

2019 Annual Review

Title: Development and Delivery of Biofortified Crops at Scale

Programme Value £ (full life): GBP 7,500,000.00

Review Date: 20 December 2019

Programme Code: 300649-102

Start Date: 01 May 2019

End Date: 30 April 2022

Summary of Programme Performance

Year								
Programme Score								
Risk Rating								

DevTracker Link to Business Case:

DevTracker Link to Log frame:

A. Summary and Overview

Description of programme

The “Development and Delivery of Biofortified Crops at Scale” is a 3-year programme (May 2019–April 2022) implemented jointly by the International Potato Center (CIP) with HarvestPlus as part of the CGIAR biofortification strategy. CIP focuses on orange-fleshed sweetpotato (OFSP), whereas HarvestPlus and partners promote biofortified beans, cassava, maize, pearl millet, rice, and wheat. The expected outcome is that at least additional 14.6m farm households (HH) will grow these biofortified crops in target countries in Africa and South Asia, of which at least 0.6m will grow OFSP. Through this effort, at least 115m consumers in low-income populations will eat nutrient-dense biofortified foods resulting in improvements of their nutritional status. Of these consumers at least 74m will be women of child-bearing age, adolescent girls, or children aged under 5 years. OFSP will be consumed by at least 10m additional consumers, of which at least 6.5m will be women of child-bearing age, adolescent girls, or children under 5. The target countries for OFSP are Ethiopia, Kenya, Nigeria, Uganda, and Bangladesh.

The programme applies improved breeding techniques, aligned to the modernisation of CGIAR breeding through the Excellence in Breeding (EiB) platform, to develop new biofortified and competitive sweetpotato varieties rich in beta-carotene and/or iron. To broaden OFSP’s nutritional benefits to vulnerable populations at large scale, the programme is implementing selected delivery mechanisms and assessing their effectiveness and cost-effectiveness for generating nutrition outcomes. Moving beyond smallholder production and home consumption these mechanisms seek to harness markets and other institutional capacities. The programme will also strengthen and widely disseminate the evidence on the impact of biofortified crops and the effectiveness and cost-effectiveness of different delivery models. This analysis will be undertaken jointly with HarvestPlus across all biofortified crops whenever feasible.

Summary supporting narrative for the overall score in this review

During the 8 months since start of implementation, the programme has made good overall progress in building the framework for testing cost-effective and scalable delivery models in four of the five target countries (except Nigeria). The programme has undertaken in-country co-design of delivery models in collaboration with government (ministries of agriculture and health); research partners; and potential delivery partners from public, private, and NGO sectors to ensure that programme design is aligned to country priorities and utilises latest available evidence on micronutrient deficiency and other pertinent factors. (The conclusions from these consultations are reflected in the updated Delivery Note submitted by CIP in November 2019. This note was discussed with HarvestPlus and a revised common logical framework was developed that will provide the framework for joint planning, implementation, and evaluation of the programme across all crops.) Moving into implementation, the programme has established subgrant agreements with implementing partners (IPs) and strengthened CIP’s competencies and operations in critical technical areas and geographies. At the same time, activities continued from the previous programme phase, which ended in April 2019. CIP and partners developed and delivered OFSP in all target countries and in additional countries in Africa since then, utilising

capacities and technologies developed during the previous phase. Overall, however, progress on delivery targets has been slower than expected for several outputs in 2019. Progress is expected to accelerate in Year 2 with full implementation of the new delivery models.

Summary of progress across the 6 Outputs is as follows:

Output	Progress	Comment on achievement
1 (varieties)	Three new OFSP varieties were released: 2 in Ethiopia, 1 in Kenya. Two existing OFSP varieties were exchanged and newly released, 1 each in Ethiopia and Kenya.	Met target of 3 new varieties released; exceeded target of 1 existing variety released in additional countries.
2 (production)	More than 4.7m vine cuttings delivered to farmers, and more than 3m vine cuttings produced and awaiting delivery in the early 2020 planting season. More than 121,000 new farmers adopted OFSP from various sources since April 2019.	Focus has been on co-development of delivery models; continued delivery from previous phase; and initial implementation of new models met most annual targets.
3 (markets)	Market analyses undertaken, delivery models developed, and implementation initiated.	Report on delivery requires additional assessment.
4 (utilization)	Production of 15,000 “healthy baby tool kits” initiated for March 2020 delivery.	Production of tool kits in target countries slow to start, but key to cost-effectiveness.
5 (capacity)	More than 5,700 people trained through a training-of-trainers (ToT) approach in key nodes of delivery chain (from seed to utilisation).	Target achieved with conventional approach from previous phase; expected to accelerate through digitized ToT.
6 (evidence)	Fourteen publications on cost-effectiveness or nutrition in 2019 amongst 176 publications.	No. of publications on cost-effectiveness and nutrition will increase from Year 2.

Recommendations for the year ahead (1/2 page)

To be completed by DFID

B: DETAILED OUTPUT SCORING (suggest 1 page per output)

Output Title	At least 12 new biofortified varieties are released or recommended for release; and at least 25 varieties are registered in additional countries.		
Output number per LF		Output Score	A+
Impact weighting (%):		Impact weighting % revised since last AR?	Y/N (if Yes, indicate if ↑ or ↓)

Indicator(s)	Milestone(s) for This Review	Progress
No. of biofortified varieties released/ recommended for release disaggregated by crop and country	Three new OFSP clones recommended for release.	Three OFSP varieties officially released: 2 in Ethiopia ('Ukr/Eju-10/Alamura' and 'Ukr/Eju-13/Dilla') and 1 in Kenya ('Silklow 6'). Ongoing evaluation and registration of existing germplasm in Bangladesh, Ethiopia, Kenya, and Uganda to increase available varieties in target countries.
No. of released biofortified varieties exchanged and registered in additional countries	Five OFSP varieties exchanged and at least 1 of these recommended for registration.	Two existing OFSP varieties newly released in additional countries: 1 ('Kabode') from Uganda in Ethiopia and 1 ('Irene') from Mozambique in Kenya. <i>In vitro</i> plantlets of 18 OFSP varieties shared with DR Congo National Institute for Agricultural Studies and Research for evaluation. Initial planning meeting held with Bangladesh Agriculture Research Institute (BARI) to establish breeding platform for Bangladesh and South Asia.

