



# Building Monitoring and Evaluation with Theory of Change for the Livestock and Fish program

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[www.livestockfish.cgiar.org](http://www.livestockfish.cgiar.org)




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CGIAR is a global partnership that unites organizations engaged in research for a food secure future. The CGIAR Research Program on Livestock and Fish aims to increase the productivity of small-scale livestock and fish systems in sustainable ways, making meat, milk and fish more available and affordable across the developing world. The Program brings together four CGIAR centres: the International Livestock Research Institute (ILRI) with a mandate on livestock; WorldFish with a mandate on aquaculture; the International Center for Tropical Agriculture (CIAT), which works on forages; and the International Center for Research in the Dry Areas (ICARDA), which works on small ruminants. <http://livestockfish.cgiar.org>

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# Introduction

The CGIAR Research Program (CRP) on Livestock and Fish is seeking to develop a process of monitoring, evaluation and learning (MEL) to enable the gathering of evidence along its Theory of Change (ToC) and Impact Pathways over time. The purpose is to assess how its ToC is emerging in practice through its various research processes and engagement with stakeholders, in order to provide information for **management** and **accountability** objectives.

Two consultants, Isabel Vogel and Maureen O'Flynn have been appointed to provide support to the design, development and piloting of the necessary frameworks and tools required to operationalize the emerging approach.

This Approach Paper lays out an approach to developing this through 2015. It also lays out some key principles which underlie the consultants' recommended approach, and provides some illustrative tools. It is based on the scoping report produced in July 2014, and meetings with the CRP management team.

## Situation Analysis

Monitoring and evaluation systems are like any other system, made up of 'hard' technical aspects: the tools and data; and 'soft' aspects: the attitudes, understanding and behaviours of the people implementing them. So the new system requires both the design of the technical tools but also the facilitation and engagement of the organization's stakeholders, and a degree of training to build understanding of the relevance to people's work.

This insight informs the approach we will set out in this paper.

There are a number of features of the Livestock and Fish Program and insights from work on research for developmental impact more broadly that our approach needs to take into account. These are discussed below.

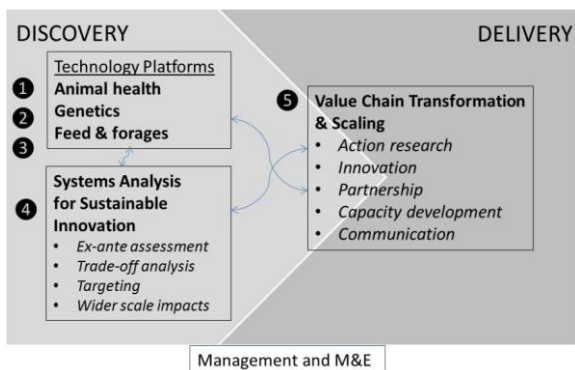
## Two-Stage Research Process in the CRP: readiness for outcome-oriented MEL

The Livestock and Fish CRP is a research-driven program, combining research of multiple types with value chain stimulation in a range of countries in order to support the wide-scale uptake, application and adoption of research products and innovations by small farmers and market actors.

The development outcomes that are being targeted are: enhanced productivity, employment and income, to support improved quantity and quality of food products from livestock and fish, thus contributing to improved nutrition and food security for people affected by poverty in developing countries.

The program is at the start of a new phase. Programs and projects have been reorganised into a structured and targeted portfolio of research plus development initiatives which combine:

- a stronger focus on a theory of change that delivers IDO level impact in value chains
- a theory of change that generates International Public Goods (IPGs) for enabling wider delivery of IDOs
- a restructuring from themes into flagship programs and development projects
- the use of product lines to bundle diverse yet connected work and use these as a means to measure performance (Livestock and Fish Extension Proposal 2014).



**Figure 1** (from the Livestock and Fish Extension Proposal 2014), illustrates the re-organisation of the portfolio along these lines.

Flagships 1-3 are primarily research-focused, identifying, researching and field-testing of potential technologies. Flagships 4-5 are a combination of research and market and value chain development to support the take-up of tested technologies.

The MEL approach needs therefore to be designed to reflect the two stages in the CRP. The first is the "Research Phase" during which discrete technologies are identified, packaged into 'Best Bets' for implementation and scaling, field tested and verified. The second phase, referred to as "Delivery Phase", is where verified Best Bets are taken to scale with the help of development partners. Reaching impact at scale in terms of effects on people's livelihoods and quality of life, will only be achieved by the CRP during the Delivery Phase. During the Research Phase, outcomes and impacts may only be seen on a project scale as part of field tests.

## Research impact and spheres of influence

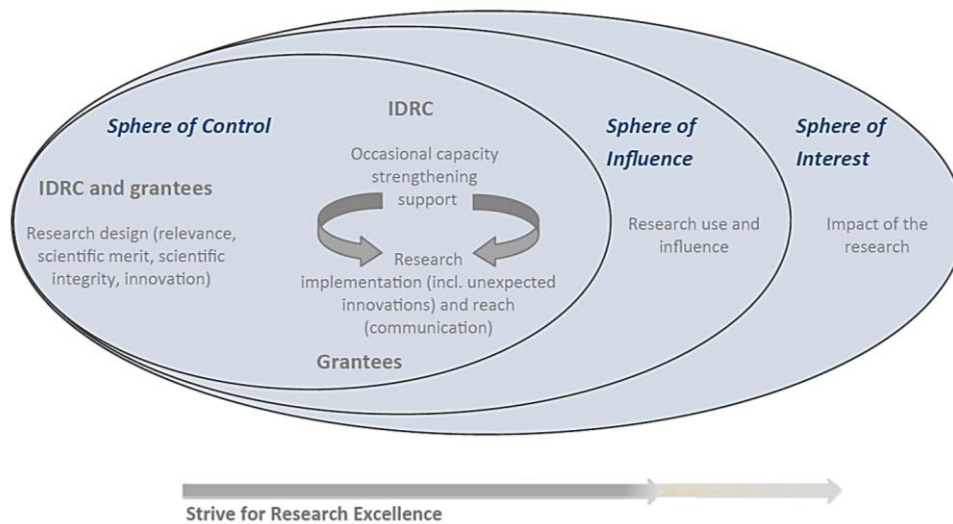
The Canadian research funder, the International Development Research Centre (IDRC) has recently completed a study of its own research impact. They have developed a framework for understanding research excellence in the context of what they call 'use-oriented research' to support development outcomes. A working definition emerging from this work is that research excellence is a composite phenomenon involving the following dimensions (IDRC 2013):

1. Technical quality and scientific merit
2. Research effectiveness (reach, influence, use)
3. Process excellence
4. Innovation

These dimensions are also relevant for capturing the impact-orientation of the CRP's research Flagships, as well as the research phases of the VCs.

