Annex 4 - CRP Performance 2017
Progress markers, proposed indicators and targets disaggregated to flagship level

Purpose
This document is intended as a companion to document SC3-03 (“Towards a Performance-based Management System for CGIAR Research”) and sets out a proposed first outline of proposed Progress Markers, proposed indicators and targets, disaggregated to flagship level for CRPs.

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Prepared by: the CGIAR System Management Office
CRP Performance 2017: progress markers, proposed indicators and targets disaggregated to flagship level

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### A4NH (Agriculture for Nutrition and Health)
#### A4NH FP1: Food Systems for Healthier Diets in 2017

<table>
<thead>
<tr>
<th>Milestone Description for 2017¹</th>
<th>Means of Verifying²</th>
<th>For which 2022 outcomes¹</th>
<th>Budget 2017</th>
<th>6-year W1-2 / total (%)²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 None for 2017</td>
<td></td>
<td>Partners and other CRPs incorporate nutrition, health and gender in agri-food value chains and food systems programs</td>
<td>$1,429,600 / $4,735,910 (30%)</td>
<td>$10,001,980 / $33,339,933 (30%)</td>
</tr>
<tr>
<td>1.2 At least 2 partners, including value chain actors, participate in the identification and design of at least 2 gender-sensitive interventions aligned with findings from CoA1 to improve diets in Ethiopia and Vietnam</td>
<td>Program monitoring and reporting annual reports from partners</td>
<td>Partners, including value chain actors, use evidence from impact evaluations when making operational and investment decisions</td>
<td>$1,584,400 / $5,248,724 (30%)</td>
<td>$11,083,667 / $36,945,558 (30%)</td>
</tr>
<tr>
<td>1.3 None for 2017</td>
<td></td>
<td>Public-private partnerships formed to promote implementation of A4NH strategies for agri-food value chain/food system innovations and interventions at scale</td>
<td>$986,000 / $3,266,374 (30%)</td>
<td>$6,899,550 / $22,998,500 (30%)</td>
</tr>
</tbody>
</table>

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¹ From A4NH Full Proposal Table D
² From A4NH Full Proposal Table B
## A4NH FP2: Biofortification in 2017

<table>
<thead>
<tr>
<th>Milestone Description for 2017</th>
<th>Means of Verifying</th>
<th>For which 2022 outcomes</th>
<th>Budget 2017</th>
<th>6-year W1-W2 / total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2.1</strong> All 8 target countries release second-wave of tier 1 crops</td>
<td>Head of crop development annual reporting from CGIAR partners, NARS, and national release committees</td>
<td>High-yielding micronutrient enhanced varieties developed and released in target and expansion countries</td>
<td>0/ $8,169,286 (0%)</td>
<td>0 / $51,200,394 (0%)</td>
</tr>
<tr>
<td><strong>2.2</strong> 5 CGIAR centers develop a workplan and strategy in collaboration with HarvestPlus to operationalize 2014 commitment to mainstreaming</td>
<td>Head of crop development annual reporting from CGIAR partners</td>
<td>Biofortification mainstreamed into CGIAR and NARS breeding efforts</td>
<td>0/ $2,738,095 (0%)</td>
<td>0 / $17,066,983 (0%)</td>
</tr>
<tr>
<td><strong>2.3</strong> 6.5 million HHs growing and consuming biofortified crops (6 million in target countries, 0.5 million in partnership countries)</td>
<td>Monitoring database partner reporting</td>
<td>High-yielding micronutrient enhanced varieties delivered at scale in target and expansion countries</td>
<td>$2,500,000 / $9,640,932 (26%)</td>
<td>$16,432,989 / $60,445,446 (27%)</td>
</tr>
<tr>
<td><strong>2.4</strong> 2 decisionmaking tools incorporating bioavailability and efficacy evidence for zinc rice in Bangladesh</td>
<td>Publications Head of Nutrition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2.5</strong> Ex ante impact and cost-effectiveness of biofortification interventions are proven and compared to those of other nutrition interventions (supplementation and fortification)</td>
<td>Head of Impact Proposal on zinc wheat effectiveness study approved and implementation started Reports on impact assessment studies completed Age- and sex-disaggregated datasets generated as part of impact assessments made available.</td>
<td>Evidence on nutritional efficacy and impact informs value chain actors, as well as national and international investors</td>
<td>$1,000,000 / $3,214,867 (31%)</td>
<td>$6,572,735 / $20,148,482 (31%)</td>
</tr>
<tr>
<td><strong>2.6</strong> Impact evidence available on iron beans in Rwanda and vitamin A maize in Zambia to inform crop development and delivery strategies</td>
<td>Head of Impact Proposal on zinc wheat effectiveness study approved and implementation started Reports on impact assessment studies completed Age- and sex-disaggregated datasets generated as part of impact assessments made available.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2.7</strong> Country programs use monitoring and forecasting data to inform delivery strategies</td>
<td>Head of Impact Proposal on zinc wheat effectiveness study approved and implementation started Reports on impact assessment studies completed Age- and sex-disaggregated datasets generated as part of impact assessments made available.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2.8</strong> The revised biofortification priority index (BPI 2.0) is are available to partners for informing decisions on investing in implementing and evaluating biofortification projects</td>
<td>Head of Strategic Alliances, information from/websites of multilateral institutions and other stakeholders</td>
<td>Biofortification supported by global institutions and incorporated into plans and policies by stakeholders</td>
<td>0/ $12,951,218 (0%)</td>
<td>0 / $81,195,380 (0%)</td>
</tr>
<tr>
<td><strong>2.9</strong> Biofortification is included in at least two additional global, regional or national a larger number of strategies and policies</td>
<td>Head of Strategic Alliances, information from/websites of multilateral institutions and other stakeholders</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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3 Revised from A4NH Full Proposal Table D.
4 Revised from A4NH Full Proposal Table B. The online submission tool asked for % of budgets from W1/W2 instead of values. A4NH had to submit W1/W2 percentages that the online submission tool would accept. In reality, this is how W1/W2 is being allocated across the outcomes in FP2.
## A4NH FP3-Food Safety in 2017

<table>
<thead>
<tr>
<th>Milestone Description for 2017(^5)</th>
<th>Means of Verifying(^6)</th>
<th>For which 2022 outcomes(^7)</th>
<th>Budget 2017</th>
<th>6-year W1-2 / total (%)(^8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 National partners in at least 2 countries agree to engage in a gender-sensitive policy/regulatory review process on food safety in informal markets</td>
<td>Monitoring reports (which include gender indicators) citations in official policy statements and documents</td>
<td>Key food safety evidence users (donors, academics, INGOs, national policymakers, regulators, civil society, and industry) are aware of and use evidence in the support, formulation and/or implementation of pro-poor and risk-based food safety approaches</td>
<td>$520,000 / $1,550,000 (34%)</td>
<td>$3,018,253 / $9,736,301 (31%)</td>
</tr>
<tr>
<td>3.2 Livestock policy platforms established in 4 countries by CRP Livestock during Phase I, use A4NH evidence on food safety in informal markets to consider improvements to specific value chain(s)</td>
<td>Partner reports review of official policy documents and statements</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3.3 1-2 CRP value chains for animal-source foods and/or produce identified for scaling up and out using incentive and market based approaches, coordinated with CRP Livestock, CRP Fish and others</td>
<td>Monitoring reports partner reports</td>
<td>Market-based food safety innovations delivered at scale in key countries along with understanding of their impact and appropriate use</td>
<td>$1,260,000 / $3,780,000 (33%)</td>
<td>$7,065,451 / $22,791,779 (31%)</td>
</tr>
<tr>
<td>3.4 39,000 farmers use biocontrol across 8 countries in Sub Saharan Africa</td>
<td>Aflasafe production logs monitoring systems by countries (agreed under PACA) partner reporting tracking (including gender indicators)</td>
<td>Biocontrol and GAP delivered at scale in key countries along with understanding of their impact and appropriate use</td>
<td>$1,720,000 / $5,348,892 (32%)</td>
<td>$14,471,919 / $46,683,611 (31%)</td>
</tr>
</tbody>
</table>

\(^5\) Revised from A4NH Full Proposal Table D.
\(^6\) From A4NH Full Proposal Table B

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### Milestone Description for 2017

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Description</th>
<th>Means of Verifying</th>
<th>For which 2022 outcomes</th>
<th>Budget 2017</th>
<th>6-year W1-2 / total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td>None for 2017</td>
<td>Development program implementers and investors (governments, NGOs, UN institutions) use evidence, tools and methods to design and implement cost-effective nutrition-sensitive agricultural programs at scale.</td>
<td>$1,952,767 / $10,072,093 (19%)</td>
<td>$12,339,296 / $68,551,647 (18%)</td>
<td></td>
</tr>
<tr>
<td>4.2</td>
<td>In collaboration with program implementers, evidence and evaluation tools developed in Phase I are used to develop proposals for assessing different nutrition- and gender-sensitive programs in 2 countries (tbd), each with a rigorous evaluation component included.</td>
<td>Program/proposal documentation. Requests for collaboration on proposals for programs including evaluations from program implementers</td>
<td>$650,922 / $3,357,364 (19%)</td>
<td>$4,113,099 / $22,850,549 (18%)</td>
<td></td>
</tr>
<tr>
<td>4.3</td>
<td>FP4 researchers and stakeholders map and analyze current cross-sectoral nutrition-sensitive discourse and context in regional and global organizations</td>
<td>Annual reporting from partners, FP outputs</td>
<td>Regional, international and UN agencies and initiatives and investors use evidence, tools and methods to design high-quality evaluations of a range of nutrition-sensitive agricultural and other multisectoral programs, and continue to build evidence.</td>
<td>$272,545 / $1,405,748 (19%)</td>
<td>$1,722,179 / $9,567,662 (18%)</td>
</tr>
<tr>
<td>4.4</td>
<td>Policy environment analysis/stories of change undertaken in 7 focal countries</td>
<td>National policymakers and shapers, and stakeholders from different sectors, civil society and industry use evidence to design effective nutrition-sensitive policies and ensure quality implementation.</td>
<td>$553,349 / $2,854,096 (19%)</td>
<td>$3,496,546 / $19,425,253 (18%)</td>
<td></td>
</tr>
<tr>
<td>4.5</td>
<td>Key partners from SUN, CAADP, and others in identified pathways at national, regional, international and subnational levels and cross-CRP engage in flagship agenda</td>
<td>Annual reporting from partners</td>
<td>Stakeholders from different sectors, civil society and industry listed in the other four outcomes, including CGIAR and other CRPs, have improved capacity to generate and use evidence to improve nutrition-sensitive agricultural programming, nutrition-sensitive policymaking and implementation.</td>
<td>$570,416 / $2,942,128 (19%)</td>
<td>$3,604,394 / $20,024,412 (18%)</td>
</tr>
</tbody>
</table>

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7 Revised from A4NH Full Proposal Table D.  
8 From A4NH Full Proposal Table B.
### A4NH FP5: Improving Human Health

<table>
<thead>
<tr>
<th>Milestone Description for 2017&lt;sup&gt;9&lt;/sup&gt;</th>
<th>Means of Verifying&lt;sup&gt;4&lt;/sup&gt;</th>
<th>For which 2022 outcomes&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Budget 2017</th>
<th>6-year W1-2 / total (%)&lt;sup&gt;10&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1 Key areas of potential research collaboration identified and projects underway: 1) Research project to integrate datasets for analysis (if interactions are identified by holders of datasets) established. (2) Rice researchers demonstrate interest in measuring mosquito productivity as well as rice productivity.</td>
<td>Event reports annual reporting from partners; self-assessment reports from partners (e.g., key informant interviews)</td>
<td>Agricultural research initiatives, including farming communities, measure health risks and benefits</td>
<td>$700,000 / $1,699,253 (41%)</td>
<td>$4,712,552 / $18,850,209 (25%)</td>
</tr>
<tr>
<td>5.2 At least 15 research organizations representing natural and social scientists from health and agriculture participate in theme-based symposia to identify and develop research areas, recognizing gender and equity issues</td>
<td>Annual reporting from partners; event reports gender sessions in symposia</td>
<td>Agricultural and public health policymakers and implementers deliver coordinated and effective solutions to cysticercosis and other zoonotic threats</td>
<td>$700,000 / $2,068,484 (34%)</td>
<td>$4,791,949 / $19,167,795 (25%)</td>
</tr>
<tr>
<td>5.3 15 decision makers made aware of global maps of antimicrobial drug use in livestock keeping systems</td>
<td>Annual reporting from partners; content analysis of official statements and documents</td>
<td>Public and private sector policymakers implement measures to reduce health risks from antimicrobial resistance in hotspot livestock systems</td>
<td>$600,000 / $1,802,973 (33%)</td>
<td>$4,176,855 / $16,707,419 (25%)</td>
</tr>
</tbody>
</table>

<sup>9</sup> Revised from A4NH Full Proposal Table D.