Provide supporting narrative for the score

The ongoing collaboration between CIP and national agricultural research systems (NARS) for OFSP varietal development and exchange in target countries has generated three new varieties in 2019. In Ethiopia two OFSP varieties—'Ukr/Eju-10' (Alamura) and 'Ukr/Eju-13' (Dilla)—were officially released in October 2019. In Kenya one new OFSP variety ('Silklow 6') was released in August 2019. At the same time, two existing OFSP varieties were newly released in these countries following National Performance Trials (NPTs): in Ethiopia 'Kabode' from Uganda, and in Kenya 'Irene' from Mozambique. In addition, six sweetpotato candidate clones have been selected for NPTs in five trial sites in Kenya in partnership with the Kenya Agriculture and Livestock Research Organization (KALRO) and supervised by Kenya Plant Health Inspectorate (KEPHIS). In Uganda with the National Crops Resources Research Institute (NaCRRI), up to eight OFSP clones are being selected for evaluation trials in the first season of 2020, with a view of new releases within the lifetime of this programme.

In November 2019 CIP transferred *in vitro* plantlets of 18 OFSP varieties from the facility at KEPHIS to the DR Congo National Institute for Agricultural Studies and Research in Bukavu for evaluation and subsequent release. The varieties have been selected based on their performance in similar agro-ecologies in Uganda, Rwanda, Burundi, and other countries.

In Bangladesh the programme has initiated discussions with the Tuber Crops Research Center (TCRC) of BARI to upgrade current breeding activities into a regional breeding platform for South Asia modelled on the successful platforms in Uganda and Mozambique. A subgrant agreement has been signed between BARI and CIP, an additional sweetpotato breeder recruited, and evaluation trials of advanced OFSP clones accelerated in various agro-ecological zones in Bangladesh.

Lessons identified this year, and recommendations for the year ahead linked to this output

In Kenya the CIP-KEPHIS collaboration has adopted client-driven NPT methodologies to accelerate the evaluation and release process. With support from the Bill and Melinda Gates Foundation (BMGF), CIP commenced Sweetpotato Genetic Advances and Innovative Seed Systems (SweetGAINS), a new sweetpotato genetic gains project in October 2019 that will modernise sweetpotato breeding in the NARS and at CIP. It will be important for this programme to collaborate closely with SweetGAINS to ensure a continuous pipeline of OFSP releases and to feed back evidence on performance and consumer demand from various stages in the delivery chain.

Output Title	<i>Increased production of biofortified crops</i>		
Output number per LF		Output Score	<i>n/a</i> ¹
Impact weighting (%):		Impact weighting % revised since last AR?	Y/N (if Yes, indicate if ↑ or ↓)

Indicator(s)	Milestone(s) for This Review	Progress
Quantity of biofortified seed acquired by farmers, disaggregated by source	20m additional vine cuttings over baseline	More than 4.3m vine cuttings distributed in continuation of previous programme phase. Some 387,600 OFSP vine cuttings have been distributed using new delivery mechanisms in Bangladesh and Kenya. More than 3m vine cuttings produced for the next planting season in early 2020.
Number of HH that acquired seed/planting material disaggregated by crop, sex of recipient, and geographic location	100,000 over baseline	More than 121,000 HH received planting material in continuation of previous programme phase from various partners. Through new delivery mechanisms, 362 additional HH (62 men, 300 women) reached in Bangladesh and Kenya.
Proportion of seed supply that is biofortified, disaggregated by crop and country	1%	No progress reported for this indicator. This will be determined after baseline surveys have been conducted in target countries.
Quantity of biofortified crops produced, disaggregated by crop and country (calculated based on seed quantity and the average yield for each crop)	Increase by at least 8,000 tonnes over baseline	OFSP roots production will commence in the next cropping season for Bangladesh, Ethiopia, Kenya, and Uganda. ToT on good agronomic practices (GAP) has started.
Number of value chain (VC) actors that use the digital platforms to access services related to biofortified crops	TBD	Activities relating to this indicator are scheduled to start in January 2020.

Provide supporting narrative for the score

Building on evidence and lessons from the previous phase, the programme updated its strategies for improving the cost-effectiveness of delivery mechanisms in support of increasing OFSP production. These include accelerating multiplication of new and improved biofortified varieties through a combination of public and private multipliers, and delivering seed through both public/NGO programmes and commercial channels. At the same time, IPs from the previous programme phase continued delivery of OFSP, reaching more than 121,000 HH since April 2019. Implementation of the updated approaches started in August 2019 in Ethiopia, Kenya, and Bangladesh. In Ethiopia NARS and Haramaya University have bulked planting material of the new 'Kabode' variety, and the programme signed delivery agreements with the Bureau of Agriculture. In Kenya 10 private sector multipliers (8 men, 2 women) produce OFSP vines on 4.5 acres, which will yield 900,000 vine cuttings for dissemination to farmers in early 2020. Of these, 260,000 cuttings will go to contract farmers supplying OFSP roots to a commercial processor. In Bangladesh 2,130,000 vine cuttings are being prepared for delivery, and 422 farmers have been trained in GAP and root production. So far, 387,600 OFSP vine cuttings have been distributed in Kenya and Bangladesh through new approaches.

Lessons identified this year, and recommendations for the year ahead linked to this output

Multiplication and delivery of OFSP vine cuttings were delayed as new delivery mechanisms were being designed and contractual agreements negotiated. The programme will need to accelerate delivery and, where needed, enter into additional partnerships for extended reach within the short timeframe available. Such an expansion would need to be defined within the current framework of delivery models.

¹ For most indicators for this output, data are currently not available and require separate assessments. The methodology for undertaking these assessments is being developed together with HarvestPlus.

Output Title	<i>Increased supply and demand for biofortified foods on the market</i>		
Output number per LF		Output Score	<i>n/a²</i>
Impact weighting (%):		Impact weighting % revised since last AR?	Y/N (if Yes, indicate if ↑ or ↓)

Indicator(s)	Milestone(s) for This Review	Progress
Number of value VC actors (aggregators, processors, retailers), that are utilising harvested biofortified crops, disaggregated by size of enterprise (micro, small, medium, and large) and type of product (fresh, processed)	Aggregators: 500 Processors: 50 Retailers: 1,000	This indicator will require a survey to ascertain current numbers.
Quantity of biofortified foods sold by the VC actors in the programme database disaggregated by crop, food type (fresh, processed), and country	Increase by at least 12,000 tonnes over baseline	This indicator will require a survey to ascertain current numbers.
Value of sales of biofortified foods, disaggregated by crop, type (fresh, processed), and country	OFSP: Increase by at least \$5m over baseline	This indicator will require a survey to ascertain current numbers.