The recent paper by Ofir and Schwandt (2012) models this 'strive for research excellence' as a dynamic continuum that extends from the program's 'sphere of control', through the domains of research use by stakeholders and influence (where research programs have increasingly indirect influence), through to the 'sphere of interest' where development outcomes emerge from the impact of the research (see Figure 1). The Livestock and Fish Program aims to produce research that that will extend well into the sphere of use and influence as described below.

**Figure 2: Research Excellence continuum**



Source: Ofir and Schwandt, 2012 p. 10<sup>1</sup>

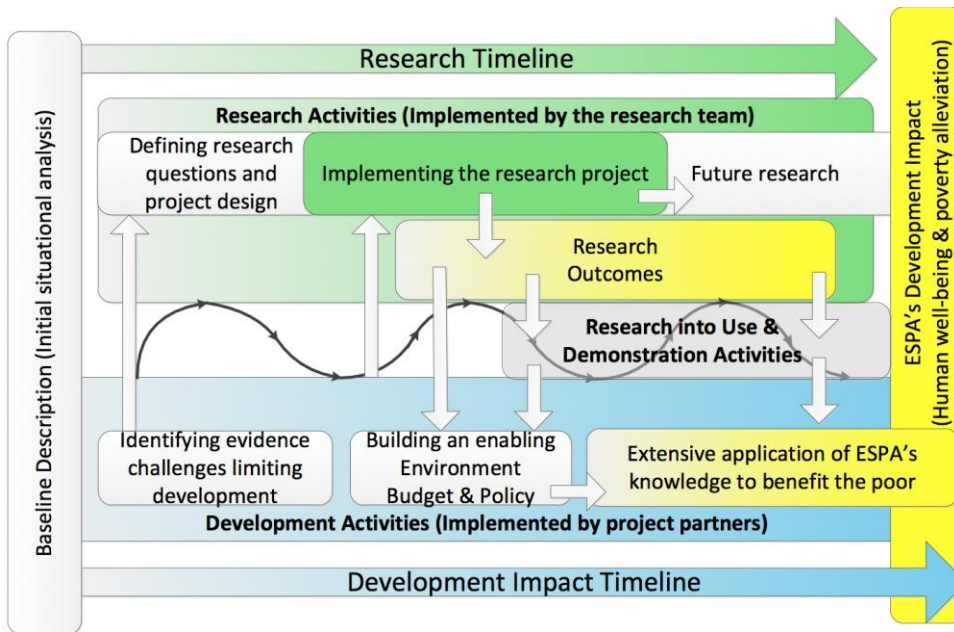
The CRP’s ToC-based MEL approach will need to span from research, discover through to delivery phases. The research phase needs to be included in the ToC as it is the building block for influence and impact.

We will therefore aim to reflect ‘research excellence’ and ‘spheres of influence’, and identify appropriate changes to reflect the use-oriented work of the ‘research and discovery’ CRP Flagship programs.

Of relevance to the delivery-oriented VC and Systems work, the research program ESPA has a useful diagram to help visualize how the different stages of a research process move from ‘research and discovery’ towards ‘delivery’ and building the social and institutional environment to help get it into use.

<sup>1</sup> “Understanding Research Excellence at IDRC: Final Report, by Zenda Ofir and Tomas Schwandt, 2012 [www.idrc.ca/EN/Documents/RE-study-Understanding-RE-at-IDRC-full-report.pdf](http://www.idrc.ca/EN/Documents/RE-study-Understanding-RE-at-IDRC-full-report.pdf)

Figure 3. ESPA’s Research for Impact Frame



Source: ESPA’s Impact Strategy <http://www.espa.ac.uk/files/espa/ESPA-Impact-Strategy.pdf>

This framework also offers useful ideas to draw on for identifying relevant areas of change and stakeholders involved for the VC and systems work.

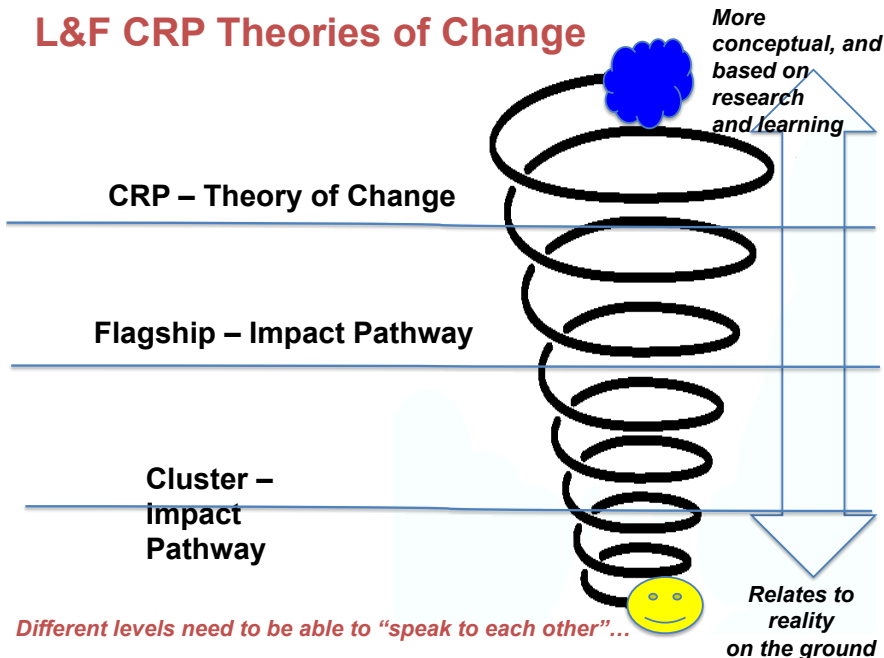
At this stage however, there are only two Value Chain Flagships that are approaching the delivery stage where development outcomes beyond the project scale are likely to be seen: Tanzania Smallholder Dairy Value Chain and Ethiopia Smallholder Ruminants Value Chain. These two will be the focus of the two pilots of the full ToC approach.

For other Flagships in the Research Phase, we will develop more simple indicators of Output, Reach and Stakeholder Engagement (or others, to reflect the concepts of research excellence) to track performance in producing research for development (see Annex 1 for illustrative indicators).

## Defining ToC and impact pathways at different levels

CRP has Flagships, Clusters and the overall CRP. The MEL tools will need to capture how the CRP's contribution to change is understood at these different levels. The figure below shows how these are framed differently at different levels.

Figure 4: Livestock and Fish CRP Theories of Change



Source: Adapted from Maureen O’Flynn’s training materials

The MEL system will need to build a systematic approach to develop impact pathways, identify appropriate indicators/areas of interest for gathering data on indicators, impact monitoring of changes for stakeholders and beneficiaries, testing assumptions and revising pathways on a regular basis.