<sup>10</sup> From A4NH Full Proposal Table B.
### A4NH Table 2: SLOs, IDOs and sub-IDOs with proposed indicators

(*) A4NH-FPs and Sub-IDOs listed are extracted from the A4NH PIM Table C (Full proposal)

(**) The proposed indicators are based on milestones from the A4NH PIM Table D (Full proposal). When the proposed draft indicator is grey/blank, it implies that the indicator for that sub-IDO may be part of another A4NH indicator or through another CRP. Targets for 2017 are also based on PIM Table D.

Most of the indicators combine contributions from different flagships as well as management and cross-cutting (evaluation, gender and country coordination). The cross-cutting elements and their budgets are described in greater detail in the proposal.

<table>
<thead>
<tr>
<th>FP(*)</th>
<th>SLO</th>
<th>IDO</th>
<th>Sub-IDO (*)</th>
<th>Proposed draft indicators (**)</th>
<th>Targets for 2017 (**)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FP3</td>
<td>Reduced Poverty (SLO1)</td>
<td>Enhanced smallholder market access</td>
<td>Reduced market barriers</td>
<td>Number of traders in Kenya, Tanzania, Uganda, and Vietnam benefitting from training &amp; certification scheme</td>
<td>Targets in subsequent years</td>
</tr>
<tr>
<td>FP1</td>
<td>Increased incomes and employment</td>
<td>Diversified enterprise opportunities</td>
<td></td>
<td></td>
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<tr>
<td>FP4</td>
<td>Increased livelihood opportunities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FP2</td>
<td>Increased productivity</td>
<td>Closed yield gaps through improved agronomic and animal husbandry practices</td>
<td>Number of households growing biofortified varieties</td>
<td>6.5 million</td>
<td></td>
</tr>
<tr>
<td>FP1 FP2</td>
<td>Increased access to diverse nutrient-rich foods</td>
<td></td>
<td>Number of value chain actors using evaluation findings to inform operational and investment decisions in food systems for healthier diets</td>
<td>Targets in subsequent years</td>
<td></td>
</tr>
<tr>
<td>FP4</td>
<td>Improved diets for poor and vulnerable people</td>
<td>Optimized consumption of diverse nutrient-rich foods</td>
<td>Number of individuals consuming biofortified crops</td>
<td>32.5 million</td>
<td></td>
</tr>
<tr>
<td>FP1 FP4</td>
<td>Reduced biological and chemical hazards in the food system</td>
<td></td>
<td>Number of development organizations using A4NH results on (gendered) impacts and cost-effectiveness in programming of nutrition-sensitive agriculture programs</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>FP3</td>
<td>Improved food safety</td>
<td></td>
<td>Number of farmers adopting Good Agricultural Practices and/or biocontrol to mitigate aflatoxin contamination</td>
<td>39,000</td>
<td></td>
</tr>
<tr>
<td>FP3</td>
<td></td>
<td>Number of public sector agencies and/or private agribusinesses adopting gender-sensitive Good Agricultural Practices and/or biocontrol to reduce aflatoxin contamination in crop value chains</td>
<td>Targets in subsequent years</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>FP5</strong></td>
<td></td>
<td><strong>Appropriate regulatory environment for food safety</strong></td>
<td>Number of countries and/or regional organizations using results of A4NH food safety research in design of monitoring systems, policies, and regulations that take into account equity and risks</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td><strong>FP5</strong></td>
<td></td>
<td><strong>Improved human and animal health through better agricultural practices</strong></td>
<td>Number of stakeholders with access to a validated and semi-commercialized pen-side diagnostic assay for cysticercosis</td>
<td>Targets in subsequent years</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Reduced livestock and fish disease risks associated with intensification and climate change</strong></td>
<td>Number of research partners influenced by A4NH research on agricultural intensification and links to human health</td>
<td>Targets in subsequent years</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Number of national, regional, or global bodies using A4NH evidence to inform policy processes, guidelines, and program implementation related to zoonoses prevention and control in livestock communities</strong></td>
<td>Number of policy makers and decisionmakers aware of and using A4NH research on the livestock sector’s contribution to antimicrobial resistance</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td><strong>FP5</strong></td>
<td></td>
<td><strong>Increased safe use of inputs</strong></td>
<td>Number of communities where farmers are using methods developed through participatory research which reduce vector risk</td>
<td>Targets in subsequent years</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Increased resilience of agro-ecosystems and communities- especially those including smallholders</strong></td>
<td>Number of national agricultural research authorities issuing recommendations promoting agricultural production methods which reduce vector risk</td>
<td>Targets in subsequent years</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Enhanced adaptive capacity to climate risks</strong></td>
<td><strong>Mitigation and adaptation achieved</strong></td>
<td><strong>Enabled environment for climate resilience</strong></td>
<td>Number of countries and/or regional organizations engaging in and influenced by A4NH research on building an enabling environment for cross sectoral policy processes, including both nutrition and climate</td>
</tr>
<tr>
<td><strong>FP3</strong></td>
<td></td>
<td><strong>Gender and youth (CC)</strong></td>
<td><strong>Equity and inclusion achieved</strong></td>
<td><strong>Gender-equitable control of productive assets and resources</strong></td>
<td>Number of organizations implementing agricultural projects with women’s empowerment objectives and using pro-WEAI to monitor impacts</td>
</tr>
<tr>
<td>FP1</td>
<td>FP2</td>
<td>FP4</td>
<td>FP5</td>
<td>Improved capacity of women and young people to participate in decision-making</td>
<td>Targets in subsequent years</td>
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<td></td>
<td>Increased capacity of beneficiaries to adopt research outputs</td>
<td>Number of millers with capacity to monitor the safety of food supplied to non-farm maize meal consumers in Africa</td>
</tr>
<tr>
<td>FP3</td>
<td>FP4</td>
<td></td>
<td></td>
<td>Increased capacity of partner organizations as evidenced by rates of investment in agricultural research</td>
<td>Number of partner organizations with increased capacity in nutrition sensitive agriculture programming and policy</td>
</tr>
<tr>
<td>FP2</td>
<td>FP4</td>
<td></td>
<td></td>
<td>Conducive agricultural policy environment</td>
<td>Number of countries and/or regional organizations engaging in and being influenced by A4NH research on nutrition sensitive agricultural policy</td>
</tr>
<tr>
<td></td>
<td>FP4</td>
<td></td>
<td></td>
<td>Conducive environment for managing shocks and vulnerability, as evidenced in rapid response mechanisms</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Enhanced institutional capacity of partner research organizations</td>
<td>Number of research partners with increased institutional capacity to conduct integrated ANH research</td>
</tr>
<tr>
<td>All</td>
<td></td>
<td></td>
<td></td>
<td>National partners and beneficiaries enabled</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FP3</td>
<td>FP4</td>
<td>FP5</td>
<td>Enhanced individual capacity in partner research organizations through training and exchange</td>
<td>Number of individuals with increased capacity to conduct integrated ANH research</td>
</tr>
<tr>
<td>FP1</td>
<td>FP4</td>
<td></td>
<td></td>
<td>Increased capacity for innovation in partner research organizations</td>
<td>Number of research organization across the 4 focus countries applying validated metrics and tools for assessing diet quality and characterizing food systems</td>
</tr>
<tr>
<td>FP4</td>
<td></td>
<td></td>
<td></td>
<td>Increased capacity for innovation in partner development organizations and in poor and vulnerable communities</td>
<td></td>
</tr>
</tbody>
</table>
### CCAFS (Climate Change, Agriculture and Food Security)

#### CCAFS FP1: Priorities and Policies for CSA in 2017

<table>
<thead>
<tr>
<th>Milestone Description for 2017(^{11})</th>
<th>Means of Verifying(^1)</th>
<th>For which 2022 outcomes(^2)</th>
<th>2017-year W1-2 / total (%)</th>
<th>6-year W1-2 / total (%)(^{12})</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 New generation of multi-level CCAFS scenarios methodology developed and tested, including combined climate and socio-economic scenarios with a focus on food and nutrition security and gender and social inclusion gaming approaches for youth are explored</td>
<td>Journal articles and reports, including documented scenarios tools</td>
<td>14 organisations and institutions in selected countries/states adapting plans and directing investment to optimise consumption of diverse nutrient-rich foods, with all plans and investments examined for their gender implications</td>
<td>850,000 / 2,450,000 (35%)</td>
<td>5,250,000 / 14,910,000 (35%)</td>
</tr>
<tr>
<td>1.2 CCAFS regional scenarios are used for multilevel policy development and implementation in selected countries/states, focusing on climate and food and nutrition security policies aimed at dietary diversity</td>
<td>Evidence of CCAFS science included in policy processes, media coverage and partner websites</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.3 2 modified versions of global and regional models to evaluate climate smart practices and technologies and the related trade-offs and synergies for CSA are developed and tested</td>
<td>Technical progress reports and documented model runs 1 journal article</td>
<td>20 countries/states where CCAFS priority setting used to target and implement interventions to improve food and nutrition security under a changing climate</td>
<td>650,000 / 2,550,000 (25%)</td>
<td>6,120,000 / 16,970,000 (36%)</td>
</tr>
<tr>
<td>1.4 Cross-CRP modes of operation are defined, including joint ex ante analyses and data sharing and the CoA 1.1 Learning Platform established</td>
<td>Operationalisation of the learning platform with joint work-plan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.5 Novel analytical frameworks, indicators and metrics for evaluating cross-level dynamics and the effectiveness of enabling policy environments to support adaptation options and the scaling of CCAFS are developed and tested, considering 'good enough' governance</td>
<td>Journal articles and reports novel analytical frameworks are documented on the CCAFS website</td>
<td>USD 450 million new investments by state, national, regional and global agencies, informed by CCAFS science and engagement</td>
<td>1,550,000 / 4,350,000 (36%)</td>
<td>9,100,000 / 23,700,000 (38%)</td>
</tr>
<tr>
<td>1.6 Science-policy exchange processes, stakeholder fora and learning alliances are maintained and create conditions for open policy dialogue draft guidelines for mainstreaming climate change adaptation and climate smart practices in agriculture and other sectors and at different administrative levels are disseminated</td>
<td>Policy briefs, websites of operational science-policy platforms at national and subnational levels, CCAFS mentioned in regional and global partner publications and websites, media coverage, draft guidelines published by partner organisations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.7 Comparative analysis completed of enabling policy environments (especially food and nutrition security policies) with respect to gender equity considerations and recommendations for strengthened gender and social inclusion in enhanced enabling policy environments</td>
<td>Journal articles and research reports, recommendations documented</td>
<td>20 national/state organisations and institutions adapting their plans and directing investment to increase women's access to, and control over, productive assets and resources</td>
<td>600,000 / 2,000,000 (30%)</td>
<td>4,380,000 / 11,280,000 (39%)</td>
</tr>
<tr>
<td>1.8 Training materials are developed and workshops held to strengthen the capacity of national partners in applying decision support tools in targeting, priority setting, policy and investment decision making capacities and articulating national priorities in global fora for national planners are supported in utilising CCAFS information in policy decisions and investment plans through science-policy platforms and processes (linked to activities/milestones in CoA 1.1 and 1.2)</td>
<td>Training materials, workshop reports and attendance lists, policy decisions and investment plans</td>
<td>11 policy decisions taken (in part) based on engagement and information dissemination by CCAFS</td>
<td>650,000 / 1,910,000 (34%)</td>
<td>4,280,000 / 11,580,000 (37%)</td>
</tr>
</tbody>
</table>

| CCAFS FP1: Total | | | 4,300,000 / 13,260,000 (32%) | 29,130,000 / 78,440,000 (37%) |

