nutrition	- IDO3 Nutrition & Health: Increased consumption of healthy grain legumes and products by the poor for a more balanced and nutritious diet, especially among nutritionally vulnerable women and children. Main indicator is per capita consumption. - “Partners maintain a research commitment on health benefits of legume consumption” - Activities focus mainly on increasing production and improving aspects of seed systems, post-harvest processing and markets of grain legumes, which are generally in low supply, high in many different nutrients and low in starch.	Mentions complementary activities in A4NH on micronutrients and aflatoxins, but unclear how close coordination is.	9 M (17%) (IDO3)

CRP	Main areas	Nutrition and Health IDOs, indicators and activities in extension phase (2015-16)	Collaboration with A4NH (if specified)	Average annual budget allocated to nutrition and health activities (2015-6) (approx), and percentage of total
	AAD	- Target for decreased consumption of groundnuts contaminated with aflatoxin		
Humid Tropics	Nutrition	-IDO Nutrition: Increased consumption of diversified and quality foods by the poor, especially among nutritionally vulnerable women and children. Indicators: dietary diversity - Piloting tools and methodologies in Action Sites, including innovative ways to measure nutrient gaps, identify typologies and entry points, and develop Innovation Platforms to improve dietary diversification and nutrition security -“ facilitating a Community of Practice across Action Sites and with other CRPs on dietary diversity approaches to nutrition”	Unclear. Mentions plans to “intensify partnership efforts in coordination, co-location and collaboration” with other CRPs including A4NH in the extension phase.	1.55M (2%) Nutrition-sensitive research cluster
Livestock and Fish	Nutrition	- IDO4 : increased consumption of high nutrient value foods, specifically animal source foods (ASF) - Nutritional analysis on consumption of to decide what targets to adopt to operationalize IDO4 - Developing strategies to explore gendered patterns of consumption in poor households, with the intent of increasing the protein consumption of women and children. - Increased productivity of ASF increases availability, access and consumption of ASF and other nutritious foods (assumptions in this impact pathway are set out, and evidence will be collected to test them)	Collaboration with A4NH-AAD to address food safety and zoonoses issues across several value chains.	2M IDO4: Improved nutrition
	AAD	Food safety and zoonoses issues		
MAIZE	Food security, Nutrition	- One of the IDOs of MAIZE is ‘Nutrition’ (IDO3) but the extension proposal only contains one direct nutrition indicator, which is ‘increased consumption of biofortified maize’, one of 9 indicators under Research Strategy 2. The proposal states that “The outputs contribute to several IDOs but most prominently to IDO1: Productivity, IDO2: Food security, IDO4: Income, IDO5: Gender”	No clear collaboration set out in extension proposal: “Globally, MAIZE envisions to further strengthen linkages” with A4NH (for “nutritionally	10M Expenditure on FP3 'Stress resilient and nutritious maize' (not all of this however is nutrition focused)

CRP	Main areas	Nutrition and Health IDOs, indicators and activities in extension phase (2015-16)	Collaboration with A4NH (if specified)	Average annual budget allocated to nutrition and health activities (2015-6) (approx), and percentage of total
		<p>- One of three subcomponents of Flagship Project 3, “Stress resilient and nutritious maize”, is “enhancing selected maize varieties through fortification of nutritional and other end-user quality traits to improve the nutritional well-being and enhance market opportunities....” The only specific nutrient-related target given is for Quality Protein Maize.</p> <p>Maize production and market strengthening activities focus on smallholders isolated from or ignored by the large scale private sector.</p>	enhanced maize and AflaSafe”). However, initial (2011) proposal sets out clear roles for A4NH and MAIZE (see Table **)	
Policies, Institutions and Markets	Nutrition	<p>Foresight modelling to include nutrition and gender</p> <p>[We have been told that Gender, Agriculture and Assets Project (GAAP) will move to A4NH]</p>	Not mentioned. (However collaboration takes place around gender and nutrition issues)	Not stated. No nutrition IDO
Roots, Tubers and Bananas	Nutrition	<p>IDO: Improved diet quality of nutritionally vulnerable populations especially women and children”. Indicator: 15M resource-poor HH increase diet diversity score by 20%, and 50% under 5 years of age consume OFSP twice a week in SSA</p> <p>High VitA Orange Fleshed Sweet Potato and cassava: breeding, production, seed systems, processing systems, linkages to markets, consumption and nutrition trials.</p>	Clear roles and responsibilities mapped out for various collaborating CRPs, including A4NH: See Table ** below. However not clear if these are happening yet for A4NH.	Not stated. Budget by IDO not given
Water, Land and Ecosystems	AAD Nutrition	<p>- Safe wastewater and excreta use in crop farming and aquaculture, both in extensive irrigated crop production and peri-urban</p> <p>- Development of models which can predict the best places for investment in water and land resources for nutrition outcomes, eg small dams</p>	Some work with A4NH -Nutrition Sensitive Landscapes on modelling nutrition outcomes. No mention of collaboration with A4NH-AAD on contaminated water.	5 M (8%) for Flagship 4 Recovering and Reusing Resources in Urbanized Ecosystems (RRR) – but not all of this is for NH