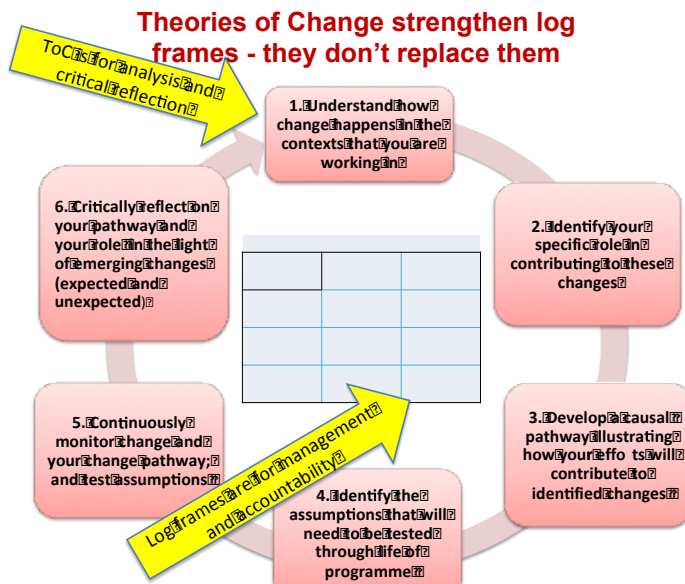
## Existing tools, practices and mind-sets for MEL in the CRP

The CRP is still in its early stages as a program and has a lot of diversity amongst its partners and portfolio. Therefore, there is not yet a unifying ‘mindset’ for M&E and learning about the research process and its impact. We have been told that M&E data collection and reporting is regarded as a more of a compliance activity rather than something that could support the research activity.

There are existing log-frames and indicators that CF projects are reporting against in their annual reports these appear to include indicators that are more geared to outputs – research products, rather than changes for stakeholders. Theories of change and log-frames help to strengthen each other through the project cycle.

Theory of change helps to create a ‘big picture’ of change and the program’s or organisation’s contribution to it. The log-frame picks out the key elements of this for management and project control.

Figure 5: Theories of Change Strengthen Log Frames



Source: Adapted from Maureen O’Flynn training materials

Working with theory of change as the driving framework for understanding and evidencing change requires a shift to a more learning mind-set, aligning the ToC with the day-to-work of the project. Therefore, the new ToC MEL approach needs to demonstrate that it can integrally help to support the CRP’s science, adding value to research design and implementation, not be seen as a distraction.

Therefore, visualising and testing the ‘use’ and application of the information generated by the MEL system is an integral part of our approach.

To operationalize this and integrate it into people’s day-to-day work requires a process of facilitation and engagement to explore the relevance and merit of outcome-oriented MEL approaches and how this could support the Flagship’s science and research. This requires a ‘soft systems’ approach as well as looking ahead to what the ‘hard system’ needs will be.

## Data and analysis management systems

The CRP MEL team has identified the need for a data management system – the ‘hard system’. However, this is not the consultants’ area of expertise (although in our team we have experience in designing various knowledge management systems) and is therefore outside the scope of the consultancy.

The data and evidence to address the Evaluation Questions will also come from multiple sources – presumably, some primary data collection, plus secondary data harvesting from other studies, for example formative evaluations. So there is a synthesis challenge, as well as a knowledge management challenge.



We propose that the design of the data system be held back until we have trialled the MEL approach and have a better understanding of the types of data that will be collected, how the analysis will be captured and how staff are likely to use the MEL information.

## **Building the CRP MEL Team's capacities**

The CRP is a long-term, complex and evolving program. The consultants will be able to provide support only through the first year to two VC programs. So it is necessary to build the capacity of the MEL team to continue to engage and support Flagship teams in the MEL systems as Best Bets are identified and programs move to the full ToC-based approach.

# Recommendations from Scoping Report

The Scoping Report made a series of recommendations, which provide the framework for our proposed approach:

## **1. Use an adapted Contribution Analysis approach**

The first recommendation is to develop the approach based on the principles of Contribution Analysis (CA), a program theory - based evaluation approach first developed by John Mayne and colleagues. CA is predominantly qualitative and interpretative, but tests the program theory through a systematic and evidence-based set of steps. It is an appropriate approach for a complex, multi-intervention program like the Livestock and Fish Program, where effectiveness is driven by the synergies between multiple program strategies, stakeholders and external contributing factors.

CA is considered by mainstream evaluators and donors to offer a robust approach to understand whether the intended outcome has been achieved, and if so, what has been the importance of the intervention's contribution, relative to that of other contributing alternative causes. As CA is an over-arching analytical frame, various sources of evidence, both quantitative and qualitative, can potentially form the evidence base for the analysis and judgements (although there are extensive methodological and data collection challenges involved in synthesis, depending on the degree of rigour required).

This report suggests how the steps of a CA process can be adapted for an annual monitoring and critical review/learning process, and a tri-annual validation process (CRP milestone years seem to be 3, 6, 9, 12).

## **2. Refine the generic Theory of Change (ToC), Impact Pathways and Assumptions**

The Livestock and Fish CGIAR Research Program already has a strong set of frameworks that describe its ToC and program model. The current formulation of the generic ToC describes the CRP change process with a good degree of clarity and nuance without being overwhelming.

To work with a theory-based approach, some additional conceptual refinements are required to clarify the causal linkages and assumptions in the ToC and to strengthen the specificity of changes being described, for particular groups of stakeholders.

The report outlines what the Livestock and Fish Program already has in place and highlights areas where these could be improved. Two key points to note:

- Although the outputs of CRP are described in the ToC, the new CRP research model itself does not feature in the current ToC. The restructured model has been invested in as a key driver for impact and so should form part of the annual MEL process. There is an illustration of how to do this.
- The 'Behaviour Change' research outcome is the critical causal link to the IDOs, but these changes have not yet been sufficiently specified in the documents reviewed. The Results Frame highlights the importance of this outcome: "The research outcome consists of the intervention design, the evidence base to support its ability to attract development funding, and the research and development capacity that will have been strengthened to support its implementation. The intermediate development outcomes are then achieved only if the intervention is successfully funded and implemented by the development partners and others."

### **3. Focus the MEL approach at the CRP to Research Outcomes levels of the generic ToC**

The Intermediate Development Outcomes have been the focus of the MEL thinking and design up to now. This has been driven by the wider reforms in the CGIAR as a whole. This has been an important process to make explicit the development outcomes to which the CGIAR Research Program is expected to make a significant contribution. The program has some evolving IDO indicators in place to track what is changing at this level; presumably baseline collection will shortly commence against these.

However, the measurement of IDOs will not commence until Year 9 of the CRP timeframe. In the meantime, the entire research process within CRPs will be developed and implemented. This significant research investment should be monitored and evaluated to understand if, how and why it is enhancing the conditions for achieving the IDOs.