\(^{11}\) From CCAFS Full Proposal Table D

\(^{12}\) From CCAFS Full Proposal Table B
### CCAFS FP2: Climate Smart Technologies and Practices in 2017

| Milestone Description for 2017
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Synthesis reports on local-level enabling environment, incentives and subnational policies and plans (LAPAs) supporting CSA investment and enhanced adoption</td>
</tr>
<tr>
<td>Lessons learned and knowledge products to overcome barriers to investment and further adoption constraints at local scales</td>
</tr>
<tr>
<td>A short list of CSA technologies, practices/services with good potentials for business case (incl Business model for small ruminant value chain) in SA and EA Business plan developed and validated in three SA CSVs business model for water storage options, including alternative investments options tested in WA.</td>
</tr>
<tr>
<td>2 pilots of widespread use of CSA practices in voluntary certification schemes (cocoa or coffee value chains) and testing of innovative financial mechanisms in 2 CSVs in WA</td>
</tr>
<tr>
<td>10 promising climate smart water, crop-livestock-agroforestry practices and 5 value chains prioritized, tested and adapted in CSVs in 12 countries supported by Agricultural Innovation platforms.</td>
</tr>
<tr>
<td>Common analytical frameworks, protocols and case studies developed for evaluating socially disaggregated CSA practices and technologies benefits on productivity, adaptation and mitigation (with FP3) data capture (for standardized climate, soil and management information at site-specific level) and assess cost-effectiveness of CSA.</td>
</tr>
<tr>
<td>Gender tailored CSA portfolios and business cases identified for testing with local partners in CSVs.</td>
</tr>
<tr>
<td>Gender disaggregated impact of CSA technologies and practices evaluated in CSVs Framework, methods and approaches developed to co-design, test and monitor transformative gender focus options</td>
</tr>
<tr>
<td>Diagnosis on subnational policy and institutional frameworks analysis focusing on different options that can support the adoption of preferred CSA practices</td>
</tr>
<tr>
<td>CSA knowledge products made available for partners including Africa CSA and mitigation compendiums online (approximately 30,000 datapoints), Climate Wizard updated and 5 CSA X-rays.</td>
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</table>

| Means of Verifying
<table>
<thead>
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<tbody>
<tr>
<td>Synthesis reports UFTI pilot implemented in India. Context-specific protocols and checklists on CSA options documented for CSA dissemination, guidelines, tools. Commitment from government agencies in India to implement UFTI an intermediate scale support pledging for upscauling Refereed journal paper on AIPs.</td>
</tr>
<tr>
<td>A short list of CSA technologies, practices/services with good potentials for business case (incl Business model for small ruminant value chain) in SA and EA Business plan developed and validated in three SA CSVs business model for water storage options, including alternative investments options tested in WA.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>For which 2022 outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 million farm households receiving incentives (training, financial, programmatic, policy-related) for adopting CSA related practices and technologies that potentially reduce production risks.</td>
</tr>
<tr>
<td>15 sub-national public/private initiatives providing access to novel financial services and supporting innovative CSA business models.</td>
</tr>
<tr>
<td>50 site-specific targeted CSA technologies/practices tested, with all options examined for their gender implications.</td>
</tr>
<tr>
<td>15 development organisations, with the focus on investments for CSA activities, adapting their plans or directing investment to increase women’s access to, and control over, productive assets and resources.</td>
</tr>
<tr>
<td>10 policy decisions taken (in part) based on engagement and information dissemination by CCAFS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CRP Performance 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milestone Description for 2017</td>
</tr>
<tr>
<td>Synthesis reports on local-level enabling environment, incentives and subnational policies and plans (LAPAs) supporting CSA investment and enhanced adoption</td>
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<tr>
<td>Common analytical frameworks, protocols and case studies developed for evaluating socially disaggregated CSA practices and technologies benefits on productivity, adaptation and mitigation (with FP3) data capture (for standardized climate, soil and management information at site-specific level) and assess cost-effectiveness of CSA.</td>
</tr>
<tr>
<td>Gender tailored CSA portfolios and business cases identified for testing with local partners in CSVs.</td>
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<td>CSA knowledge products made available for partners including Africa CSA and mitigation compendiums online (approximately 30,000 datapoints), Climate Wizard updated and 5 CSA X-rays.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2017-year W1-2 / total (%)</th>
<th>6-year W1-2 / total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,200,000 / 4,700,000 (26%)</td>
<td>9,000,000 / 40,000,000 (23%)</td>
</tr>
<tr>
<td>1,000,000 / 4,500,000 (22%)</td>
<td>7,500,000 / 33,300,000 (23%)</td>
</tr>
<tr>
<td>2,200,000 / 6,200,000 (35%)</td>
<td>13,500,000 / 55,500,000 (24%)</td>
</tr>
<tr>
<td>800,000 / 2,800,000 (29%)</td>
<td>5,500,000 / 25,000,000 (22%)</td>
</tr>
<tr>
<td>810,000 / 3,110,000 (26%)</td>
<td>5,500,000 / 18,500,000 (30%)</td>
</tr>
<tr>
<td>6,010,000 / 21,310,000 (39%)</td>
<td>41,000,000 / 172,300,000 (24%)</td>
</tr>
</tbody>
</table>
### CCAFS FP3 - Low Emissions Development in 2017

<table>
<thead>
<tr>
<th>Milestone Description for 2017&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Means of Verifying&lt;sup&gt;1&lt;/sup&gt;</th>
<th>For which 2022 outcomes&lt;sup&gt;2&lt;/sup&gt;</th>
<th>2017-year W1-2 / total (%)</th>
<th>6-year W1-2 / total (%)&lt;sup&gt;2&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 Network of trial sites for more efficient management options for fertilizer, feed, water, and land use in 5-8 countries</td>
<td>Trial sites established, documented in blogs online</td>
<td>20 agricultural development initiatives where CCAFS science is used to target and implement interventions to increase input efficiency</td>
<td>873,000 / 1,653,000 (53%)</td>
<td>5,907,000 / 10,855,000 (54%)</td>
</tr>
<tr>
<td>3.2 Identification of food loss and waste (FLW) opportunities for LED and commercially viable interventions in priority product value chains</td>
<td>Publications on priority interventions disseminated to farmers', processors' and distributors' organisations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.3 Framework for institutional innovation and monitoring to enhance performance of cattle farming in Brazil</td>
<td>Multi-stakeholder platform established</td>
<td>0.8 million hectares targeted by research-informed initiatives for restoring degraded land or preventing deforestation</td>
<td>658,000 / 1,928,000 (34%)</td>
<td>4,521,000 / 10,621,000 (43%)</td>
</tr>
<tr>
<td>3.4 Analysis supporting more ambitious INDC targets and resource guide to LED available to investors, donors and country partners with analysis including gender implications</td>
<td>Journal articles on INDC targets and LED resource guide, publicized on social media</td>
<td>10 low emissions plans developed that have significant mitigation potential for 2030, i.e. will contribute to at least 5% GHG emissions reduction or reach at least 10,000 farmers, with all plans examined for their gender implications</td>
<td>1,965,000 / 5,035,000 (39%)</td>
<td>13,291,000 / 28,525,000 (47%)</td>
</tr>
<tr>
<td>3.5 Improved emission factors and estimation methods for smallholder emissions, for incorporation into LED planning and prioritization tools</td>
<td>Online platform providing emission factors and methods, emission factors in IPCC database</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.6 Mitigation hotspots and priorities by sector and country in 5-8 countries</td>
<td>Hotspots and priorities available to country ministries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.7 Gender-disaggregated data on social factors influencing uptake of LED practices for rice and livestock</td>
<td>Reports, data sets available online</td>
<td>15 organisations adapting their plans or directing investment to increase women’s participation in decision-making about LED in agriculture</td>
<td>437,000 / 1,027,000 (43%)</td>
<td>3,018,000 / 4,632,000 (65%)</td>
</tr>
<tr>
<td>3.8 Flagship knowledge products made available for partners including Mitigation Option Tool, online mitigation compendium, primer on LED in agriculture, smallholder emissions estimation platform with training materials and emission factors (SAMPLES)</td>
<td>Mitigation Option Tool, compendium, emissions estimation platform available online and publicized via blogs, newsletters, and country outreach</td>
<td>15 policy decisions taken (in part) based on engagement and information dissemination by CCAFS</td>
<td>437,000 / 627,000 (70%)</td>
<td>2,953,000 / 6,027,000 (49%)</td>
</tr>
<tr>
<td>3.9 Agricultural LED readiness indicators available</td>
<td>Readiness indicators circulated to donors and country ministries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CCAFS FP3: Total</strong></td>
<td></td>
<td></td>
<td>4,370,000 / 10,270,000 (43%)</td>
<td>29,690,000 / 60,660,000 (49%)</td>
</tr>
</tbody>
</table>
### CCAFS FP4: Climate services and safety nets in 2017

<table>
<thead>
<tr>
<th>Milestone Description for 2017&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Means of Verifying&lt;sup&gt;2&lt;/sup&gt;</th>
<th>For which 2022 outcomes&lt;sup&gt;2&lt;/sup&gt;</th>
<th>2017-year W1-2 / total (%)</th>
<th>6-year W1-2 / total (%)&lt;sup&gt;2&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1 Flooding insurance theoretical and institutional framework, tools, community of practice, public-private partnership model and analysis of scaling potential in SA.</td>
<td>Project reports, tools, documented partnership platform</td>
<td>8 million farm households with improved access to capital, with increased benefits for women (millions)</td>
<td>1,000,000 / 2,200,000 (45%)</td>
<td>9,500,000 / 21,500,000 (44%)</td>
</tr>
<tr>
<td>4.2 Evidence from existing insurance initiatives, capacity development, piloting, and analysis of scaling potential for insurance linked to credit and inputs in EA and WA.</td>
<td>Project reports. Preliminary gender-disaggregated evaluation of existing programs. Analysis reports and journal article. Policy briefs.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4.3 NMS and regional climate institutions implement new climate information or climate-related early warning products/platforms targeting agricultural decision-makers, NMS implement gridded climate products for farmers in WA, ICPAC initiates new EA regional climate information and capacity-building, NARES or other farmer intermediary organizations implement new participatory and ICT-based communication channels scaled up for rural climate services</td>
<td>Project reports, Outcome case studies. Partner reports, websites, training/communication event reports. Climate information &quot;maprooms&quot; on partner websites. Media reports.</td>
<td>40 institutions or major initiatives that use CCAFS research outputs for services that support farm households' management of climatic risks</td>
<td>1,600,000 / 4,300,000 (37%)</td>
<td>7,500,000 / 16,750,000 (45%)</td>
</tr>
<tr>
<td>4.4 Methodology for economic valuation of climate services developed in collaboration with ACPC, targeting Africa-focused climate services investors (e.g., AFB, USAID, DFID)</td>
<td>Methodology reports, journal paper, policy briefs.</td>
<td>USD 150 million new investments by state, national, regional and global agencies, informed by CCAFS science and engagement</td>
<td>400,000 / 1,300,000 (31%)</td>
<td>2,700,000 / 6,100,000 (44%)</td>
</tr>
<tr>
<td>4.5 Preliminary cost-benefit analysis of climate services available in SEA</td>
<td>Cost-benefit reports, guidance documents, policy briefs.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.6 Preliminary cost-benefit analyses of agricultural climate services in Africa provided to Africa-focused climate services investors (e.g., AFB, USAID, DFID)</td>
<td>Cost-benefit reports, guidance documents, policy briefs.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.7 CARE in SEA and 3 Rwanda organizations (RAB agricultural extension, 2 NGOs) adapt climate services communication strategy and training to support participation of women farmers.</td>
<td>Project activity and M&amp;E reports, training materials. Externally-review outcome case studies.</td>
<td>20 development organizations adapting their plans and directing investment to increase women's access to, and control over, productive assets and resources through gender-sensitive climate-based advisories and safety nets</td>
<td>560,000 / 1,260,000 (44%)</td>
<td>4,550,000 / 9,650,000 (47%)</td>
</tr>
<tr>
<td>4.8 Climate services and weather-related insurance are incorporated into training materials and workshops (led by FP1) to strengthen the capacity of national partners in targeting, priority setting, policy and investment decision making capacities and articulating national priorities in global fora.</td>
<td>Training materials, workshop reports and attendance lists, draft investment plans</td>
<td>15 policy decisions taken (in part) based on engagement and information dissemination by CCAFS</td>
<td>400,000 / 830,000 (48%)</td>
<td>2,700,000 / 7,200,000 (38%)</td>
</tr>
</tbody>
</table>

**CCAFS FP4: Total**

- 3,960,000 / 9,880,000 (40%)
- 26,950,000 / 61,200,000 (44%)
## CCAFS Table 2: SLOs, IDOs and sub-IDOsWith proposed indicators

(*) CCAFS-FPs and Sub-IDOs listed are extracted from the CCAFS PIM Table C (Full proposal)

(**) The proposed indicators are coming from an interim POWB proposed by CCAFS and based on the RBM section Annex 3.6 of the Full Proposal.