CRP	Main areas	Nutrition and Health IDOs, indicators and activities in extension phase (2015-16)	Collaboration with A4NH (if specified)	Average annual budget allocated to nutrition and health activities (2015-6) (approx), and percentage of total
WHEAT	Nutrition Nutrition and health links	<ul style="list-style-type: none"> - Develop nutritious wheat lines with high end use quality (as well as climate resilient, disease and pest tolerant) - investigate the relevance of wheat quality, nutrition and post-harvest investments for achieving IDOs, as part of a wider process of prioritization of WHEAT R4D investments - Gender mainstreaming: Identify interventions that positively influence women's workload, health, access to resources and know-how and their role in decision-making 	<p>Clear roles and responsibilities mapped out for different CRPs. For A4NH: "Give and Take: Collaborate on NARS technology adoption. Give: New traits from mining of genetic resources "</p> <p>Also mentions collaboration on modelling with PIM and A4NH around prioritisation of wheat-related investments.</p>	Not stated

Source: Extension proposals for the CRPs on Aquatic Agricultural Systems (AAS), Climate Change and Food Security (CAFS), Dryland Systems, Forests, Trees and Agroforestry (FTA), Global Rice Science Partnership (GRiSP), Grains and Legumes, Humid Tropics, Livestock and Fish (L&F), MAIZE, Policies, Institutions and Markets (PIM), Roots Tubers and Bananas (RTB), WHEAT and Water Land and Ecosystems (WLE).

Table 2: Role for A4NH as outlined by selected CRP proposals / extension proposals.

Potential backstopping roles for A4NH (methods, tools, analyses and research topics of cross-cutting interest) are highlighted in **bold**. Other activities mentioned include joint research and co-funding.

Value added by A4NH	Specific activities	Source
A systems-based perspective to human nutrition that includes important human x environment x agriculture system interactions.	Global, regional, national and household level analyses of health and nutrition issues that need to be addressed in [commodity] value chains, and provision of guidance on best practice as to how to do so.	L&F, AAS
	Nutrition data on the species produced, consumed, and purchased by communities. Backstopping of nutrition data and science.	WLE
	Development of mechanisms and methods for monitoring and evaluating changes in food and nutrition security indicators	AAS
Ensure that nutritional traits embedded in varieties with good agronomic and consumer-preferred traits	Laboratory analysis and methods for micronutrients: Leads high-throughput diagnostics (NIRS platform) for vitamin levels and other quality traits (minerals, sugars, dry matter, etc.)	RTB
Ensure nutritional efficacy in released varieties	Primary responsibility for nutritional efficacy and bioavailability studies.	RTB
Improved value chain coordination for nutrition and health outcomes	Focus on looking at incentives and arrangements [in value chains] as they relate to consumption and improving nutritional quality (including gender), standards for biofortified products, and food safety	RTB
	Interventions to increase the consumption of nutrient-rich foods especially by women, children and other vulnerable groups.	MAIZE, WHEAT
	Joint work (with commodity CRP) on processing and foods.	RTB
Assessing value chains for nutrition and health	Contribute with tools and methods for assessments of nutritional quality, food safety, and health benefits	RTB
	Identify points where nutrients are lost and gained in the value chain , and potential interventions.	MAIZE, WHEAT
	Coordinate food-safety research and delivery of biofortified products to poor populations through value-chain research that can deliver food-based nutrition solutions.	PIM
	Joint analysis of health and nutrition issues in value chain	L&F

Value added by A4NH	Specific activities	Source
	<p>Application of gendered tools in nutrition-sensitive value chains</p> <p>“Use CRP2 policy and future Foresight research to help shape agrifood systems for sustainability and better nutrition and health outcomes.”</p>	<p>RTB</p> <p>PIM</p>
Biofortification	<p>Targeting, advocacy and promotion of biofortified crops;</p> <p>Joint priority setting with [commodity CRP] for new traits, given opportunities, feasibility and needs;</p>	MAIZE, WHEAT
Gender empowerment and nutrition	<p>[Develop] Approaches that reduce the asset gap between men and women, and empower women to enhance/protect nutrition and health of their family</p> <p>Joint gender analysis including sharing of gender disaggregated data</p>	<p>MAIZE, WHEAT</p> <p>AAS Proposal</p>
Policy and enabling environment for nutrition and health	<p>Advocacy for nutrition friendly value chains: Leads on key agriculture value chain delivery and contributes to cost effectiveness studies. Leads on the nutrition evidence and public delivery related to improving nutrition and health in target populations</p> <p>Joint action research to strengthen research–policy linkages as well as joint development of tools and approaches. A specific example is conducting research on political obstacles to cross-sectoral policy coordination on nutrition.</p>	<p>RTB</p> <p>PIM</p>
Co-financing	<p>Co-investment by CRP 4 into GRiSP for biofortification rice breeding (Harvest+), but the breeding is part of IRRI’s and AfricaRice’s mainstream breeding program.</p> <p>Co-funding of technology development and adoption in specific target countries for nutritionally improved crop varieties</p>	<p>GRiSP</p> <p>MAIZE, WHEAT</p>

Source: Phase 1 proposals for the CRPs on Aquatic Agricultural Systems (AAS), Global Rice Science Partnership (GRiSP), Livestock and Fish (L&F), MAIZE, Policies, Institutions and Markets (PIM), Roots Tubers and Bananas (RTB), WHEAT and Water Land and Ecosystems (WLE).

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