### **4. Base the proposed MEL approach on the generic ToC, using a combination of indicators to track research outcomes and Evaluation Learning Questions to frame critical analysis about emerging changes, causal linkages, assumptions and external factors**

The key features of the proposed approach are:

- the generic ToC and Impact Pathways
- a set of shared indicators for each research outcome area – reach/reaction, capacity changes, behaviour changes
- Evaluation Learning Questions that focus on mini-program theories relevant to the respective Flagships, for analysis and evidence-generation, mapped to the years and phases of the CRP process.

# Developing and piloting the MEL approach

We propose to pilot the MEL approach over a period of 12 months, to allow time for data collection to be meaningful. We are proposing a two-track pilot approach:

- Track 1: full ToC approach with the VCs in Tanzania and Ethiopia
- Track2: 'Research Phase' pilot of ToC-based indicators.

This section describes the stages in the piloting process that we foresee.

## Pilot 1 in Tanzania and Ethiopia

### **Stage 1: ToC Development and Consulting on Tools**

- A workshop with the CRP MEL team to discuss the CRP-level ToC, and the 'train the trainers' approach
- A workshop with the Value Chain teams and senior leaders to cover a discussion of ToC and MEL, to consolidate the ToC frameworks at different levels (CRP, Flagship, Value Chain), that have been developed and to consult on the proposed tools and MEL process.
- Follow-up workshops with the Value Chain teams to design the pilots and pilot implementation plans.

### **Stage 2: Using the tools to take a Baseline**

- The consultants and CRP MEL team will refine the tools following the feedback and outputs produced at the workshops.
- Piloting teams and the CRP MEL team will collect a baseline using the tools
- Piloting teams produce a baseline report
- Consultants and CRP MEL team will provide mentoring and support through the baseline period.

### **Stage 3: First Quarter Reporting**

- Three months after the baseline, the pilot teams will collect the first round of data and analyze change against the baseline
- This will include impact monitoring of changes for stakeholders and a critical reflection on the theory of change and key assumptions.

Throughout Stages 1 -3, the CRP MEL team will be shadowing the consultants and having specific sessions to build their understanding and skills in designing and applying the approach.

After Stage 3, the consultants and the CRP MEL team will review progress so far, and take a decision on whether to start the Track Two pilots with the research phase Flagships. This pilot will run in parallel to the Track 1.

## Pilot 2: Research Flagship Indicators

### Stage 1: Develop Flagship Impact Pathway

- Developing the Impact pathway
- Identifying and agreeing indicators and how to collect them
- Taking a baseline report

### Pilot 2: First Quarterly report

- Mentoring and support to Flagship team from CRP Team
- Support from consultants

### Stage 4: Consolidation and Review – both pilots

- Review Workshops with teams
- Review workshop with CRP MEL team

### Stage 5: Refine Tools and write Guidance

- Decisions on tools and roll-out
- CRP decides on tools and MEL system
- Consultants write guidance

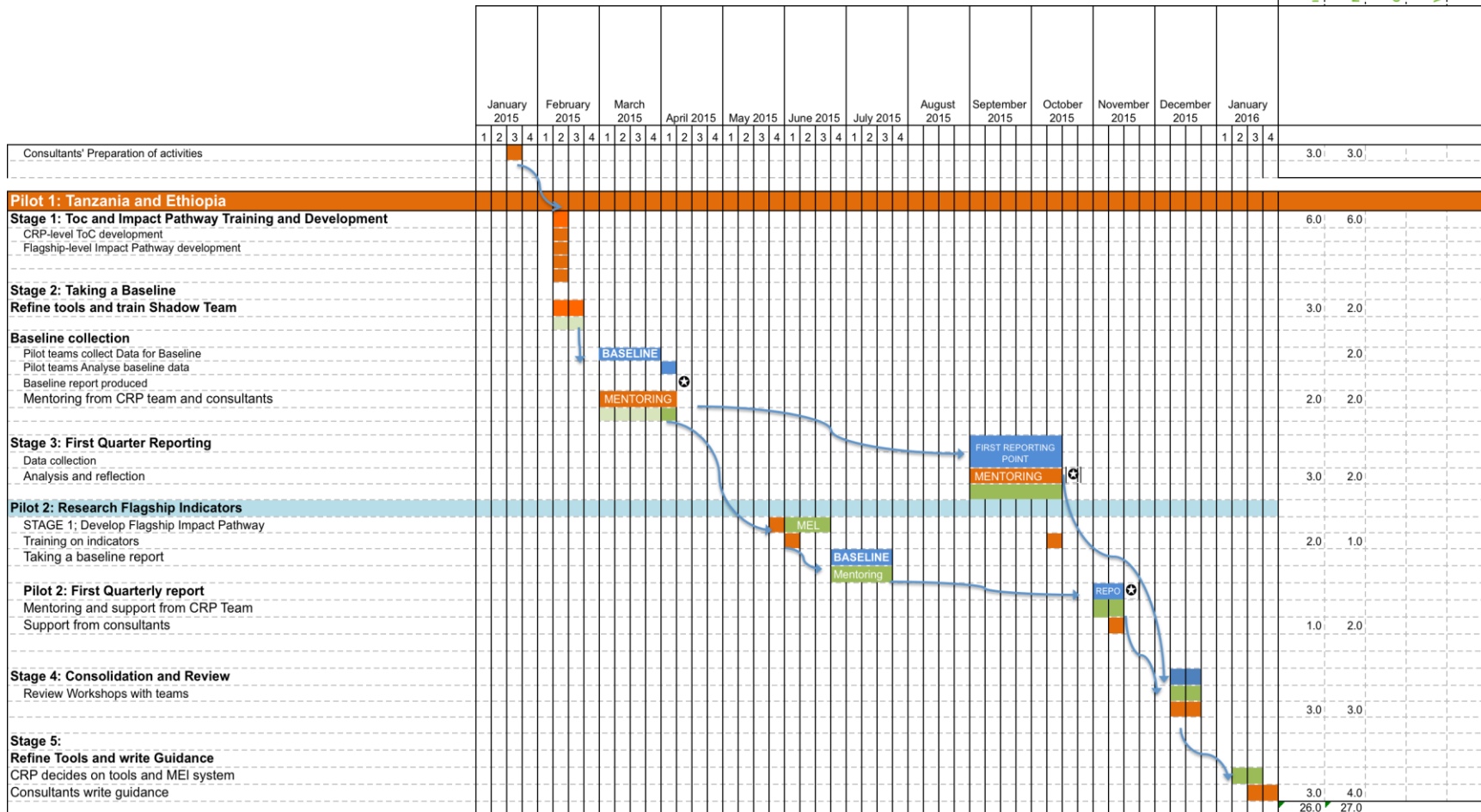
We have developed a timeline (overleaf) that maps these processes to the 12 month pilot period. This details the activities during each time period.