<table>
<thead>
<tr>
<th>FP(*)</th>
<th>SLO</th>
<th>IDO</th>
<th>Sub-IDO (*)</th>
<th>Proposed draft indicators (**)</th>
<th>Targets for 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>FP2</td>
<td>Reduced Poverty (SLO1)</td>
<td>Increased resilience of the poor to climate change and other shocks</td>
<td>Reduced production risk</td>
<td>Number of SHs receiving programme, financial, policy-related trainings for adopting CSA related practices and technologies (that potentially reduce production risks).</td>
<td>0.5 million</td>
</tr>
<tr>
<td>FP2</td>
<td>FP4</td>
<td>Enhanced smallholder market access</td>
<td>Improved access to financial and other services</td>
<td>Number of sub-national public and private initiatives providing access to novel financial services. Number of SHs with improved access to new financial capital.</td>
<td>2, 1.3 million</td>
</tr>
<tr>
<td>FP3</td>
<td>Increased incomes and employment</td>
<td>More efficient use of inputs</td>
<td></td>
<td>Number of initiatives where CCAFS is used to target and implement interventions to increase input efficiency.</td>
<td>3</td>
</tr>
<tr>
<td>FP1</td>
<td>Improved Food and Nutrition Security for Health (SLO2)</td>
<td>Improved diets for poor and vulnerable people</td>
<td>Optimized consumption of diverse nutrient-rich foods</td>
<td>Number of organisations and institutions in selected countries/states adapting plans and directing investment to optimise consumption of diverse nutrient-rich foods, with all plans and investments examined for their gender implications.</td>
<td>2</td>
</tr>
<tr>
<td>FP3</td>
<td>Improved Natural Resources Systems and Ecosystems Services (SLO3)</td>
<td>Natural capital enhanced and protected, especially from climate change</td>
<td>Land, water and forest degradation minimized and reversed</td>
<td>Number of hectares targeted by research-informed initiatives for restoring degraded lands or preventing deforestation.</td>
<td>0.1 million</td>
</tr>
<tr>
<td>-----</td>
<td>---------------------------------------------------------------</td>
<td>---------------------------------------------------------------</td>
<td>---------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>FP3</td>
<td>More sustainably managed agro-ecosystems</td>
<td>Reduced net greenhouse gas emissions from agriculture, forests and other forms of land use</td>
<td>Number of low-emission plans developed that have significant mitigation potential for 2022 (eg reach at least 10,000 SHs or contribute to at least 2-3% GHG emissions reduction).</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>FP1 FP2</td>
<td>Climate change (CC)</td>
<td>Mitigation and adaptation achieved</td>
<td>Improved forecasting of impacts of climate change and targeted technology development</td>
<td>Number of states, countries and regions where CCAFS priority setting used to target and implement interventions to improve food and nutrition security under a changing climate. Number of site-specific targeted CSA technologies/practices tested, with all options examined for their gender applications.</td>
<td>3 10</td>
</tr>
<tr>
<td>FP1 FP4</td>
<td>Climate change (CC)</td>
<td>Mitigation and adaptation achieved</td>
<td>Enabled environment for climate resilience</td>
<td>Number of new investments (SM USD) by state, national, regional and global agencies, informed by CCAFS science and engagement.</td>
<td>USD 75 million</td>
</tr>
<tr>
<td>FP1</td>
<td>Gender and youth (CC)</td>
<td>Equity and inclusion achieved</td>
<td>Gender-equitable control of productive assets and resources</td>
<td>Number of organisations and institutions in selected countries/states adapting their plans and directing investment to increase women’s access to, and control over, productive assets and resources to improve food and nutritional security under climate change (including access to gender-sensitive climate-based advisories and insurance)</td>
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</tr>
<tr>
<td>FP3</td>
<td>Gender and youth (CC)</td>
<td>Equity and inclusion achieved</td>
<td>Improved capacity of women and young people to participate in decision-making</td>
<td>Number of organisations adapting their plans or directing investments to increase women’s participation in decision-making about LED in Agriculture.</td>
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<td>4</td>
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</tr>
<tr>
<td>FP1</td>
<td>Capacity development (CC)</td>
<td>National partners and beneficiaries enabled</td>
<td>Increased capacity for innovation in partner development organizations and in poor and vulnerable communities</td>
<td>Number of policy decisions taken based on engagement and information dissemination by CCAFS.</td>
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<td>5</td>
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</tr>
<tr>
<td>FP4</td>
<td>Climate change (CC)</td>
<td>Mitigation and adaptation achieved</td>
<td>Enhanced capacity to deal with climatic risks and extremes</td>
<td>Number of institutions or major initiatives that use CCAFS research outputs for services that support farm households’ management of climatic risks.</td>
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</tr>
</tbody>
</table>
# FISH

## FISH FP1: Sustainable Aquaculture

<table>
<thead>
<tr>
<th>Milestone Description for 2017</th>
<th>Means of Verifying</th>
<th>For which 2022 outcomes</th>
<th>Budget 2017 (Proposed W1-2 budget for 2017/total)</th>
<th>6-year W1-2 / total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.1</strong> New generations of improved tilapia and rohu carp breeds produced in 3 countries [Bangladesh, Egypt, Malaysia]</td>
<td>Program reports, journal papers, data sets</td>
<td>1.5 million households have access to and are using our selectively improved, faster growing and more resilient strains of tilapia and carp seed</td>
<td>200,632/660,461</td>
<td>6,754,100/23,290,000 (30%)</td>
</tr>
<tr>
<td>Genetically improved tilapia breeds disseminated to fish farmers in 4 countries [Bangladesh, Egypt, Myanmar, India]</td>
<td></td>
<td></td>
<td>6,754,100/23,290,000 (30%)</td>
<td></td>
</tr>
<tr>
<td>Genomic information obtained from core tilapia and carp breeding programs and used to inform research plans for 2018-onswards</td>
<td></td>
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</tr>
<tr>
<td>Gender-integrated end user preference research review completed, framework and methods developed, and partnerships agreed for implementation</td>
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<tr>
<td>Impact assessments of improved tilapia strain dissemination completed in 2 countries [Bangladesh, Egypt] and results integrated into future breeding program research and dissemination planning</td>
<td></td>
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<tr>
<td><strong>1.2</strong> Yield limiting diseases of improved tilapia strains assessed in 2 countries [Bangladesh and Egypt]</td>
<td>Program reports, journal papers, research plan</td>
<td>2.5 million households have adopted disease detection and control strategies, cost-effective and sustainable aqua-feeds and/or improved aquaculture management practices</td>
<td>250,790/825,577</td>
<td>6,754,100/23,290,000 (30%)</td>
</tr>
<tr>
<td>Biosecurity measures designed and incorporated in tilapia breeding and dissemination programs in 4 countries [Bangladesh, Egypt, Myanmar, India]</td>
<td></td>
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</tr>
<tr>
<td>Focal country assessments and cross-CRP dialogue (RICE, RTB) have identified priority ingredients for future novel aqua-feed research</td>
<td></td>
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</tr>
<tr>
<td>Best practice guidelines for health and feed management packaged and disseminated via extension networks to fish farmers in 4 countries [Bangladesh, Egypt, Myanmar, India]</td>
<td></td>
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</tr>
<tr>
<td><strong>1.3</strong> Baseline assessments of GHG emissions and water and nutrient use efficiency in tilapia and carp farming completed and used to identify interventions in 3 countries [Bangladesh, Egypt, Myanmar]</td>
<td>Program reports, journal articles</td>
<td>4.8 million mt of annual farmed fish production with reduced environmental impact and increased resource-use efficiency (measured by 20% reduction in GHG emissions and 10% increase in water and nutrient-use efficiency)</td>
<td>167,193/383,191</td>
<td>1,125,200 / 3,880,000 (5%)</td>
</tr>
<tr>
<td>Multi-stakeholder partnership platforms for sustainable aquaculture R&amp;D convened in 4 countries [Egypt, Nigeria, Bangladesh, Myanmar]</td>
<td>Program reports, platform meeting minutes, case studies, partner contacts from annual outcome review</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixed methods approach to and tools for quantitative and qualitative assessment of women and youth empowerment in fish agri-food systems developed and piloted and ready for application across FISH focal countries</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Fish-supply demand modelling completed and used to inform future targeting of FISH aquaculture technologies in Africa. Results integrated into CRP FISH 2018 research plans.</td>
<td></td>
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</tr>
<tr>
<td>Capacity development needs among research partners in key FISH countries identified and integrated into FISH capacity development plans</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Impact assessments and cross-CRP dialogue (A4NH) have informed preparation of a research strategy for achieving human-nutrition related SLO outcomes in FISH.</td>
<td></td>
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</tr>
</tbody>
</table>
## FISH FP2: Resilient Small-Scale Fisheries

<table>
<thead>
<tr>
<th>Milestone Description for 2017</th>
<th>Means of Verifying</th>
<th>For which 2022 outcomes</th>
<th>Budget 2017 (Proposed W1-2 budget for 2017 / total)</th>
<th>6-year W1-2 / total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Assessments completed on adaptive management research and livelihood outcomes in 4 countries [Bangladesh, Cambodia, Myanmar, Solomon Islands]</td>
<td>Synthesis reports, case studies, research papers, data on livelihood diversity and household income</td>
<td>1 million fishery-dependent households have reduced poverty as a result of adopting improved fisheries management</td>
<td>0/2,046,000</td>
<td>5,870,885 / 19,758,626 (33%)</td>
</tr>
<tr>
<td>2.2 Conceptual framework for fish in food systems developed and used to convene policy engagement, align investment in fisheries and re-invigorate global dialogue and strategies concerning the role of small-scale fisheries in poverty reduction</td>
<td>Program reports, research papers</td>
<td>1.2 million people, of which 50% are women, assisted to exit poverty through livelihood improvements</td>
<td>0/2,046,000</td>
<td>5,870,885 / 19,758,626 (33%)</td>
</tr>
<tr>
<td>2.3 National and sub-national partners in 4 countries [Bangladesh, Cambodia, Myanmar] better understand drivers of variability and land and water resource trade-offs in multi-functional landscapes, and recognize their policy and practical implications, with a particular focus on rice fish landscapes.</td>
<td>Documented outcomes of dialogues with partners and other stakeholders on findings and their implications</td>
<td>2.1 million hectares of aquatic and coastal marine habitat restored and under more productive and equitable management</td>
<td>0/2,046,000</td>
<td>5,870,885 / 19,758,626 (33%)</td>
</tr>
</tbody>
</table>

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FP2 budget for 2017 includes no W1-2 budget, but only W3/bilateral; expecting new decisions on W1-2 funding for FP2 research activities in 2018.
## FISH: Governance, management and cross-cutting

<table>
<thead>
<tr>
<th>Milestone Description for 2017(^{16})</th>
<th>Means of Verifying(^1)</th>
<th>For which 2022 outcomes(^1)</th>
<th>Budget 2017 (Proposed W1-2 budget for 2017/total)</th>
<th>6-year W1-2 / total (%)(^{17})</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governance (ISC) and management functions established for leadership, coherence and transparent governance of FISHP</td>
<td>Program reports. Independent review reports</td>
<td>Supports overall achievement of all CRP FISH outcomes</td>
<td>1,100,000(^{14}/)1,100,000</td>
<td>7,700,000/7,700,000</td>
</tr>
<tr>
<td>Cross-cutting CRP outcomes associated with gender, M&amp;E and communications</td>
<td>Program reports. Independent review reports</td>
<td>Supports overall achievement of all CRP FISH outcomes</td>
<td>TBD(^{19})</td>
<td>TBD</td>
</tr>
</tbody>
</table>