Provide supporting narrative for the score

Under this output, delivery models and work plans have been developed for four of the target countries, except Nigeria, and IPs identified through technical consultations. The programme has started conducting baseline surveys and market analysis to identify entry points and market interventions for “bottom-of-the-pyramid consumers. In Kenya the programme has signed a subgrant agreement with a medium-scale commercial food processor, Burton & Bamber Ltd (B&B), North Carolina State University, and SinnovaTek Inc. for the commercialisation of OFSP puree. Production of puree is scheduled to start in May 2020. The programme is working through an existing B&B contract farmer scheme to establish supply chains of OFSP roots from an initial 130 smallholders; expanding on the 139 commercial root producers currently supplying commercial processors in Kenya. In Uganda 50 sweetpotato traders (7 men, 43 women), 40 root suppliers (all men), and 20 small-scale processors (6 men, 14 women) have been recruited to participate in the programme’s marketing and consumption activities of OFSP.

Lessons identified this year, and recommendations for the year ahead linked to this output

The programme has started to implement small surveys and market studies to provide baseline information and inform the targeting of market interventions. This information needs to be exchanged with HarvestPlus and incorporated into the delivery activities early in Year 2.

² For most indicators for this output, data are currently not available and require separate assessments. The methodology for undertaking these assessments is being developed together with HarvestPlus.

Output Title	<i>Improved utilization of biofortified foods at household and institutional levels</i>		
Output number per LF		Output Score	<i>n/a</i> ³
Impact weighting (%):		Impact weighting % revised since last AR?	Y/N (if Yes, indicate if ↑ or ↓)

Indicator(s)	Milestone(s) for This Review	Progress
Proportion of foods in institutional food distribution programmes that is biofortified disaggregated by crop and country.	n/a	This indicator requires a survey to ascertain baseline information.
Number of children aged under 5 years in low-income HH that are consuming OFSP using the healthy baby tool kit (counselling card, pre-recorded audio messages, measuring bowl, and slotted spoon).	At least 0.1m children under 5 years of age	Manufacturing of 15,000 healthy baby tool kits initiated; ready for delivery in March 2020.

Provide supporting narrative for the score

Delivery mechanisms have been identified in four of the target countries (except Nigeria) through a standardised technical consultation process with government and potential delivery partners from UN agencies and NGOs. This will ensure that targeting is aligned to country priorities and to related investments in relief, resilience, and nutrition programming. The healthy baby tool kit has been validated in Ethiopia in 2018/19 and manufacturing of 15,000 units has begun in Kenya for regional distribution to commence in March 2020. Accompanying nutrition communication products (audio and visual) are being customised for each target country and will be ready for distribution with the rest of the tool kit.

Lessons identified this year, and recommendations for the year ahead linked to this output

Cost-effectiveness of the healthy baby tool kit increases if they are manufactured in the target region. Moreover, additional savings are being made if one central supplier purchases the patent for the bowl and spoon and supplies neighbouring countries at scale.

In Year 2 the programme will create demand for the healthy baby toolkit among larger nutrition delivery programmes by governments, UN agencies, and NGOs working in target countries.

³ For most indicators for this output, data are currently not available and require separate assessments. The methodology for undertaking these assessments is being developed together with HarvestPlus.

Output Title	<i>Capacity of value chain actors is strengthened</i>		
Output number per LF		Output Score	<i>n/a⁴</i>
Impact weighting (%):		Impact weighting % revised since last AR?	Y/N (if Yes, indicate if ↑ or ↓)

Indicator(s)	Milestone(s) for This Review	Progress
Number of people trained through the digitised OFSP training course, “Everything You Ever Wanted To Know about Sweetpotato”, disaggregated by VC node, sex, and location	At least 5,000 people trained	In continuation of the previous programme phase, 5,232 people (mainly women) were trained in nutrition and child-feeding practices including OFSP. A total of 476 (96 men, 380 women) farmers, 422 in Bangladesh, 10 in Kenya, and 44 in Uganda have been trained on OFSP production and agronomy skills. In Kenya 42 (23 men, 19 women) stakeholders from public and private sector have been trained in food safety standards for supply chain management, food processing, HH consumption, and food preparation.

Briefly describe the output and provide supporting narrative for the score

Through a ToT approach the programme has strengthened the capacity of 476 people (380 women)—422 in Bangladesh, 10 in Kenya, and 44 in Uganda—in priority areas of the OFSP VC. The interventions have mainly targeted multipliers and farmers to enhance capacity for quality seed and root production through GAP. In preparation for large-scale commercialisation of OFSP puree in Kenya, the programme has enhanced stakeholder capacity on food safety standards for supply chain management (Global Gap), food processing, HH consumption, and food preparation. Forty-two staff (23 men, 19 women) from government departments of agriculture and health, Kenya Bureau of Standards, private sector, and the research communities sector participated in 2019.

In continuation of the previous programme phase, government and NGO partners trained 5,232 people (mainly women) in nutrition and child-feeding practices including OFSP.

The programme is using existing ToT manuals and materials developed in the previous programme phase and by related CIP projects. To improve cost-effectiveness of delivery, the programme will digitise these materials and customise them for broader dissemination.

Lessons identified this year, and recommendations for the year ahead linked to this output

In Year 2 the programme needs to prioritise the digitisation of training modules and establish linkages with online platforms for wider dissemination. The programme will review existing platforms in the agriculture and nutrition capacity-development space and select an appropriate host platform.

⁴ For most indicators for this output, data are currently not available and require separate assessments. The methodology for undertaking these assessments is being developed together with HarvestPlus.

Output Title	<i>Strengthening and sharing the evidence on the impact of biofortified crops and the effectiveness of different delivery models</i>		
Output number per LF		Output Score	A
Impact weighting (%):		Impact weighting % revised since last AR?	Y/N (if Yes, indicate if ↑ or ↓)

Indicator(s)	Milestone(s) for This Review	Progress
Number of scientific and technical publications assessing the effectiveness and cost-effectiveness of delivery models	Peer-reviewed: 2 Technical reports: 4	Some 73 journal articles and 53 open-access articles. Of these: <ul style="list-style-type: none"> • 1 peer-reviewed publication on cost-effectiveness • 1 technical report on scalability
Number of scientific and technical publications on biofortified crops and foods and their nutrition impacts	Peer-reviewed: 1 Policy briefs: 1 Study reports: 1	<ul style="list-style-type: none"> • 2 peer-reviewed publications on nutrition • At least 5 policy briefs and at least 5 study reports pertaining to nutrition
Number of biofortification knowledge products generated using a harmonised monitoring, evidence, and learning (MEL) framework and tools	<ul style="list-style-type: none"> • Biofortification priority indicators identified and defined. • Methods and tools for measurement are developed jointly and utilised to generate biofortification knowledge products. 	<ul style="list-style-type: none"> • Draft biofortification indicators have been developed jointly with HarvestPlus, the CGIAR research programme on Agriculture for Nutrition and Health (A4NH), and other partners. • A unified programme logical framework and theory of change (ToC) have been developed.