In terms of the consultants' inputs, the matrix below indicates the number of days by month, against each activity/deliverable.

Month	Consultant: Isabel Vogel, no. of days	Consultant: Maureen O'Flynn	Deliverable/activity milestone
Jan-15	3	3	Planning workshops
February	6	6	Workshops to launch pilots
	6	4	Writing up report and tools
	2	1	MILESTONE: Workshop Report
March	3	2	Baseline collection and analysis (mentoring)
April	3	2	Baseline reporting (mentoring)
	2		MILESTONE: Activity Report
May	2	2	Preparation of Pilot 2 and support to CRP MEL team
June	4	3	Support to CRP MEL Team on Pilot 2 Baseline
			MILESTONE: Activity Report
July	3	2	Support to CRP MEL Team on Pilot 2
August	0	0	N/A
September	4	2	Support for Pilot 2: First Quarter Reporting and Impact Monitoring
	1		MILESTONE: Activity Report
October	2	2	Support to Pilot 2: First Quarter Reporting
November	7	4	Consolidation and Review of Pilots
			MILESTONE: Options Report with Recommendations for Roll-Out
December	4	4	Consolidation and Review of Pilots; Finalize tools; Decisions on Roll-Out
Jan-16	6	4	Writing of guidance materials
			MILESTONE: Guidance Products and Project Completion Report
<b>Total Days</b>	50	40	

# Livestock and Fish CRP ToC Pilots Plan

Isabel Vogel	Maurice O'Flynn	CRP Shadow Team	Value Chain / Flagship Team
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# Annex 1: Illustrative Tools (from Scoping Report)

## Overview

The proposed ToC MEL approach is focused on the impact pathways from ‘Program Outputs’ to ‘Behaviour Changes in the target systems’.

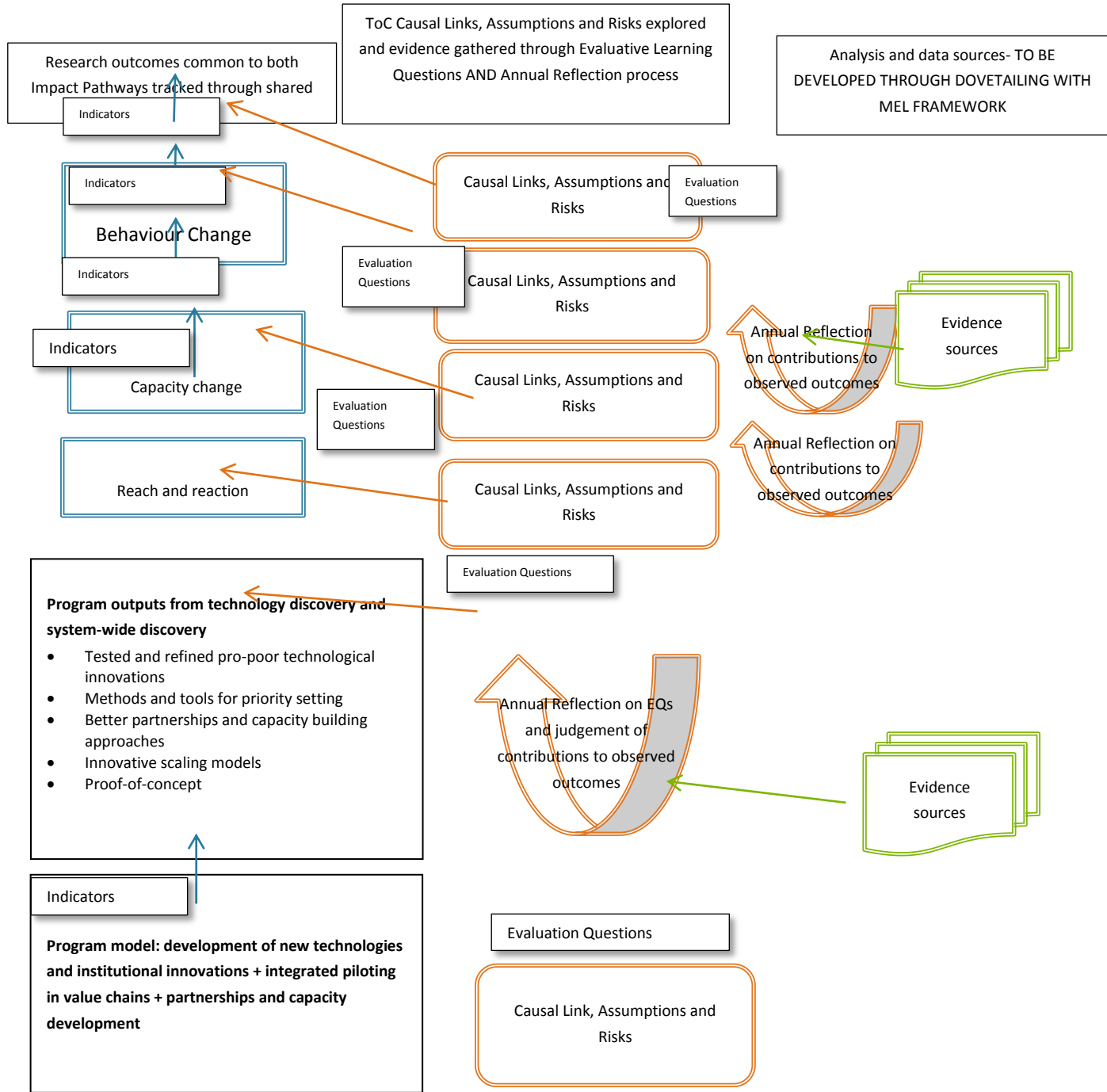
The key features of the proposed approach are:

- the generic ToC and Impact Pathways
- a set of shared indicators for each research outcome area – reach/reaction, capacity changes, behaviour changes
- Evaluation Learning Questions for analysis and evidence-generation, mapped to the years and phases of the CRP process.

Figure 3 below gives an overview of the main elements and suggested process.