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\(^{16}\) From FISH CRP Full Proposal, PIM Table D, with additional 2017 milestones formulated for alignment to each FISH outcome

\(^{17}\) From FISH Full Proposal PIM Table B: ‘W1+W2(Amount)’ / ‘Amount Needed ($)’

\(^{18}\) CRP FISH proposal, page 30

\(^{19}\) We flag the importance of cross-cutting investments, and welcome feedback on how to address these issues in the outcome/budget analysis.
**FISH Table 2: FPs, SLOs, IDOs and sub-IDOs with proposed indicators**

<table>
<thead>
<tr>
<th>SLO</th>
<th>IDO</th>
<th>Sub-IDO</th>
<th>Proposed draft indicators</th>
<th>FP</th>
<th>Targets for 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reduced Poverty (SLO1)</strong></td>
<td>1.3 Increased incomes and employment</td>
<td>1.3.1 Diversified enterprise opportunities</td>
<td>Number of micro, small and medium enterprises established and/or diversified in aquaculture and fisheries value chains as a result of FISH research</td>
<td>FP1, FP2</td>
<td>Establish baseline in focal countries and identify opportunities for enterprise/business interventions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.3.2 Increased livelihood opportunities</td>
<td>Increased income in women and men farmers and value chain actors (disaggregated by age and wealth group)</td>
<td>FP1, FP2</td>
<td>Farmers adopting improved strains increase income by &gt;10% over non-adopters in 2-4 countries</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.3.4 More efficient use of inputs</td>
<td>Improved feed conversion and water and nutrient use efficiency (kg fish produced per unit quantity of water, N and P used)</td>
<td>FP1</td>
<td>Water and/or nutrient efficiencies by farmer adopters increased by 5% over non-adopters in 2 countries (L&amp;F sites in Egypt and Bangladesh)</td>
</tr>
<tr>
<td></td>
<td>1.4/2.1 Increased productivity</td>
<td>1.4.2/2.1.2 Closed yield gaps through improved agronomic and animal husbandry practices</td>
<td>Productivity (kg/ha/year) improvements in target aquaculture systems from adoption of improved strains, technology packages and management practices resulting from FISH research</td>
<td>FP1</td>
<td>Productivity improvements of &gt; 10% in 2 countries associated with improved tilapia strains. Performance assessment completed in 4 countries to determine baseline</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.4.3/2.1.3 Enhanced genetic gain</td>
<td>Estimated breeding value gain per generation for target traits in tilapias and carp breeding programs (%)</td>
<td>FP1</td>
<td>5% genetic gain documented in tilapia and rohu breeding programs in Malaysia and Egypt (tilapia) and Bangladesh (rohu)</td>
</tr>
<tr>
<td><strong>Improved Food and Nutrition Security for Health (SLO2)</strong></td>
<td>2.2 Improved diets for poor and vulnerable people</td>
<td>2.2.2 Increased access to diversified nutrient-rich foods</td>
<td>Increase in women’s average fish consumption per day and minimum dietary diversity score among women and children</td>
<td>FP1, FP2</td>
<td>Increase in fish consumption by 10% among women and children at research sites in 2 focal countries. Dietary diversity targets to be developed during 2017.</td>
</tr>
<tr>
<td></td>
<td>2.4 Improved human and animal health through better agricultural practices</td>
<td>2.4.2 Reduced livestock and fish disease risks associated with intensification and climate change</td>
<td>Percent reduction in fish disease prevalence in target aquaculture systems associated with improved breeds and FISH technologies</td>
<td>FP1</td>
<td>No targets for 2017. Focus is on defining baselines of fish disease status in key focal countries</td>
</tr>
</tbody>
</table>

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20 From FISH proposal Table 2 (page 10) and PIM Table’s C
21 From the RBM section Annex 3.6 of the Full Proposal (Table 1 and Table 2)
22 Targets and proposed contribution to target by (flagship x sub-IDO) defined by flagship leaders
<table>
<thead>
<tr>
<th><strong>Improved Natural Resources Systems and Ecosystems Services (SLO3)</strong></th>
<th><strong>3.2 Enhanced benefits from ecosystem goods and services</strong></th>
<th><strong>3.2.1 More productive and equitable management of natural resources</strong></th>
<th>Percent increase in yield from better fisheries management practices as a result of FISH research</th>
<th>FP2</th>
<th>None for 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3.3 More sustainably managed agroecosystems</strong></td>
<td><strong>3.3.1 Increased resilience of agro-ecosystems and communities, especially those including smallholders</strong></td>
<td>Number of hectares of aquatic and coastal marine habitat restored and under more productive and equitable management as a result of FISH research</td>
<td>FP1 FP2</td>
<td>None for 2017</td>
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<tr>
<td></td>
<td><strong>3.3.3 Reduced net greenhouse gas emissions from agriculture, forests and other forms of land use</strong></td>
<td>Green-house gas emissions per kg fish produced in target aquaculture systems</td>
<td>FP1</td>
<td>Focus is on defining baselines and intervention points for future improvements</td>
<td></td>
</tr>
<tr>
<td><strong>Climate change</strong></td>
<td><strong>XC 1.1.4 Enhanced capacity to deal with climatic risks and extremes</strong></td>
<td>Number of households with increased capacity to deal with climate risks and extremes</td>
<td>FP1 FP2</td>
<td>Focus is on developing indicators and methodologies for assessing future improvements</td>
<td></td>
</tr>
<tr>
<td><strong>Gender and youth</strong></td>
<td><strong>XC 2.1.1 Gender-equitable control of productive assets and resources</strong></td>
<td>Number of women with increased control of productive assets and resources (disaggregated by age and wealth)</td>
<td>FP1 FP2</td>
<td>No targets for 2017. Focus is on developing indicators and methodologies for assessing future improvements</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>XC 2.1.3 Improved capacity of women and young people to participate in decision-making</strong></td>
<td>Number of women and young people with increased influence in aquaculture and small-scale fisheries-related decision making (disaggregated by age and wealth)</td>
<td>FP1 FP2</td>
<td>No targets for 2017. Focus is on developing indicators and methodologies for assessing future improvements</td>
<td></td>
</tr>
<tr>
<td><strong>Policies and institutions</strong></td>
<td><strong>XC 3.1.1 Increased capacity of beneficiaries to adopt research outputs</strong></td>
<td>Number of innovation platforms, learning alliances and other multi-stakeholder platforms operating with FISH engagement</td>
<td>FP1 FP2</td>
<td>Innovation platforms for aquaculture research established in Bangladesh, Egypt, Myanmar and Nigeria</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>XC 3.1.3 Conducive agricultural policy environment</strong></td>
<td>$ investment that incorporates FISH research (through public policy, development agencies, private sector)</td>
<td>FP1 FP2</td>
<td>US$50 million of development investments informed by CRP Phase 1 fish-related research</td>
<td></td>
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<tr>
<td></td>
<td><strong>XC 4.1.2 Enhanced capacity in partner research organizations through training and exchange</strong></td>
<td>Number of research partner staff trained (disaggregated by age and wealth; gender, job/role, location and literacy)</td>
<td>FP1 FP2</td>
<td>Capacity assessments of FP1 research partners completed</td>
<td></td>
</tr>
</tbody>
</table>

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**Indicators for XC 3.1.1 and XC 3.1.3 were not included in the proposal; new indicators have been incorporated for 2017.**
**FTA (Forest, Trees and Agroforestry)**

**FTA FP1: Tree Genetic Resources for production and resilience in 2017**

<table>
<thead>
<tr>
<th>Milestone Description for 2017</th>
<th>Means of Verifying</th>
<th>For which 2022 outcomes</th>
<th>Budget 2017</th>
<th>6-year W1-2 / total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Best methodologies/indicators, maps, decision-support tools and case studies for supporting e.g., option values for prioritization, reward systems, guidelines and policy briefs assisting regional and national action- plans developed for safeguarding and availability of products and ecosystem services. Databases of seed sources, species, conservation units, genotypic and phenotypic characteristics, functional traits updated.</td>
<td>Progress reports and other wise implied by nature of milestone</td>
<td>Managers and policy makers adopt effective monitoring methods, tools and practices to mitigate threats to valuable tree genetic resources, and implement suitable safeguarding strategies in line with international initiatives, such as the Global Plan of Action for Forest Genetic Resources and the Global Strategy on Conservation and Use of Cacao Genetic Resources</td>
<td>615,600/3,890,412</td>
<td>16%</td>
</tr>
<tr>
<td>1.2 Participatory and multi-sectorial alliances setup for two countries with relevant ABS and IP policies for mobilization of TGR with co-development of best tools/approaches, business models, design and construction of tool kit (web portal) and concurrent upstream genomic applications for prioritized tree domestication. Databases developed of country priorities, best practices, performance info from provenance trials, domesticated products (transient and developed clones), performance, and distribution, updated routinely.</td>
<td>Progress reports and other wise implied by nature of milestone</td>
<td>Agricultural and horticultural research partners adopt cost-effective domestication approaches for priority tree species, based on impacts and maximising efficiency, and considering tradeoffs involved in intensification</td>
<td>615,600/3,890,412</td>
<td>16%</td>
</tr>
<tr>
<td>1.3 With supporting policy guidelines, advocacy materials and gender sensitive decision support tools, multi-sectorial (involvement of private, public and CGIAR) delivery system models and standards developed and concepts applied for different tree planting material types (seed, seedlings, cuttings, etc.) and nurseries for trees of different functional uses (timber, food etc. species) initiated in at least 4 countries and in varying agro-ecologies (sentinel landscapes if relevant for both livelihoods and landscape restoration; in East Africa (VECEA); business plans developed taking delivery systems into consideration for 5 AOCC tree species while options for generic genetic indicators and their needs and performance put into place.</td>
<td>Progress reports and other wise implied by nature of milestone</td>
<td>National governments, extension services and private partners adopt cost-effective and equitable tree planting material delivery pipelines, with appropriate decision-support tools, to supply high quality site-appropriate tree planting material to smallholders and other growers</td>
<td>615,600/3,890,412</td>
<td>16%</td>
</tr>
</tbody>
</table>

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24 From FTA Full Proposal Table D
25 From FTA Full Proposal Table B
### FTA FP2: Enhancing trees and forest contribution to smallholder livelihoods in 2017

<table>
<thead>
<tr>
<th>Milestone Description for 2017¹</th>
<th>Means of Verifying¹</th>
<th>For which 2022 outcomes¹</th>
<th>Budget 2017</th>
<th>6-year W1-2 / total (%)²</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Comparative analysis of local knowledge, gender roles and policy options across at least three countries and regions</td>
<td>Journal articles, comparative datasets and knowledge bases mounted on dataverse</td>
<td>improved food security and livelihood opportunities for 100 million people in smallholder households and more productive and equitable management of natural resources over an area of at least 50 million ha. This outcome integrates some outputs from other research clusters through their scaling.</td>
<td>461,700/1,174,719</td>
<td>16%</td>
</tr>
<tr>
<td>2.2 Analysis of barriers to people benefiting from tree resources across at least six countries and three regions</td>
<td>Journal articles</td>
<td>improved livelihood opportunities involving timber, fruit and NTFPs contributing a 25% increase in income for over 5 million people and more equitable management of natural resources including a 25% increase in women’s participation in decisions involving tree and forest management and utilization and improvement in substantive representation of women in community forest management institutions</td>
<td>276,681/2,501,762</td>
<td>11%</td>
</tr>
<tr>
<td>2.3 Options by context matrices for diversified cocoa and oilpalm production practices in Peru and Brazil</td>
<td>Matrices mounted on dataverse, journal articles.</td>
<td>diversified tree-crop production systems covering 5 million ha and improving diets and livelihood opportunities for 20 million people in smallholder producer households</td>
<td>370,039/3,345,914</td>
<td>11%</td>
</tr>
<tr>
<td>2.4 Globally calibrated tree-crop interaction models that can reliably predict impacts of tree cover change on yields of at least three staple crops</td>
<td>Journal articles</td>
<td>increased access to diverse, nutrient rich food for 20 million people through closing yield gaps by trees in agricultural systems improving and maintaining soil health as well as intensifying system interactions (fodder and firewood) and directly contributing to production, reducing and reversing land degradation and increasing the resilience of smallholder livelihoods</td>
<td>461,700/1,174,719</td>
<td>16%</td>
</tr>
<tr>
<td>2.5 Global systematic review of relationships between tree cover and pasture and animal productivity</td>
<td>Review record on CEE (Collaboration for Environment Evidence) internet library.</td>
<td>closing yield gaps through improved pasture management and animal husbandry on over 15 million ha and 1 million animals and contributes to reducing and reversing land degradation on over 5 million ha</td>
<td>276,681/2,501,762</td>
<td>11%</td>
</tr>
</tbody>
</table>
## FTA FP3- Sustainable global value chains and investments in 2017