Provide supporting narrative for the score

CIP and HarvestPlus have made good progress in developing a harmonised MEL framework for biofortification, working closely with partners from A4NH that provided additional support. Building off this framework, CIP and HarvestPlus developed a unified logical framework and ToC for this programme, including priority indicators for tracking delivery of biofortified crops at scale.

Number and type of publications by CIP scientists for 2018 and 2019 are as follows:

Year	ISI Thomson journal Articles	Other Journal Articles	Open-Access Journal Articles	Book Chapters	Books, Monographs	Conference Abstracts
2018	57	8	50	6	36	4
2019	73	2	53	4	34	10

Amongst these publications an assessment of cost-effectiveness of the “Mama SASHA” integrated agriculture-health OFSP delivery model is of particular importance to the new programme phase: Levin, C. et al. 2019. What is the cost of integration? Evidence from an integrated health and agriculture project to improve nutrition outcomes in Western Kenya. *Health Policy and Planning*. ISSN 0268-1080. DOI: <https://doi.org/10.1093/heapol/czz083>. Leaner, more cost-effective versions of this model will be applied by the programme, including use of the healthy baby tool kit.

A technical report on the randomised control trial to measure scalability of OFSP delivery mechanisms during the previous programme phase was produced by Michigan State University.

Lessons identified this year, and recommendations for the year ahead linked to this output

In Year 2 the programme will finalise the harmonised MEL framework and toolkit and build capacity for their implementation across IPs.

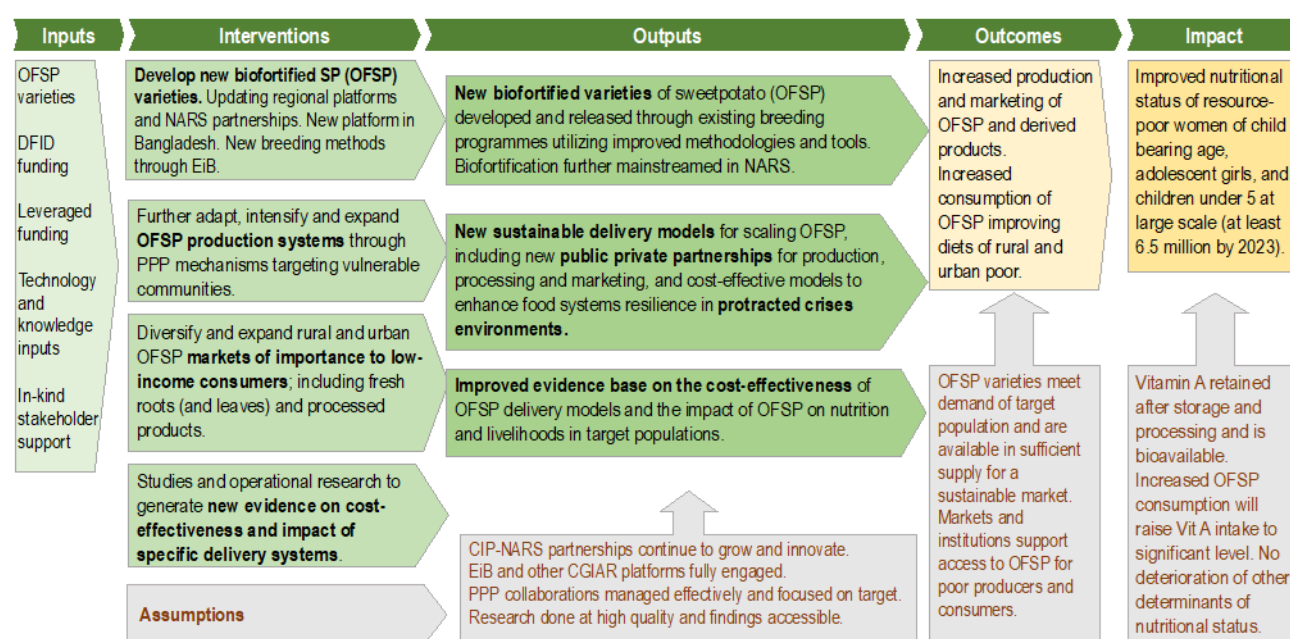
Results from baseline surveys and market studies will be used to refine delivery models across different biofortified crops.

C: THEORY OF CHANGE AND PROGRESS TOWARDS OUTCOMES

Summarise the programme's theory of change and any major changes in the past year

The programme is based on a ToC that emphasises four principal pathways for delivery of OFSP from research to utilisation: (1) accelerated and cost-effective development and deployment of competitive OFSP varieties that meet the demand of producers and consumers and support increased production of OFSP in target countries; (2) expanded engagement with fresh food markets, both formal and informal, to reach resource-poor consumers in vitamin A-deficient priority markets; (3) introducing OFSP into the growing food-processing industry in target countries in order to produce affordable, safe, and nutritious products for low-income consumers; and (4) introducing OFSP into relief and resilience programming in protracted crisis environments, both as agriculture input and as food. In support of these pathways, the programme is applying and building on proven methodologies for crop improvement, seed system strengthening, farmer training, market development, and consumer insights and behaviour change communication. The programme's specific ToC is summarised in Figure 1 below and highlights pathways for scaling OFSP. No additional changes have been made during the past year, but further integration is required with HarvestPlus to arrive at one unified ToC.