**Figure 6: Overview of core elements of the proposed ToC MEL approach**



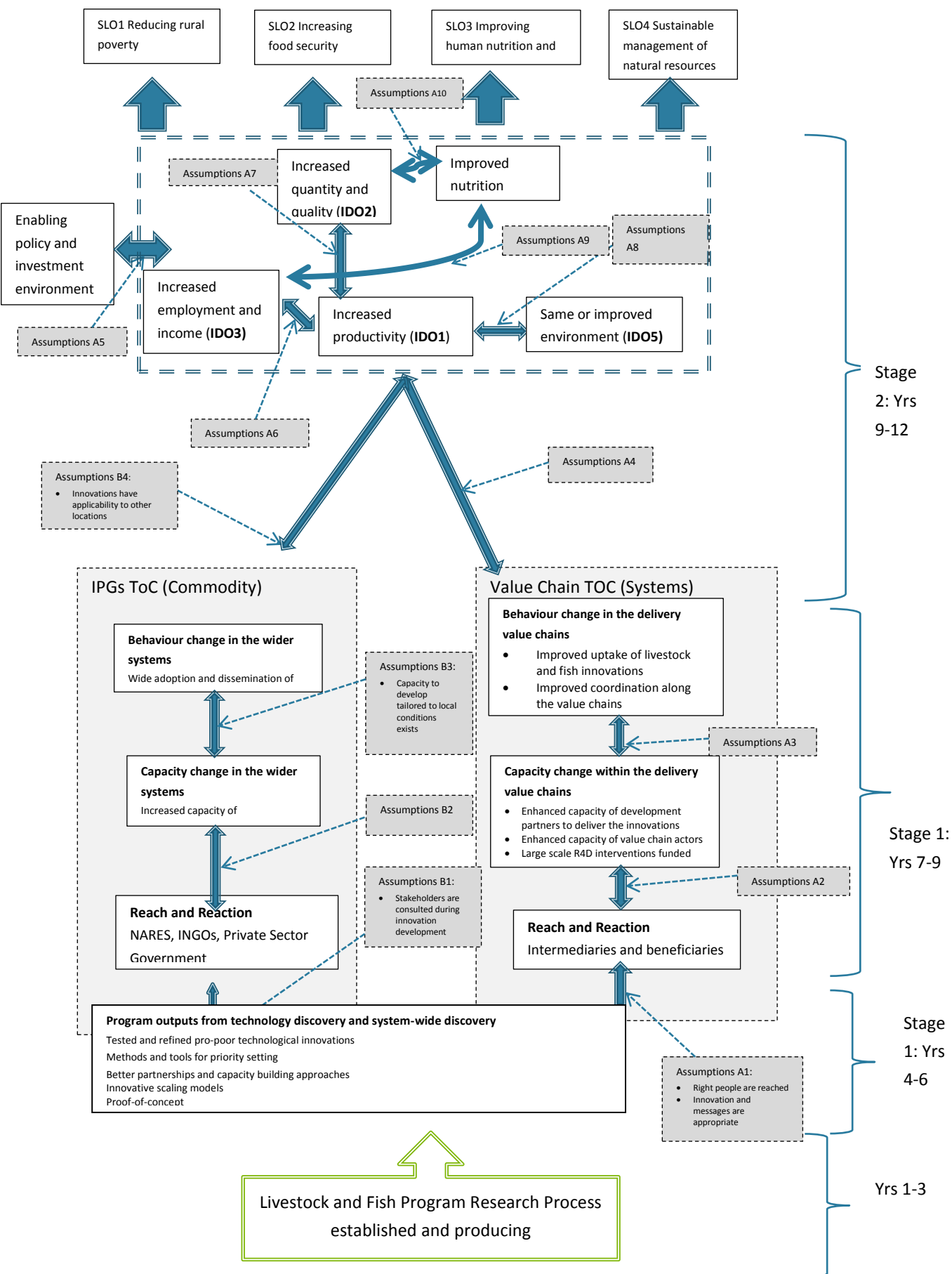
The proposed approach adapts the steps of Contribution Analysis for an annual and tri-annual cycle, as follows.

<b>CA Steps</b>	<b>Adapted CA Step for an annual and tri-annual self-evaluation and monitoring cycle</b>
<b>Step 1:</b> Set out the attribution problem to be addressed	The 'Attribution problem' is the CRP's contribution to the research outcomes that are expected to emerge in a given phase/years of the program, framed within the higher-level conditions that support movement towards the IDOs.
<b>Step 2:</b> Develop a theory of change and risks to it	The Generic ToC provides the theory of change, with causal links and assumptions, and the risks to those.
<b>Step 3:</b> Gather the existing evidence on the theory of change	Evidence gathering will take place on a 1-3 cycle, mapped to the CRP milestones years – Year 3, 6, 9, 12 (15, 18, 20).  Evidence gathering and analysis will be structured around the Evaluation Learning Questions set for that period.
<b>Step 4:</b> Assemble and assess the contribution story, and challenges to it	The elements of the 'contribution story' are assembled on an annual basis through the annual reflection and reporting process, at a Flagship level (tbc).  At the 3 year milestone, the previous annual reports and evidence base are reviewed to assemble the story of CRP contributions to the research outcomes observed in that period, the challenges to it and other contributing factors.  This can be independently assessed through commissioned evaluations.  From Year 9, the 'attribution problem' focuses on the IDOs and CRP contributions to causal pathways
<b>Step 5:</b> Seek out additional evidence	Additional evidence can be gathered through a 3 year milestone external evaluation process.
<b>Step 6:</b> Revise and strengthen the contribution story	At the 3 year milestones, an overall judgment can be made of the contributions to outcomes. This can be independently challenged/validated through appropriate evaluation or quality review processes.

The next sections outline some of the component tools to illustrate how the approach could work, as follows:

- ToC overview (from products and outputs up to IDO-level), with mapping of Flagships and their intended progression along the ToC and timelines – 3, 6, 9, 12 years
- Illustrative Monitoring Framework indicators for data collection for Outputs, Reach and Reaction, Capacities in target systems, Behaviour Changes
- Illustrative Evaluation and Learning Questions around assumptions, according to research phase
- Overview of planning, implementation, learning and reporting cycle, annually but also around tri-yearly cycles.
- Annual reporting template – illustrative.

**Figure 7: Livestock and Fish Generic Theory of Change, with Research Phases and Flagships**



**Illustrative Monitoring Framework (adapted with permission from CARIIA Program Monitoring approach, developed by I. Vogel and IDRC CARIIA team)**

Livestock and Fish Outcome Areas – IPG Pathway	Livestock and Fish Outcome Areas – Value Chain Pathway	X-cutting dimensions	Dimensions monitored	Potential metrics/indicators used (to be developed in detail)	Stage I, II Studies/ ToC Linkage
1. Effective performance of the CRP Model			Performance Indicator Matrix	As per PIM	
2. Program Outputs		Pro-poor and gender sensitivity (evidenced in designs, research process and outcomes)	Outputs: Tested and refined pro-poor and gender-responsive technological and institutional innovations	- Number; Type <sup>2</sup> ; Quality; Academic Impact <sup>3</sup> ; Authorship <sup>4</sup>	Stage 1; Outputs
			Outputs: methods and tools for identifying and prioritizing appropriate value chain sites and interventions	- Number; Type; Quality; Academic Impact; Authorship	
			Outputs: innovative models of building partnerships and capacity	- Number; Type; Quality; Academic Impact; Authorship	
			Outputs: Strategies and mechanisms for scaling-up and scaling-out	- Number; Type; Quality; Academic Impact; Authorship	
			Outputs: ‘Proof of concepts’	- Number; Type; Quality; Academic Impact; Authorship	
Outcome Area 1: Reach and Reaction	Outcome Area 1: Reach and Reaction		<ul style="list-style-type: none"> <li>- Reach:</li> <li>- Access (target stakeholders can access ideas and outputs in appropriate formats)</li> </ul>	<ul style="list-style-type: none"> <li>- # of people participating in project</li> <li>- # Face-to-face dialogues, stakeholder platforms, round-tables, events.</li> </ul>	Stage 1; ToC Research Outcome 1 Stage 1