<table>
<thead>
<tr>
<th>Milestone Description for 2017</th>
<th>Means of Verifying</th>
<th>For which 2022 outcomes</th>
<th>Budget 2017</th>
<th>6-year W1-2 / total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 Key stakeholders are engaged in an impact assessment of voluntary standard systems and private commitments to sustainability for select commodities in at least three major producer countries</td>
<td>Minutes from meetings with stakeholders / published analytical framework for the assessment of voluntary system standards / blog on the potential and opportunities of voluntary system standards</td>
<td>Public and private actors adopt effective governance arrangements, mechanisms and tools for ensuring sustainable and inclusive commodity supply in at least 3 major producer countries</td>
<td>734,270</td>
<td>4,920,217</td>
</tr>
<tr>
<td>3.2 Data collection and analysis of costs and performance of business models across at least four sectors involving major high-value tree crops, and disseminated outcomes in five business platforms with key recommendations for improving practices</td>
<td>Paper on the socio-environmental performance of business models across three select high-value tree crop sectors / infobrief and blog with a summary of main research findings / meeting with representatives of private sector associations / presentations in conferences and business platforms</td>
<td>5 business platforms and 20 businesses and service providers develop and implement business models that are more inclusive, economically viable and environmentally sustainable</td>
<td>578,516</td>
<td>3,896,353</td>
</tr>
<tr>
<td>3.3 Completed analysis of innovative financial mechanisms in support to expanding access to finance to smallholders and SMEs in timber and tree-crop value chains</td>
<td>Paper comparing potential of innovative financial mechanisms to support smallholders and SMEs / infobrief and blog with summary of main research findings / minutes and proceeding of participation in specialized conferences</td>
<td>At least 30% of financial service providers lending to timber, tree and agricultural crops adopt ESG criteria, and increase in 25% the lending to models that integrate smallholders and SMEs</td>
<td>534,014</td>
<td>3,578,340</td>
</tr>
<tr>
<td>Milestone Description for 2017</td>
<td>Means of Verifying</td>
<td>For which 2022 outcomes</td>
<td>Budget 2017</td>
<td>6-year W1-2 / total (%)</td>
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</tr>
<tr>
<td>Identified similarities at tier 1 and 2 level connected to 10 tier-3 sentinel landscape data sets, used as basis for planned impact studies of interventions across all FTA FP’s, and linked with the SDG performance planning and monitoring in at least 10 countries. Decision support tools for selection of approaches (natural regeneration or planting), species and seed sources for sustainable restoration of forests adopted within three countries to meet their Bonn Challenge pledges.</td>
<td>Website availability of spatially explicit open-access data sets on conditions and trends of forest and tree cover change linked to livelihood opportunities</td>
<td>(Sub)national governance systems in at least 10 countries use contextualized theories of change to guide transitions to integral achievement of sustainable development goals through restoration, conservation and management of landscape multi-functionality, using similarity domains based on patterns and intensities of forest and tree cover change in space and time in sentinel landscapes understood on the basis of ‘drivers’ that operate at larger scales.</td>
<td>3,691,000/3,691,000 (100%)</td>
<td>3,691,000/3,691,000 (100%)</td>
</tr>
<tr>
<td>Assessment of effects of tree cover change on rainfall patterns and variability at continental scales, combining global circulation models with qualified tree cover data, quantified water balance data, dendrochronological evidence of past change and vulnerability of livelihoods</td>
<td>Website availability of studies, process-level and spatially calibrated heuristic models on FT&amp;A ecosystem services at multiple scales</td>
<td>(Sub)national governance systems in landscapes covering 100 M ha and inhabited by 70 M people use quantified and valued functions of FT&amp;A for biodiversity, full hydrological cycle and ecosystem services analyzed across knowledge domains and available for policy•level synthesis and planning.</td>
<td>3,691,000/3,691,000 (100%)</td>
<td>3,691,000/3,691,000 (100%)</td>
</tr>
<tr>
<td>Stock taking of statistical data sets that link dietary diversity to species-level and genetic diversity of agricultural and associated landscapes and process-level models that interpret this in terms of availability, access and behavioural patterns, setting priorities for further work by FTA and partners</td>
<td>National SDG statistics at subnational scale for countries targeted by FTA, with explicit comparators/counterfactuals</td>
<td>Diverse diets from tree cover in mosaic landscapes recognized and enhanced as contributions to balanced diets through increase of availability, and access to, nutrient-rich wild and cultivated food products from these landscapes (10 sentinel landscapes 10 M people)</td>
<td>3,691,000/3,691,000 (100%)</td>
<td>3,691,000/3,691,000 (100%)</td>
</tr>
<tr>
<td>Exchange of lessons learned across the various learning landscapes associated with FTA, including a further review of existing typologies of ‘payment for watershed services’ settings and as basis for new action research efforts.</td>
<td>Website availability of objectives, context and evolving lessons in the various learning landscape networks</td>
<td>Adaptive landscape institutions empowered and supported on 6 M ha inhabited by 4 M people to manage changing landscape mosaics towards more balanced and adaptive multifunctionality and successful ‘forest landscape restoration’ through ‘action research’ and inclusive, participatory learning. This is aligned with efforts in PIM.5.2 –0.06 million hectares of shared landscapes under more productive and equitable management.</td>
<td>3,691,000/3,691,000 (100%)</td>
<td>3,691,000/3,691,000 (100%)</td>
</tr>
</tbody>
</table>
## FTA FP5: Climate change mitigation/adaptation opportunities in forests & agroforestry in 2017

<table>
<thead>
<tr>
<th>Milestone Description for 2017</th>
<th>Means of Verifying</th>
<th>For which 2022 outcomes</th>
<th>Budget 2017</th>
<th>6-year W1-2 / total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1 Comparative analysis of best, 3E+ options for policies and practices for emission reduction concluded and applied by decision makers</td>
<td>Scientific publications and policy briefs (FTA and CG center websites) book on the topic national reports and strategy documents, e.g. for REDD+</td>
<td>Efficient, effective and equitable climate national and international mitigation policies and funding, aligned with development objectives (3E+ goals)</td>
<td>941,590/6,560,798</td>
<td>900,000/5,400,000 (15%)</td>
</tr>
<tr>
<td>5.2 Concluding analysis of synergies/trade-offs between mitigation and adaptation published and applied, e.g. in the JMA debate</td>
<td>Scientific publications and policy briefs (FTA and CG center websites) UNFCCC documents on Joint Mitigation Adaptation</td>
<td>Risk-assessed ecosystem-based adaptation (EbA) policy and practice in place including joint mitigation and adaptation approaches</td>
<td>461,807/3,217,773</td>
<td>3,237,000/21,580,000 (15%)</td>
</tr>
<tr>
<td>5.3 Analysis of current status of bioenergy types concluded and used by country agencies and international agencies developing bioenergy policies</td>
<td>Scientific publications and policy briefs (FTA and CG center websites) country reports, GIZ reports on bioenergy and woodfuel</td>
<td>Integrated food and bioenergy production policy and practice realized</td>
<td>221,702/1,544,770</td>
<td>1,554,000/10,360,000 (15%)</td>
</tr>
<tr>
<td>5.4 Reference levels determined for a variety of situations and land uses and applied by countries</td>
<td>Scientific publications and policy briefs (FTA and CG center websites) IPCC reports, national reports on RLs</td>
<td>Performance assessment of mitigation and adaptation policy and practice widely implemented</td>
<td>221,702/1,544,770</td>
<td>1,554,000/10,360,000 (15%)</td>
</tr>
</tbody>
</table>
### Table 2

<table>
<thead>
<tr>
<th>IDOs</th>
<th>SLOs</th>
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</thead>
<tbody>
<tr>
<td>Increased incomes and employment</td>
<td>Reduced Poverty SLO 1</td>
</tr>
<tr>
<td>Increased productivity</td>
<td>Reduced Poverty SLO 1</td>
</tr>
<tr>
<td>Increased productivity, Natural capital enhanced and protected, especially from climate change, Enhanced benefits from ecosystem goods and services</td>
<td>Reduced Poverty (SLO1), Improved Natural Resources Systems and Ecosystems Services (SLO3)</td>
</tr>
<tr>
<td>Improved diets for poor and vulnerable people</td>
<td>Improved Food and Nutrition Security for Health (SLO2)</td>
</tr>
<tr>
<td>Improved Natural Resources Systems and Ecosystems Services (SLO3)</td>
<td></td>
</tr>
<tr>
<td>Enhanced benefits from ecosystem goods and services, Natural capital enhanced and protected, especially from climate change</td>
<td>Improved Natural Resources Systems and Ecosystems Services (SLO3)</td>
</tr>
<tr>
<td>Improved Natural Resources Systems and Ecosystems Services (SLO3)</td>
<td></td>
</tr>
<tr>
<td>Climate change (CC)</td>
<td></td>
</tr>
<tr>
<td>FP1</td>
<td>Gender-responsive guidelines, and decision-support and practical tools, for tree domestication</td>
</tr>
<tr>
<td>-----</td>
<td>-----------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>FP1</td>
<td>FP1 Policy briefs, reward systems, strategies and guidelines for appropriate targeting and safeguarding of TGR in various political, socioeconomic and environmental contexts, at different scales, and based on the biology of the species concerned</td>
</tr>
<tr>
<td>FP2</td>
<td>Number of households who have adopted forestry and agroforestry innovations National and sub-national policy change to incorporate FTA innovations</td>
</tr>
<tr>
<td>FP2</td>
<td>Proportional increase in value chain income³, for households using or benefiting from FTA innovations and policy recommendations</td>
</tr>
<tr>
<td>FP2</td>
<td>Proportional increase in food availability and dietary diversity enabled in part through adoption of FTA innovations</td>
</tr>
<tr>
<td>FP2</td>
<td>Percent reduction in heat stress over a number of animals.</td>
</tr>
<tr>
<td>FP2</td>
<td>Number of hectares avoided degradation and restored crop land and pasture enabled by FTA technology, market and policy innovations</td>
</tr>
<tr>
<td>FP2</td>
<td>Soil carbon levels in areas where forest cover has changed as a result of adoptions of FTA innovations</td>
</tr>
<tr>
<td>FP2</td>
<td>Improved ability to monitor the relationship between the extent and diversity of tree cover on livelihood and landscape resilience</td>
</tr>
<tr>
<td>FP3</td>
<td>Number of financial service providers and platforms engaged lending to timber, tree and agricultural crops which adopt ESG criteria, that increase the amount of lending to models that integrate smallholders and SMEs (PIM Table B - CoA 3.3)</td>
</tr>
<tr>
<td>FP3</td>
<td>Number of supported governance arrangements, mechanisms and tools involving public and private actors for ensuring sustainable, inclusive, equitable commodity supply in at least three countries (PIM Table B - CoA 3.1)</td>
</tr>
<tr>
<td>FP3</td>
<td>Number of business platforms and businesses and service providers that develop and implement business models that are more inclusive, economically viable and environmentally sustainable (PIM Table B - CoA 3.2)</td>
</tr>
<tr>
<td>FP3</td>
<td>Number of public and private actors adopt effective governance arrangements, mechanisms and tools for ensuring sustainable, inclusive, equitable commodity supply in at least three countries (PIM Table B - CoA 3.1)</td>
</tr>
<tr>
<td>FP3</td>
<td>Options of business models adopt a gender explicit approach considering equal opportunities for men and women</td>
</tr>
<tr>
<td>FP4</td>
<td>Adaptive landscape institutions empowered and supported on 6 M ha inhabited by 4 M people to manage changing landscape mosaics towards more balanced and adaptive multifunctionality and successful ‘forest landscape restoration’ through ‘action research’ and inclusive, participatory learning. This is aligned with efforts in PIM.5.2 -06 million hectares of shared landscapes under more productive and equitable management (PIM Table B - CoA 4.4)</td>
</tr>
<tr>
<td>FP4</td>
<td>Diverse diets from tree cover in mosaic landscapes recognized and enhanced as contributions to balanced diets through Increase of availability, and access to, nutrient-rich wild and cultivated food products from these landscapes (10 sentinel landscapes 10 M people) - (PIM Table B - CoA 4.3)</td>
</tr>
<tr>
<td>FP4</td>
<td>(Sub)national governance systems in landscapes covering 100 M ha and inhabited by 70 M people use quantified and valued functions of FT&amp;A for biodiversity, full hydrological cycle and ecosystem services analyzed across knowledge domains and available for policy level synthesis and planning. (PIM Table B - CoA 4.2)</td>
</tr>
<tr>
<td>FP5</td>
<td>Risk-assessed ecosystem-based adaptation (Eba) policy and practice in place in target countries including joint mitigation and adaptation approaches (PIM Table B - CoA 5.2)</td>
</tr>
<tr>
<td>FP5</td>
<td>Performance assessment of mitigation and adaptation policy and practice widely implemented (PIM Table B - CoA 5.4)</td>
</tr>
<tr>
<td>FPS</td>
<td>Efficient, effective and equitable climate national and international mitigation policies and funding, aligned with development objectives (3E+ goals) (PIM Table B - CoA 5.1)</td>
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<tr>
<td></td>
<td>50% of actors involved in 3 training and 8 knowledge sharing events report (1) having learned skills, methods and tools, (2) having internalized the value of efficient, effective and equitable (3E) REDD+, and having understood how evidence can support 3E decision making</td>
</tr>
<tr>
<td></td>
<td>3.3 More sustainably managed agro-ecosystems</td>
</tr>
<tr>
<td></td>
<td>Improved Natural Resources Systems and Ecosystems Services (SLO3)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FPS</th>
<th>Contribution to scientific knowledge relating to REDD+, forests, agriculture, mitigation, adaptation, the emissions potential of global restoration efforts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Two papers on mitigation hotspots published; Report on restoration sink potential concluded; Report on link of REDD finance to outcomes concluded; Agriculture paper early 2018</td>
</tr>
<tr>
<td></td>
<td>A. Mitigation and adaptation achieved</td>
</tr>
<tr>
<td></td>
<td>Climate change (CC)</td>
</tr>
</tbody>
</table>
LIVESTOCK – 2017 MILESTONES