Figure 1. ToC for OFSP delivery



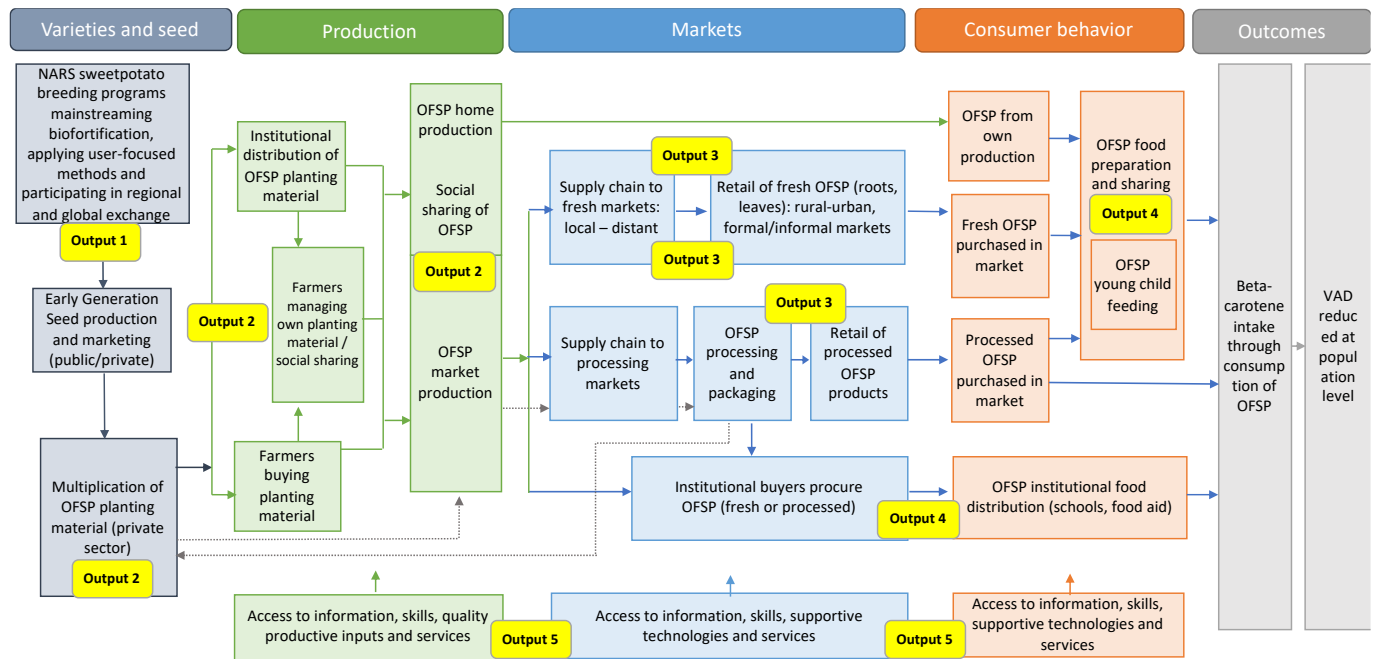
Describe where the programme is on track to contribute to the expected outcomes and impact, and where it is off track and so what action is planned as a result in the year ahead

During the first 8 months of implementation, the programme has emphasised the co-development of delivery models and ramping-up capacities and partnerships for delivery. This is well on track in four target countries—Bangladesh, Ethiopia, Kenya, and Uganda—and will start in early 2020 in Nigeria as well. Together with HarvestPlus the programme developed a unified set of priority indicators to measure outcomes and impacts from the delivery of biofortified crops at scale. It is too early at this stage to comment further on outcomes and impacts.

Explain major changes to the logframe in the past year

The original logframe submitted with the OFSP programme proposal has been revised by the joint CIP and HarvestPlus team in the context of harmonising the MEL system for biofortification in the CGIAR. The revised logframe has six outputs (varieties, production, markets, utilisation, capacity development, and evidence base) in line with the harmonised MEL framework. Figure 2 illustrates the location of the logframe outputs along the pathways for scaling OFSP from breeding to consumption. Output 6 (evidence base) is a crosscutting output that captures evidence and learning along the entire pathways.

Figure 2. Logframe outputs along pathways for scaling OFSP



The logframe will continue to evolve as informed by baseline surveys, DFID’s feedback, and continuous learning.

Describe any planned changes to the logframe as a result of this review

This is not applicable for the first year’s annual review.

D: VALUE FOR MONEY (VfM)

Assess VfM compared with the proposition in the business case, based on the past year

The programme's implementation approach has been designed to deliver value for money based on lessons from the previous programme phase. Specifically, the delivery models have been developed on the basis that they represent VfM and are sustainable for effective scaling. CIP is using existing capacities and partnerships in the target countries to accelerate the take-off process and commence implementation of activities cost-effectively. In addition the programme's activities and partnerships are linked strategically to other projects being implemented by CIP and its partners.

For output 1 (varieties) the programme is working closely with CIP's new SweetGAINS project, funded by BMGF, and drawing on continued support for sweetpotato breeding by the U.S. Agency for International Development, the CRP on Roots, Tubers and Bananas (RTB), and the EiB platform. For outputs 2–5 (production, marketing, utilisation, and capacity development), the programme is co-investing resources with public and private sector partners along the delivery chain. These include NARS and private enterprise for seed multiplication; food processors and their supply chain partners; and government, UN agencies, and NGOs for institutional delivery of nutritious foods. These linkages will help the programme to leverage additional resources, target country priorities, apply new technologies and innovative delivery approaches, and thus accelerate progress toward programme targets. For output 6 (evidence base) the programme works jointly with HarvestPlus and A4NH research partners to develop and implement unified MEL systems that can generate evidence across the entire biofortification business case in a timely and cost-effective manner.

Table 1. VfM delivered by the programme

4 Es	Examples of VfM-focused actions so far (Year 1)
Economy	<ul style="list-style-type: none"> • Cost-sharing arrangements with new and existing IPs and related CIP projects (eg, through shared assets and services). • Careful definition of the programme's added value and embeddedness in larger, ongoing investments in public and private sector (eg, nutrition programmes, agri-business programmes, humanitarian assistance). • Technical and cost control mechanisms put in place through sub-agreements, enhanced due diligence, and ongoing monitoring of partner activities.
Efficiency	<ul style="list-style-type: none"> • Close collaboration with HarvestPlus, A4NH, EiB, and other CGIAR programmes and platforms to maximise quality and timeliness of research implementation. • Harmonised MEL system will support comprehensive and efficient tracking of programme progress at output and outcome levels.
Effectiveness	<ul style="list-style-type: none"> • Sustainability and scaling considerations have been prioritised in the design of delivery mechanisms and the selection of implementation partners and locations. • Partnership approach, communications, and advocacy activities are designed to stimulate increased independent investments in OFSP by governments, civil society programmes, and private commercial partners.
Equity	<ul style="list-style-type: none"> • The programme's targeting strategy is focused on locations and target groups (women of reproductive age, children under 5, and adolescent girls) highly vulnerable to vitamin A deficiency (VAD). • Delivery models prioritise highly vulnerable populations within the target groups, and MEL will closely track continued focus on these groups. • Safeguarding policies and tools have been developed and integrated into all implementation plans by CIP and IPs.

Explain whether and why the programme should continue from a VfM perspective, based on its own merits and in the context of the wider portfolio

The programme has been designed on the basis of VfM lessons from the previous phase and has further specified VfM considerations when co-developing delivery models during the first 8 months of implementation. These considerations can be summarised as follows:

1. Leveraging resources, capacities, and technologies from a strong set of related investments through CIP, CGIAR, other research structures, and public and private sector delivery partners.