<sup>2</sup> Paper (peer reviewed), Paper (non-peer-reviewed including Working Papers), Brief (Policy or Research), Book Chapter, Book, Data Product, Blog or other web-based article, Multimedia product (rich map, video, game, etc.), Other

<sup>3</sup> “Impact” here refers to academic impact as measured by citation rate, impact factor of journals, etc. as well as alt-metrics (see [www.altmetrics.org](http://www.altmetrics.org)).

<sup>4</sup> Data disaggregated to indicate % female authorship and % authorship by southern researchers (ie: researchers based in a southern institution).

				<ul style="list-style-type: none"> <li>- # Web hits, downloads, media and social media tracking (incl. geographical distribution)</li> </ul>	
			<ul style="list-style-type: none"> <li>- Reach:</li> <li>- Engagement (of target stakeholders community, research, policy and media partners or intermediaries)</li> </ul>	<ul style="list-style-type: none"> <li>- Frequency/extent to which it is sustained</li> <li>- Appropriateness of actors engaged</li> <li>- Responsive actions on the basis of the engagement objectives)</li> </ul>	
			<ul style="list-style-type: none"> <li>- Reaction: Understanding/application/demand</li> </ul>	<ul style="list-style-type: none"> <li>- Application (of evidence or recommendations)</li> <li>- Citation and reference (of evidence, outputs, work or concepts)</li> <li>- Requests and invitations (# and description) to partner, enrol in or co-produce new/additional evidence, research products, tools, recommendations, or follow-on projects</li> </ul>	
Outcome Area 2: Capacity changes in the wider systems	Outcome Area 2: Capacity changes in the delivery value chains		Individual-level changes: knowledge, attitude, skills towards innovative practices and technologies	- To be defined what these would look like...	
			Network-level changes: Partnerships, platforms, participation changes, coordination between producers, market and research actors	- Changes in formal/informal relationships between small producers, value chain actors, institutions, creation of new networks, or new bridging initiatives (tbc with country	

				groups)	
			Program/enterprise level: R4D program investments and enterprise formation for testing/adopting innovations.	<ul style="list-style-type: none"> <li>- To be defined, e.g.</li> <li>- Intervention designs</li> <li>- Evidence base positioned to attract funding and investment</li> <li>- Research and development capacities developed amongst stakeholders</li> <li>- Evidence of engaged target beneficiary groups and value chain actors prepared to invest.</li> </ul>	
Outcome Area 3: Behaviour change in the wider systems	Outcome Area 3: behaviour change in the delivery value chains		Behaviour changes in wider systems (possibly some overlap with capacity dimension above)	- To be defined	

### Illustrative Evaluation and Learning Framework

The MEL framework for the program is designed to capture learning on the process of producing livestock and fish research, technologies and institutional innovations and supporting its use in value chains. This involves testing the Livestock and Fish ToC through implementation, the findings of which will be used by the CRP teams to inform their program strategies, as well as produce learning on processes of wider interest to the sector. These questions aim to learn more about how the program’s model is contributing to its outcomes, rather than generate performance information for accountability.

The table below shows a preliminary set of Evaluation Learning questions against Causal Links and Assumptions in the ToC that help to probe into the ‘how and why’ of the results in order to generate learning about the change process that the program intends to influence. The Learning Questions allow the Livestock and Fish Theory of Change to be tested as the program evolves, through critical analysis of changes for actors and stakeholders, both expected and unexpected; the significance of these for them; and judgments on the progress achieved.

These questions could be reviewed through a series of facilitated “Learning Reviews,” to occur over the course of the program’s implementation, and designed to focus on different areas of inquiry at different points in time. Or, the CRP may decide to commission independent assessments or studies of particular areas that we feel are of critical or emerging importance.

ToC Area of inquiry	Year and CRP Research Stage	Evaluation/Learning Questions (examples to illustrate)
<p>ToC Link 1: <b>CRP research process established and performing effectively</b></p> <p>Assumption A1: [revised from text] <b>The solution-driven, research-with-development model will produce pro-poor, gender-sensitive outputs that are appropriate to the needs of beneficiaries and ‘next users’ and have strong</b></p>	<p><b>Years 1-3, Stage 1</b></p>	<p><b>EQ1.</b> What is the added value of the CRP model for producing the program’s outputs and outcomes?</p> <p>What seems to be working best, and what is more challenging to implement?</p> <p>How can the Livestock and Fish Program management team support Flagships the consortia to realise their potential?</p> <p>What seems to have been effective for integrating a concern for gender and marginalised groups throughout the program?</p> <p><b>EQ A1.</b> What are the pro and cons of using the Flagship/ Cluster model? Has it helped Flagship projects link into relevant sub-national networks of stakeholders and intended research users, practice initiatives and opportunities? How does this compare to similar projects using a different model?</p>



<p>potential for piloting.'</p>		<p><b>EQ A1.1</b> How have Flagships/Clusters learned from each other about gender-sensitivity, pro-poor innovations and ensuring equitable access/participation?</p>
<p>ToC LINK 2: <b>Research outputs piloted, 'next users' are reached equitably and they respond with enrolment and demand for program's action research projects.</b></p> <p>Assumption A2: <b>Knowledge and innovations are understood by the women and men intended to benefit, by development partners, and are appropriate/attractive to value chain actors.</b></p>	<p><b>Years 3-5, Stage 1</b></p>	<p><b>EQ2:</b> What research approaches have been effective, for what technologies/innovations results, for which stakeholder groups and in which contexts?</p> <p>How have stakeholders responded to new technologies and innovations?</p> <p><b>EQ A2:</b> What engagement strategies have been effective to ensure equitable access of men and women, on the basis of gender and social difference, to products and technologies at the level of the Livestock and Fish Program? To what extent has the consortium model contributed to these strategies?</p> <p>What were the most significant changes <u>for stakeholders i.e. women and men beneficiaries?</u></p> <p>What drivers generated these changes for them?</p>
<p>ToC Link 3: <b>Capacities are enhanced to test innovations in value chain settings with value chain actors.</b></p> <p>Assumption A3: <b>N.B. All the assumptions listed in the ToC narrative are internal 'push' assumptions, there is nothing about actors'</b></p>	<p><b>Years 6-8, Stage 1</b></p>	<p><b>EQ. 3</b> What capacities (e.g. motivations, skills, relationships, systems, institutions), are required for testing innovation in small-holder driven value-chains?</p> <p><b>EQ A3.</b> How have value-chain stakeholders' responses and the degree of engagement differed amongst actor groups – e.g. small-holders - women and men, public, or private investors, value chain interlocutors?</p> <p>What have been the most important factors <u>for beneficiaries and stakeholders?</u></p> <p>What can be learned about the economic, social, political and environmental enablers and inhibitors of engagement in value-chain innovation processes?</p>