- 2022 Outcomes taken from Flagship Narratives – defined at Cluster of Activity level (not PIM 8 as this had already mapped to sub-IDO development-level outcomes)
- Some Clusters of Activities have multiple 2022 outcomes and 2017 milestones. Since detailed planning and budgets are still in process, approximate shares of the budget (by Cluster) have been allocated to each outcome / milestone.

LIVESTOCK FP1: LIVESTOCK Genetics – Milestones for 2017

<table>
<thead>
<tr>
<th>Milestone Description for 2017</th>
<th>Means of Verifying</th>
<th>For which 2022 outcome</th>
<th>Milestone budget 2017 W1-2/total $ (%)</th>
<th>6-year outcome budget W1-2/total $ (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New datasets integrating phenotypes, genotypes and agro-ecosystems (including suitability maps for small ruminants Ethiopia, genetic diversity &amp; structure of Sudan Desert Goat) in DAGRIS &amp; trained national partners on data collation; Additional biorepository samples (poultry - Tanzania, Ethiopia, Nigeria; SSA cattle; cross-bred dairy cattle Tanzania &amp; Ethiopia) and genome sequencing analysis (poultry - Tanzania, Ethiopia, Nigeria; indigenous African cattle; cross-bred dairy cattle - SNP); Livestock systems characterised - dairy in Tanzania &amp; Ethiopia, poultry in Ethiopia, Tanzania &amp; Nigeria (incl. gender analysis), pastoral production systems in arid/semi-arid Kenya and ex-ante assessment of pastoral breeding programs in Ethiopia &amp; Sudan.</td>
<td>DAGRIS reports; maps; training records; Biorepository records; global genome sequencing database records; journal articles; survey datasets</td>
<td>Data on livestock diversity and systems, including from a gendered lens, used to develop or refine genetic improvement and/or conservation strategies by policymakers, national research and development partners, and the private sector, in 5 CRP priority countries and other locations.</td>
<td>1,144,613 / 1,155,794 (28%)</td>
<td>7,792,997 / 28,294,351 (28%)</td>
</tr>
<tr>
<td>Development of breeding schemes (upscaling of community-based breeding programs - CBPP for pastoral production systems) &amp; support to implementation (ICAR breeding program in India on dairy buffalo)</td>
<td>Publications; partner reports</td>
<td></td>
<td>460,419 / 808,022 (57%)</td>
<td>3,134,717 / 5,501,345 (57%)</td>
</tr>
<tr>
<td>Phenotypic and genotypic records of livestock populations (chicken, sheep, pigs &amp; buffalo; adaptation and disease resistance Africa &amp; Asia; structure &amp; diversity of Ethiopian goat; ASF resistance of African &amp; Chinese pigs; heat tolerance in Sudanese Desert sheep; parasite resistance in Tunisian sheep; productivity in calves in Kenya; between &amp; within breed diversity through Class MHC Typing)</td>
<td>Databases; publications</td>
<td>Genetic improvement strategies for improved livestock genetics implemented by national research and development partners, and the private sector in 6 CRP priority countries and other locations.</td>
<td>613,891 / 1,212,033 (51%)</td>
<td>4,179,622 / 8,252,018 (51%)</td>
</tr>
<tr>
<td>Development of a phenotypic platform - mobile recording system for CBPP, selective breeding &amp; productivity monitoring using ICT tools, telomere as biomarker for adaptation to climate change, infrared spectra as indirect measure of dairy cattle performance; Optimised open-data kit (ODK) systems for phenotypic traits and production systems characterisation for poultry, dairy and cross-bred cattle; Development of protocols for genome editing and ex-situ conservation (AI packages in goats, field-testing bull semen viability, development of transgenic trypanosomiasis resistant cow, BecA genome editing platform)</td>
<td>Databases and their records; Platforms and their records</td>
<td></td>
<td>460,419 / 2,020,055 (23%)</td>
<td>3,134,717 / 13,753,363 (23%)</td>
</tr>
<tr>
<td>Assessment of institutional arrangements for delivery of improved genetics; Guidelines on delivery options for improved dairy cattle; proposal developed for phase 2 breeding programs and dissemination including draft business models</td>
<td>Reports &amp; publications; Approved project</td>
<td>Business models for multiplication and delivery of improved livestock genetics, to resource poor women and men livestock keepers, implemented by national research and development partners, and the private sector in five CRP priority countries and other locations.</td>
<td>175,597 / 1,341,721 (35%)</td>
<td>3,238,062 / 9,134,985 (35%)</td>
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</table>
### Milestone Description for 2017

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Means of Verifying</th>
<th>For which 2022 outcome</th>
<th>Milestone budget 2017 W1-2/total $ (%)</th>
<th>6-year outcome budget W1-2/total $ (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.2 All other milestones contribute to this</td>
<td>N/A</td>
<td>Women and men resource poor livestock keepers sustainably utilising improved livestock genetics, both productive and adapted, in 3 priority countries and other locations.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>4.1 Published information on best practices and lessons on AnGr improvement in Africa; national breeding strategies in Ethiopia; guidelines on institutional arrangements for certification of improved rams/bucks from CBPs; Pig breeding in Assam, India supported - in terms of policy formulation</td>
<td>Reports &amp; publications; partner reports (Ethiopia, India)</td>
<td>Guidelines on policy and institutional arrangements for improvement and conservation of animal genetic resources (AnGr) adopted by policymakers, national research and development partners, and the private sector, in 7 priority countries and other locations.</td>
<td>38,786 / 1,011,822 (36%)</td>
<td>4,349,119 / 6,888,900 (63%)</td>
</tr>
</tbody>
</table>

### LIVESTOCK FP2: LIVESTOCK Health – Milestones for 2017

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Means of Verifying</th>
<th>For which 2022 outcome</th>
<th>Milestone budget 2017 W1-2/total $ (%)</th>
<th>6-year outcome budget W1-2/total $ (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Framework to quantify gendered animal disease impacts at national and regional level developed and available</td>
<td>Published framework (including detailed analytical protocol)</td>
<td>Assessment tools for significance of animal diseases and risk maps for emergence of animal diseases are used by 100 local and national and 50 international research partners and donors to prioritise research and development interventions to reduce livestock disease risks for livestock keepers.</td>
<td>608,924 / 556,842 (73%)</td>
<td>2,784,123 / 3,791,207 (73%)</td>
</tr>
<tr>
<td>2.1 Evaluation of current herd health issues (biosecurity, reproductive management, feed &amp; genetic limitations, anti-microbial use) for dairy, pig and small ruminant systems in Uganda, Tanzania and Ethiopia, respectively. Results used to identify appropriate indicators (production &amp; social - gender, age, livelihoods) for evaluating herd health packages in CRP priority countries</td>
<td>Country reports; indicators - with guidance published</td>
<td>Context specific herd health management packages adopted by farmers, extension and animal health workers in priority countries and other locations.</td>
<td>621,139 / 1,510,563 (41%)</td>
<td>4,228,968 / 10,284,530 (41%)</td>
</tr>
<tr>
<td>2.2 Key constraints, gaps and misconceptions of anti-microbial and anti-parasitic drug usage identified in 2 CRP priority countries</td>
<td>KAP protocols and preliminary reports for each country</td>
<td>Livestock keepers have necessary knowledge of AMR and anti-parasitic resistance (APR) to change their practices accordingly, piloted in two priority countries.</td>
<td>266,203 / 1,007,042 (26%)</td>
<td>1,812,415 / 6,856,354 (26%)</td>
</tr>
<tr>
<td>3.1 ECF - ITM vaccine release by partner (CTTB0, Malawi), PPR vaccine production by partner (CVL, Mali)</td>
<td>ECF - Sales records, delivery models; PPR - Test results</td>
<td>National and international research partners, government agencies and the private sector use 2 novel diagnostic assays and vaccines for control of ASF, CBPP, CCPP, ECF and PPR in at least 6 priority countries.</td>
<td>235,701 / 1,246,706 (19%)</td>
<td>1,604,749 / 8,488,081 (19%)</td>
</tr>
<tr>
<td>3.2 New data - ECF subunit vaccine development &amp; ASF vaccine antigens; Proof of concept vaccine efficacy (CBPP, CCPP); 2nd gen lateral flow test (CBPP)</td>
<td>Tests results, Publications &amp; reports</td>
<td>PPR in at least 6 priority countries.</td>
<td>2,121,309 / 920,979 (73%)</td>
<td>14,442,737 / 19,805,522 (73%)</td>
</tr>
<tr>
<td>3.3 Animal health products (vaccines, diagnostics, drugs) and services for the key health problems in three CRP priority countries (Ethiopia, Vietnam, Uganda) documented and gaps, constraints and capacity development needs identified and review made available</td>
<td>Published review(s)</td>
<td>Improved access to livestock-related health services and products for female and male livestock keepers in 4 priority countries</td>
<td>265,150 / 740,054 (36%)</td>
<td>1,805,252 / 5,038,593 (36%)</td>
</tr>
</tbody>
</table>
### LIVESTOCK FP3: LIVESTOCK Feeds & Forages – Milestones for 2017

*Note FP3 assumes no W1/2 funding for whole CRP; but includes the W1/2 in the Totals (denominator)*