2. Designing delivery models that prioritise cost-effectiveness and scalability in all aspects, from technology selection to partner selection and operations.
3. Where possible, prioritise market-based approaches to delivery for sustainability and broader development benefits.
4. Keeping a clear focus on target populations and outcomes and placing effort where OFSP can make the greatest difference within the resources and timeframe available.

Underpinning these principles, the programme has designed an updated MEL system that supports monitoring of these aspects to ascertain that VfM is indeed being realised. Programme management structures and processes are flexible in order to respond to learning and adjust priorities and operations to deliver continued VfM.

The programme makes a particular contribution to achieving nutrition outcomes in fragile-state environments. Specifically, the programme has selected countries, and parts of countries, affected by protracted crises and with comparatively high rates of VAD:

Country	Programme Locations	Percentage of Country Beneficiaries in Fragile Environments
Bangladesh	Gaibandha, Kurigram, and Rangpur districts	50
Ethiopia	Oromia region: East Hararghe and West Hararghe zones Somali region: Shinile zone SNNPR: Gedeo, Wolaita, and Gamo zones	60
Kenya	Machakos, Kiambu, Kirinyaga, Embu, Kitui, Makueni, and Taveta counties	20
Nigeria	Kaduna, Kano, and Jigawa states	70
Uganda	Karamoja, Acholi, Bukedi, and Bugisu sub-regions	50

Delivery through humanitarian programmes will deliver benefits to additional beneficiaries in highly fragile environments such as resettlement camps.

Eight months into the programme it is too early to provide a detailed analysis and quantification of the VfM delivered. On the other hand, the programme can build on substantial learning from the previous phase and has assembled a strong set of partnerships and delivery models that are clearly focused on cost-effectiveness.

E: RISK

Overview of programme risk (noting the rating from p.1) and mitigation

The programme has worked closely with DFID and IPs to identify potential risks and to develop a risk register and mitigating measures that will help monitor and manage risk during programme implementation. As outlined in Annex 5, the risk areas identified are mostly low to moderate. Examples of programme risks are the following:

Context: Risks from political insecurity or extreme weather events in target countries. As in the previous phase, the programme will work closely with host governments and international agencies operating at field level to continuously assess security and climatic risks. When and as needed, the programme will adjust field sites and operations to focus on areas of relative security.

Delivery: There is a risk that CIP and partners will not achieve cost-effective delivery at the scale intended due to weak or changing market or institutional contexts as well as inadequate capacities and readiness to adopt new delivery methodologies amongst partners. The programme will co-design, with delivery partners, a robust set of delivery approaches based on thorough market and institutional analyses. The improved MEL system with HarvestPlus will track performance and identify concerns in a timely manner. Technical and cost-control mechanisms are in place through sub-agreements to support remedial action as needed.

Operational: There could be fluctuations in resources available caused by exchange rates and other external economic and political factors. The programme will ensure regular monitoring through robust internal management of the programme and will flag any issues to DFID.

Safeguarding: Some of programme activities will involve direct interaction with children and vulnerable adults by CIP and/or partner staff. Examples include HH nutrition activities, school-feeding programmes, and resilience activities with displaced populations. Any of these activities pose an inherent risk of exploitation, abuse, harassment, and bullying. The programme will apply DFID's safeguarding guidelines across all its components and partnerships as described in the programme's Safeguarding Policies and Guidelines shared with DFID and posted to IATI. CIP will take all reasonable steps to enforce safeguarding by both its staff and downstream partners. Safeguarding standards have been shared with IPs through enhanced due diligence assessments and staff/partner training.

Fiduciary: There is an inherent risk in all commissioning activities that funds are not used for the intended purposes. DFID completed a due-diligence assessment of CIP before the programme commenced. CIP has demonstrated the capacity to implement and manage the financing of the programme and has a strong track record of management and delivery of research programmes. CIP has robust internal controls in place to mitigate the risk of fraud and corruption by IPs and staff. This includes strict and regular due-diligence assessments of IPs.

Reputational. Risk of promoting relatively unhealthy processed foods with high sugar and fat content. The programme will only support development and promotion of healthy products that are relatively lower in fat and sugar content than comparable products in the market. The use of OFSP as an ingredient will allow reduction of added sugars and will prolong shelf-life of bakery goods. CIP's Food and Nutrition Evaluation Lab will continue to provide nutrition and food safety research support for partners to improve competencies in the processing chain and increase consumer awareness.

F: DELIVERY, COMMERCIAL & FINANCIAL PERFORMANCE

Performance of partners and DFID, notably on commercial, and financial issues

Continuing from the previous programme phase, CIP has consistently submitted technical, institutional, and financial documentation to DFID in a timely manner and at high quality. In 2019 these have included the following:

- Technical proposal for new programme phase (April 2019)
- Six-monthly financial forecast (May 2019)
- Final technical report for previous phase (April 2019)
- Final financial report for previous phase (June 2019)
- Enhanced due-diligence assessment (October 2019)
- CIP Safeguarding Policy (October 2019)
- Registration of new programme phase with IATI (October 2019)
- Six-monthly financial report and forecast (October 2019)
- Revised logframe jointly submitted with HarvestPlus (November 2019)

Annexed to this 2019 annual review report are the following:

- Joint logical framework with HarvestPlus (Annex 1)
- Asset register (Annex 2)
- Financial report May to September 2019 (Annex 3A)
- Forecast vs expenditure to October 2019 (Annex 3B)
- Latest CIP audited financial statement (Annex 3C)
- Partner mapping (Annex 4)
- Risk register (Annex 5)

CIP regularly updates DFID on any emerging technical, institutional, or financial issues or risks, and seeks to respond in a timely manner and comprehensively to ad hoc requests from DFID.

Regular communication, conference calls, and meetings between CIP, HarvestPlus, and DFID have been very useful in ensuring that the programme applies an integrated approach to biofortification and contributes to DFID's programmatic goals. CIP appreciates DFID's role in facilitating and convening these dialogues and promoting collaboration between the CIP and HarvestPlus. We hope that this will continue throughout the programme's lifecycle.

Date of last narrative financial report(s)	
Date of last audited annual statement (s)	

MONITORING, EVIDENCE & LEARNING (1-2 pages)

Monitoring

The programme has designed a robust MEL system that will help to systematically track evidence of progress made against programme outcomes, outputs, and indicators for reporting, learning, and to inform decision-making. The programme's MEL activities are anchored on the joint MEL framework and tools developed by CIP and HarvestPlus, with support from A4NH. CIP's MEL team actively participates in the CGIAR-wide MEL platform for sharing of methodologies and experiences.