<p><b>incentives or motivations to adopt, recommend this be re-conceptualised</b></p> <ul style="list-style-type: none"> <li>- new practices are perceived to have low risk potential i.e. actors can easily see the benefits of shifting to the new technologies and innovations;</li> <li>- new practices should be responding in real-time to the needs and constraints of the focal value chains;</li> <li>- technologies should meet priorities of gender and other socio-economic categories;</li> <li>- technologies are adapted to the wide variation in environmental contexts faced by location specific production systems</li> </ul>		<p>What has influenced stakeholders' <i>demand</i> for improved technologies and innovations, and evidence-based options?          What are the factors or capacities that enable or inhibit them from acting on new knowledge?          How do <u>stakeholders</u> perceive these?</p>
<p>ToC LINK 4: Behavioural change – the CRP Research outcome          TBD</p>		<p><b>Q4: To be defined.</b></p>

**Illustrative Annual PMEL Cycle – Adapted from Boru Douthwaite, featured in my ToC review for DFID, 2012**

Monitoring and Evaluation during the Project Life-Cycle

(Adapted from Boru Douthwaite (PhD), Innovation Systems and Impact Scientist, WorldFish Center, Penang, Malaysia, 2012)

Year 0		Year 1				Year 2				Year 3				Year 4		Year 5	Year 6
Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2-4		

Generic phases in project life cycle

Proposal development	Start Up				Implementation Stage 1a								Implementation Stage 1b	
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Processes

Document processes	Agree protocol																			
<b>Develop and refine ToC and strategy</b>		Develop ToC				Review and refine ToC									Review and refine ToC					
Identify and refine milestones		Identify				Refine									Refine					
Monitor progress progress against milestones																				
Establish and refine outcome targets						Identify									Refine					
Identify, monitor and gather evidence against outcome indicators and EQs						Identify	Monitor indicators and EQs													
Benchmark starting conditions																				
Collect and analyze Significant Change stories																				
Stakeholder meetings and workshops	Participatory development workshop			Inception WS		Reflection WS									Reflect. WS	Final WS				
Progress reporting (on above)																				
Evaluation and feedback on progress report						Annual report									Annual report				Tri-Annual Report	
Impact assessment																				

Notes:

- a) Can be adjusted for projects longer or shorter than 3 years
- b) Assumes six-monthly reporting, but reporting period can be changed
- c) Gap analysis, stakeholder consultation, needs assessment and ex-ante impact assessment may all happen before proposal development



**Illustrative Annual Reporting – Process and Template** (adapted from a process developed by I. Vogel and Maureen O’Flynn, 2014)

**Causal link and Key assumptions being tested in Year 1-3 :**

**ToC LINK 2:** Research outputs piloted, ‘next users’ are reached equitably and they respond with enrolment and demand for the program’s action research projects.

**Assumption A2:** Knowledge and innovations are understood by the women and men intended to benefit, by development partners, and are appropriate, and economically attractive to value chain actors.

The following is an illustrative example of an impact monitoring report that could be developed and used on a 6 or 12 monthly basis to track progress against the impact pathway, combining data on indicators, and evaluative research (e.g formative evaluations) on the Evaluation Questions for that period/year/research stage.

**Notes:**

- This reporting process brings together into one analysis the evidence from indicator data collection and Evaluation Questions.
- Impact monitoring should be conducted internally and/or with partners either once or twice per year.
- The monitoring would be the responsibility of a small team, at the Cluster or Flagship level – to be determined.
- Results of the analysis would be discussed and used to adapt/sharpen program plans.
- The form will be accompanied by further guidance in terms of completing, sharing and storing information.
- Information collected should be stored and then used as part of impact assessment at the end of the project phase
- If used from the outset of the project, the first report will serve as the baseline for future impact monitoring reports
- **This is designed to be an internally led process so that it encourages honest and useful analysis.**

**Impact Monitoring Form Questions:**

**1. Update on country, state, province or community context**

Report on any relevant updates or changes in context and situation including changes in:

- Stakeholder interest and involvement (NGO, forums, private sector, collations, clients etc)
- Specific climate or environmental issues which might affect the program.
- Changes in government policy/personnel.
- Other

**2. Focus on expected changes in output areas**

- a. Have the outputs been produced as anticipated?
- b. Have projects engaged target beneficiary groups appropriately? i.e. women and men involved in small-holder agriculture.
- c. What factors have i) helped and ii) hindered research progress? Internal and external to the projects.

### 3. Focus on expected changes in Research Outcome areas

Refer to expected short and/medium term (as relevant) research outcome areas. For each report on:

- a. The changes, if any, that did take place and evidence from indicator data collection to support your findings.
- b. If no change has taken place, an explanation of why this is the case (external/internal factors)
- c. The significance of these changes (to different stakeholders): which changes have been most significant in relation to progressing the program (why)
- d. What other actors or factors have either helped or hindered progress? How did they affect the project?

### 4. Focus on unexpected changes

- a. Were there any unexpected or unintended changes resulting from the program's work (they could be positive or negative )?
- b. Please comment on how they affected the program
- c. Who/what was responsible for these changes (there may be a number of actors and factors)?

### 5. Focus on the assumptions being tested in this period

- a. What are the implications for the causal links and assumptions?
- b. Have our strategies targeted all the factors involved in the causal link i.e. understanding, relevance, appropriateness, risk vs economic attractiveness?
- c. What other factors/conditions are present that could have influenced the changes we have observed?
- d. How have they influenced the project?

### 6. Analyse the findings and adapt program accordingly:

Convene a cross unit group to discuss results using the following questions

- a. What can the project and the CRP learn from these findings?
- b. How should the program adapt as a result?
- c. How should the ToC or assumptions be updated as a result of learning?
- d. What will be your priority focus in the next six months (or until the next impact monitoring report? List up to 4 short or medium term changes that you hope to influence or achieve. For each one make a brief assessment of actors and factors that might help or hinder progress ( e.g. political/ social/environmental/economic factors, change in personnel, capacity etc).