Drawing from a joint logframe and ToC developed with HarvestPlus, a detailed MEL plan is in place to guide data collection and processing for each indicator. At this early phase of programme implementation, the data collection tools are being adjusted to the revised indicators through field-level trials. Downstream partners are being trained on effective use of data collection tools and techniques. However, some data have been collected using these tools (as reported in Section B).

Evidence

To establish baseline evidence, surveys and market assessments have commenced in target countries. At country level, the programme has further worked with government to review latest statistics on VAD and consulted with stakeholders to identify best possible entry points for programme interventions using OFSP. These national meetings and analyses have guided the selection of locations, partners, target beneficiary groups, and delivery mechanisms in order to prioritise high-impact entry points where the programme can operate cost-effectively within the available timeframe.

In collaboration with CGIAR and other research partners, CIP has further undertaken a comprehensive and in-depth national OFSP adoption study in Malawi to better understand patterns and underlying factors of OFSP adoption, production, marketing, and consumption in different socioeconomic and agro-ecological contexts. Results from this study will be available in 2020 and will inform the future design of delivery mechanisms. Similarly, CIP is participating in related CGIAR technology diffusion research, using OFSP diffusion in Uganda as a case study.

Learning

Continuous learning has taken place during the programme design through review of lessons from the previous programme phase and related efforts, involving CIP and HarvestPlus teams, IPs, and national stakeholders. Field-monitoring and partner visits were led by programme staff in the target countries (Bangladesh, Ethiopia, Kenya, and Uganda). Findings from these visits have been shared across countries and partners and have informed work-planning and design of delivery models during a programme inception meeting in Nairobi in September 2019. Monthly programme management meetings (conference calls) involving CIP staff from all target countries allow for frequent exchange and learning. Quarterly meetings between CIP and HarvestPlus teams in Uganda and regular interactions between the two organisations in other countries and at global level foster joint learning across different biofortified crops. These interactions will be further intensified as CIP and HarvestPlus implement a unified MEL framework.

Progress on recommendations from previous reviews

Recommendation from Programme Completion Review	Action Taken	Status
<p>#1 CIP should further strengthen its collaboration with HarvestPlus and come up with a streamlined approach for scaling biofortified crops.</p>	<p>The programme has continued to work with HarvestPlus on a joint approach during the design phase, including identifying a common set of priority research questions and knowledge gaps for the scaling of biofortified crops. CIP–HarvestPlus have made good progress towards a harmonised MEL system for biofortification in the CGIAR, including a joint programme logframe, ToC, and indicators to measure the scaling of biofortified crops.</p>	<p>Ongoing</p>
<p>#2 CIP should draw on available evidence to identify the most cost-effective delivery models of dietary behaviour change for farming and non-farming low-income households.</p>	<p>CIP has worked with HarvestPlus and other research partners and national stakeholders to review the evidence on scalability of delivery mechanisms. This review informed the selection and design of delivery models to be tested and rolled out during the new programme phase.</p>	<p>Ongoing</p>
<p>#3 CIP should work with in-country stakeholders, including DFID country offices, to identify complementary nutrition and private sector development programmes that can increase the sustainability of this initiative and continue the pivot towards indirect delivery.</p>	<p>CIP convened national stakeholder consultations in Bangladesh, Ethiopia, and Uganda and conferred closely with key partners in Kenya to identify opportunities for the programme to link with broader ongoing programs. DFID country offices participated in Kenya and Uganda. As a result, in the new programme phase, CIP will deliver more strongly through government, NGO, and UN nutrition and resilience programmes as well as through commercial sweetpotato market chains.</p>	<p>Ongoing</p>
<p>#4 CIP should engage with market experts to address knowledge gaps in expanding OFSP fresh food markets and products.</p>	<p>The programme is engaging a market research partner to conduct market analyses that will guide the programme in targeting for bottom-of-the-pyramid consumers. In addition CIP is recruiting a consumers insights and market development specialist to strengthen the programme team.</p>	<p>Ongoing</p>
<p>#5: CIP should build on the existing evidence base relating to delivery models and nutritional benefits of OFSP</p>	<p>Current evidence base and knowledge gaps have been identified in the Delivery Note, and targeted operational research is scheduled to begin in 2020 to provide evidence on nutrition outcomes, cost-effectiveness, and sustainability of various delivery models.</p>	<p>Ongoing</p>

Smart Guide

The annual review is part of a continuous process of review and improvement and a formal control point in DFID's programme cycle. At each formal review, the performance and ongoing relevance of the programme are assessed and the spending team needs to decide whether the programme should continue, be restructured, or stopped. Teams should refer to the section on annual reviews in the Smart Rules and may also like to look at relevant Smart Guides (eg, on Reviewing and Scoring Projects). When planning a review, re-read the 10 Delivery Questions in the Smart Rules and when writing the findings reflect anything relevant related to them.

The annual review includes specific, time-bound recommendations for action, consistent with the key findings. These actions—which in the case of poor performance will include improvement measures—are elaborated in further detail in internal delivery plans.

The annual review assesses and rates outputs using the following rating scale. The Aid Management Platform (AMP) and the separate programme scoring calculation sheet will calculate the overall output score taking account of the weightings and individual output scores

Description	Scale
Outputs substantially exceeded expectation	A++
Outputs moderately exceeded expectation	A+
Outputs met expectation	A
Outputs moderately did not meet expectation	B
Outputs substantially did not meet expectation	C

Teams should refer to the considerations below when completing this template. Suggested section lengths are indicative. Teams can delete spaces between sections on the template as needed, but the headings and sub-headings must not be altered or removed unless otherwise indicated in the template. Some reviews may need to be longer and others can be shorter (eg first year of a programme which has largely focused on mobilisation activities) – it is for the SRO and Head of Department to decide. All text needs to be suitable for publication. Bullets rather than full narrative may make sense for some sections.

A: Summary and Overview

Programme Code is the AMP I.D. number (same on Devtracker)

Enter risk rating (Minor, Moderate, Major or Severe) at the time of the review, taken from AMP

Describe the programme in 1-2 paras including what it is aiming to achieve. You might want to include headline points on changes in the operating context, partner performance, DFID management of the programme or other points relevant to the 10 Delivery Questions in the Smart Rules.

Describe –without repeating detail from Section B- progress in the past year and why the programme has scored as it has against the output indicators. Capture the key recommendations for the year ahead factoring in all the text from the report. You don't need to include the detail of all lessons and recommendations from each output.

B: Detailed Output Scoring

Output Title, Number, Weighting, Indicators and milestones

Use the wording exactly as is from the current logframe. This will need to be entered on AMP as part of loading the Annual Review for approval. Indicate (Yes or No) if the impact weighting has been revised since last Annual Review and if Yes in which direction (up or down). Input progress against the milestone for this review

Output Score

Enter the rating (using the scale A++ to C) exactly as generated on the programme scoring calculation sheet

Provide a brief description of the output (unless obvious from the information in the box above) and

supporting narrative for the score

Lessons and recommendations linked to this output. Some of these may inform or need to be included in the summary of recommendations on page 1. For anything that can't be published please use the Delivery Plan

Repeat above for each Output in the logframe and add new sub-sections for additional outputs.

C: Theory of change and progress towards outcomes

Theory of Change (ToC). You might want to use a diagram to summarise it. You should flag any major changes in the past year. You should consider if the steps to achieving outcome and impact are still valid e.g. are the ToC logic, supporting evidence and assumptions holding up against implementation experience? Is there any new evidence which challenges the programme design or rationale? If relevant you might also want to flag any major changes since the programme started rather than just over the year in question.

Is the programme on track to contribute to the expected outcomes and impact? Review this in view of the overall programme score; but it is possible that outputs are being delivered but the envisaged outcomes or impact may not be achieved – or vice versa – and consider reasons for this. It is not unusual for programmes to be off track against at least some of the expected outcomes or impact: just set out what you plan to do about it. You should refer to the indicators in the logframe. Are there any unexpected outcomes emerging? Have there been any significant changes in the planned timetable for delivery of the programme? Are there any changes to expected outcomes or impact on gender equality compared to what was described in the approved Business Case?

Logframe. Describe major changes in the past year –including when they were made and why- and what their implications are for the programme. Ideally changes should not be made to any targets or indicators less than six months before they are being reviewed unless agreed with the Head of Department. All changes should be recorded as part of the programme's documentation (there is a 'change frame' tab on the logframe template). If relevant you might also want to flag any major changes since the programme started. Flag any planned changes (impact, outcome, output etc) as a result of the review and once agreed at the appropriate level record them in the change frame tab.

D: Value for Money

VfM assessment compared to the proposition in the business case You should refer to VfM measures and metrics from the Business Case and/or previous annual review. Changes in cost drivers (eg, costs of major inputs) and the theory of change may be relevant. The assessment should encompass the 4 E's of DFID's value for money framework – economy, efficiency, effectiveness and equity, including gender equality (referring back to the relevant text in the approved Business Case's Strategic Case may be relevant), disability and leaving no one behind.

Explain whether it makes sense to continue with the programme from a VfM perspective

Based on the above analysis of outcome and output attainment, theory of change, VfM and evidence analysis, is there sufficient evidence for the programme to continue, or should it be restructured or closed down?

You should also consider the programme as part of the wider portfolio in your department (eg, Business Plan) and if relevant for this document, DFID as a whole (e.g. Single Departmental Plan) or HMG as a whole

E: Risk

Provide an overview of the programme's risk (noting the rating from page 1) and mitigation

Note the overall risk rating now as captured in AMP and on p1. Flag any changes to the overall risk environment/context and how they impact on the programme, along with key risks that affect the successful delivery of the expected results. Use DFID's standard risk terminology where possible eg categories of risk and risk appetite.

Are there any different or new mitigating actions that will be required to address these risks and whether the existing mitigating actions are directly addressing the identifiable risks? Remember to take account of any relevant recommendations from Due Diligence Assessments on implementing partners.

Some relevant information may not be suitable for publication but ensure the risk register on AMP and Delivery Plan are updated as necessary following this review.

Update on Partnership Principles.

For programmes for where it has been decided (when the programme was approved or at the last Annual Review) to use the PPs for management and monitoring, provide details on:

- a. Were there any concerns about the four PPs over the past year, including on human rights?
- b. If yes, what were they?
- c. Did you notify the government of our concerns?
- d. If Yes, what was the government response? Did it take remedial actions? If yes, explain how.
- e. If No, was disbursement suspended during the review period? Date suspended (dd/mm/yyyy)
- f. What were the consequences?

For all programmes, you should make a judgement on what role, if any, the Partnership Principles should play in the management and monitoring of the programme going forward. This applies even if when the BC was approved for this programme the PPs were not intended to play a role. Your decision may depend on the extent to which the delivery mechanism used by the programme works with the partner government and uses their systems.

F: Delivery, Commercial and Financial Performance

Issues to consider for both the implementing partner(s) and DFID include: quality and timeliness of narrative reporting and audited financial statements; proactive dialogue on risks and updating of delivery chain maps; quality of financial management eg accuracy of forecasting; monitoring of assets. Consider also how DFID could be a more effective partner to help deliver the programme.

If there is a contract involved, set out:

- Delivery against contract KPIs (and Terms and Conditions)
- Compliance with the Supply Partner Code, where applicable, drawing on advice from PCD.
- Compliance with the new cost and transparency requirements, where applicable (i.e. highlighting any profit variance and challenge and use of Open Book Accounting)
- Performance of Partners. Where applicable, an annual summary of the new SRM scorecard assessment for each delivery partner involved in delivering this programme.

G: Monitoring, Evidence and Learning

Monitoring.

Summarise monitoring activities throughout the review period (field visits, reviews, engagement with stakeholders including beneficiary feedback) and how these have informed programming decisions. Where there is an external M&E supplier, how are they engaging with the programme implementer(s) and DFID. Briefly describe the Annual Review process itself including any inputs from outside the programme team (within or beyond DFID).

Evidence

Describe any changes in evidence and implications for the programme. Any relevant comments on the quality/breadth of the evidence.

Monitoring data, evidence and learning should consider the 'Leave no one Behind' agenda and as far as possible disaggregate information by age, sex, disability, geography (update geocoding information on AMP as needed) and other relevant variables.

Where an evaluation is planned set out what progress has been made.

Learning

What learning processes have been used over the past year to capture and share lessons, new evidence and know-how?

What are the key lessons identified over the past year for (i) this programme (ii) wider DFID and development work?

Any specific implications of that learning for this programme and priorities for follow-up in the year ahead may be best captured in the recommendations part of Section A

Do you have any learning aims for the programme for the coming year?

Progress on recommendations from previous review(s)

It is important to keep track of this. Some may not be publishable and feature in the Delivery Plan. But a brief update on progress against any recommendations from previous ARs (unless this is the first) should be provided