<table>
<thead>
<tr>
<th>Milestone Description for 2017</th>
<th>Means of Verifying</th>
<th>For which 2022 outcome</th>
<th>2017 milestone budget W1-2/total $ (%)</th>
<th>6-year outcome budget W1-2/total $ (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Research and development partners, decision makers and input suppliers use at least 2 tools for regional and national feed supply and demand scenarios in 2 priority countries (Vietnam, Ethiopia)</td>
<td>Reports; 3 issues of online journal published; used and downloaded statistics for online journal</td>
<td>Local, national and international research and development partners, the private sector, decision-makers and livestock producers are able to diagnose feed constraints and opportunities and to effectively prioritize and target feed and forage interventions, resulting in: a 10% improvement in utilization of feeds and forages, a 20% increase in animal production using improved feed and forage technologies, a 10% accuracy increase for biomass and quality estimation and at least 250,000 annual visitors to global databases, repositories, interactive tools and maps and the Tropical Grasslands—Forrajes Tropicales journal website.</td>
<td>0 / 633,523 (0%)</td>
<td>1,232,082 / 5,545,362 (22%)</td>
</tr>
<tr>
<td>1.2 New equations for stationary and mobile NIRS integrated into platform for Colombia and Ethiopia.</td>
<td>Updated platform</td>
<td>Capacity development of research and development partners and service providers (private sector) are using up-to-date technology which is cost effective (accuracy and rapidity)</td>
<td>0 / 158,380 (0%)</td>
<td>308,020 / 1,386,340 (22%)</td>
</tr>
<tr>
<td>2.1 New cohort of promising Urochloa hybrids defined for later use in breeding activities. New crosses of breeding lines available for further research and already available forage hybrids scaled with private sector partner in at least 15 countries on 100,000 hectares</td>
<td>Reports made available; Seed sales statistics from private sector partner; New crosses of breeding lines.</td>
<td>National and international research and development partners and the private sector are using CRP developed forage and rangeland resources (with enhanced traits), in 30 countries and reaching producers who plant over 2 million ha, to increase the rate of genetic gain and exploit the genetic diversity of forages and rangeland species to enhance stress-tolerance, biomass productivity and nutritive value.</td>
<td>0 / 417,245 (0%)</td>
<td>2,915,732 / 5,756,513 (51%)</td>
</tr>
<tr>
<td>2.2 1) Concept to improve phenotyping efficiency available internally for further breeding activities at a global scale. 2) Collection of P purpureum genotyped in Ethiopia</td>
<td>Reports made available; Seed sales statistics from private sector partner; New crosses of breeding lines.</td>
<td>National and international research and development partners and the private sector are using CRP developed forage and rangeland resources (with enhanced traits), in 30 countries and reaching producers who plant over 2 million ha, to increase the rate of genetic gain and exploit the genetic diversity of forages and rangeland species to enhance stress-tolerance, biomass productivity and nutritive value.</td>
<td>0 / 417,245 (0%)</td>
<td>2,915,733 / 5,756,513 (51%)</td>
</tr>
<tr>
<td>2.3 Representative collections of Cactae, Brachiaria and Panicum maximum characterized for release in North &amp; East Africa and Colombia</td>
<td>Reports made available on the Identification, characterization, and promotion of 3 to 5 key well-adapted forage/rangeland species for diverse agro-ecosystems</td>
<td>National and international research and development partners and the private sector are using CRP developed forage and rangeland resources (with enhanced traits), in 30 countries and reaching producers who plant over 2 million ha, to increase the rate of genetic gain and exploit the genetic diversity of forages and rangeland species to enhance stress-tolerance, biomass productivity and nutritive value.</td>
<td>0 / 417,246 (0%)</td>
<td>2,915,733 / 5,756,513 (51%)</td>
</tr>
<tr>
<td>2.4 Potential cultivars of maize, rice, wheat, cowpea and barley identified for further breeding activities</td>
<td>Reports made available for testing selected breeding lines from farmers.</td>
<td>New forage and crop cultivars, superior to local (based on food, feed and fodder traits weighted according to target domains), made available by development partners, government agencies and the private sector and applied by farmers in 7 priority countries and other locations.</td>
<td>0 / 417,246 (0%)</td>
<td>2,915,733 / 5,756,513 (51%)</td>
</tr>
<tr>
<td>3.1 Draft tool for estimating increased productivity and reduced feed and labour costs developed for India and Tunisia</td>
<td>Draft Tool</td>
<td>Better utilization of existing and novel feed and forage resources through: scalable and gender-responsive processing technologies, management strategies to conserve and rehabilitate rangelands while producing, preserving and storing feed biomass and diet formulation that increases productivity while reducing overall feed and forage costs and environment impacts, by national and</td>
<td>0 / 309,098 (0%)</td>
<td>649,681 / 2,754,144 (24%)</td>
</tr>
<tr>
<td>Section</td>
<td>Description</td>
<td>Goal</td>
<td>Status</td>
<td>Progress</td>
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<tr>
<td>3.2</td>
<td>Information on commercial and on-farm silage production available for India</td>
<td>A report made available on the comparison of commercial versus farmer produced silage</td>
<td>International development partners, government agencies and extension services, the private sector and community-based organisations in 3 priority countries.</td>
<td>0 / 309,097 (0%)</td>
</tr>
<tr>
<td>4.1</td>
<td>Basic inputs for defining business models (e.g., cost-benefit analyses, business plans) available in 3 countries (Tunisia, Kenya, Colombia)</td>
<td>Fact sheets, formed silage, feed blocks and seed production</td>
<td>Co-creation with development and private-sector partners of up to 5000 small- or medium-sized enterprises in decentralized feed processing, forage marketing or seed multiplication, in 3 priority countries (2022).</td>
<td>0 / 160,314 (0%)</td>
</tr>
<tr>
<td>4.2</td>
<td>Gaps around promising feed, forage and processing technologies identified in 2 countries (Tunisia, Colombia) that serve as a basis for the development of new extension approaches</td>
<td>Published report</td>
<td>National and international development partners and other value-chain actors adopt and scale up at least 2 of the tested extension approaches (including at least 1 that improves women’s access to information) in 5 priority countries (2022).</td>
<td>0 / 240,471 (0%)</td>
</tr>
<tr>
<td>4.3</td>
<td>Exchange with Innovation Platforms, Roundtables and private sector around feed, forage and processing technologies established in at least 3 countries (Tunisia, Kenya, Colombia) as a first step to improve technology uptake</td>
<td>Organize feeds and forage Innovation Platform meetings in Tunisia</td>
<td>Increased delivery and uptake of feed and forage resources through proof-of-concept scaling, business model development and value-chain approaches by development partners, the private sector (feed and forage traders, feed processors) and (1 million by 2022) farmers across diverse environments in priority countries and other locations in Latin America, North and East Africa and South and Southeast Asia.</td>
<td>0 / 400,785 (0%)</td>
</tr>
</tbody>
</table>
### LIVESTOCK FP4: LIVESTOCK and the Environment – Milestones for 2017

<table>
<thead>
<tr>
<th>Milestone Description for 2017</th>
<th>Means of Verifying</th>
<th>For which 2022 outcome</th>
<th>Milestone budget 2017 W1-2/total $ (%)</th>
<th>6-year outcome budget W1-2/total $ (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Environmental risks and opportunities (at household and landscape levels) associated with key technological interventions to increase livestock productivity are characterized and evaluated in 3 country cases.</td>
<td>Reports produced; plan to share with stakeholders developed for 2018.</td>
<td>Environmental concerns are considered in decision-making across &gt;10 priority countries and other locations, by national and international development partners, government agencies and extension systems, including technology developers seeking to improve cattle, small ruminant and pig production.</td>
<td>1,039,530 (91%)</td>
<td>1,039,530 (91%)</td>
</tr>
<tr>
<td>1.2 Three tools developed for ex-ante impact assessment of productivity enhancing technologies: Sustainable Intensification, GHG emissions, and water footprint. In 2 countries national partners are trained in GHG emissions assessment tools (ex-ante).</td>
<td>Conceptual framework reports; journal publications. Training reports.</td>
<td>Targeted solutions are used by research and development partners, across at least 10 priority countries and other locations, to increase the productivity of cattle, small ruminants and pigs in the face of ongoing environmental changes.</td>
<td>1,039,530 (91%)</td>
<td>1,039,530 (91%)</td>
</tr>
<tr>
<td>1.3 Tradeoffs for forage interventions quantified in 3 countries; Tradeoffs between well-being and environmental impacts quantified on the basis of gender differences in 5 countries; Digital data platform developed &amp; piloted for 2 countries.</td>
<td>Working papers for 3 cases; report on gender-differentiated tradeoffs. Pilot data platform.</td>
<td>Government agencies and development partners at local and national levels across at least 10 priority countries and other locations are promoting environmental management options.</td>
<td>1,039,530 (91%)</td>
<td>1,039,530 (91%)</td>
</tr>
<tr>
<td>2.1 Environmental benefits (rangeland restoration &amp; GHG mitigation) from key interventions in livestock production system management identified for 3 countries. Indicators for evaluating interventions to enhance water quality &amp; quantity in livestock production developed along with methods for measurement.</td>
<td>Research reports and data bases of quantified benefits. Journal article on livestock-water impact assessment.</td>
<td>National government agencies across at least 5 priority countries design and implement key policies to improve the environmental management of livestock systems.</td>
<td>1,039,530 (91%)</td>
<td>1,039,530 (91%)</td>
</tr>
<tr>
<td>2.2 Draft tools for engaging women and youth developed. Gender-based analysis of impacts of environmental management interventions conducted for four countries.</td>
<td>Draft tool report. 2 reports; 1 journal publication.</td>
<td>National government agencies across at least 10 priority countries and other locations are promoting environmental management options.</td>
<td>1,039,530 (91%)</td>
<td>1,039,530 (91%)</td>
</tr>
<tr>
<td>2.3 Recommendations for improving land tenure arrangements and implementing institutional models to reduce land degradation drafted for four countries.</td>
<td>Land use plans (3); Land tenure intervention analysis (4); Draft policy recommendations (2).</td>
<td>National government agencies across at least 5 priority countries design and implement key policies to improve the environmental management of livestock systems.</td>
<td>1,039,530 (91%)</td>
<td>1,039,530 (91%)</td>
</tr>
<tr>
<td>2.4 Policy advice on reducing GHG emissions from livestock production discussed with actors in two countries.</td>
<td>Synthesis reports (2) and policy briefs (2). Policy dialogue reports (2).</td>
<td>National government agencies across at least 5 priority countries design and implement key policies to improve the environmental management of livestock systems.</td>
<td>1,039,530 (91%)</td>
<td>1,039,530 (91%)</td>
</tr>
<tr>
<td>2.5 Contribution of national policy on drought risk mitigation to enhance resilience discussed with actors in 2 countries.</td>
<td>Reports of policy engagement (2). Impact assessment of drought risk mitigation measure.</td>
<td>National government agencies across at least 5 priority countries design and implement key policies to improve the environmental management of livestock systems.</td>
<td>1,039,530 (91%)</td>
<td>1,039,530 (91%)</td>
</tr>
<tr>
<td>2.6 Feasibility and potential of two PES schemes evaluated.</td>
<td>Reports on two schemes (2); Reports on policy dialogues (2); One working paper on PES.</td>
<td>National government agencies across at least 5 priority countries design and implement key policies to improve the environmental management of livestock systems.</td>
<td>1,039,530 (91%)</td>
<td>1,039,530 (91%)</td>
</tr>
<tr>
<td>2.7 Issue summaries developed for GHG emissions and resilience to drought.</td>
<td>Reports (2).</td>
<td>National government agencies across at least 5 priority countries design and implement key policies to improve the environmental management of livestock systems.</td>
<td>1,039,530 (91%)</td>
<td>1,039,530 (91%)</td>
</tr>
</tbody>
</table>
### LIVESTOCK FP5: LIVESTOCK Livelihoods and Agri-Food Systems – Milestones for 2017

*Note FP5 assumes no W1/2 funding for 2017 and for 6 year W1/2 (numerator) and Total (denominator)*

*Based on 2017 no bilateral funding at proposal writing stage but current resource mobilization ongoing.*

<table>
<thead>
<tr>
<th>Milestone Description for 2017</th>
<th>Means of Verifying</th>
<th>For which 2022 outcome</th>
<th>Milestone budget 2017 W1-2/total $ (%)</th>
<th>6-year outcome budget W1-2/total $ (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Projections for supply and demand of ASFs in target for CRP countries and implications for food security published. Methodology for modelling direct effect of climate change on livestock systems published.</td>
<td>Publications: projections and methodology</td>
<td>National and international research partners and policymakers use analyses of livestock-sector dynamics, investment and ex-ante impact assessments to guide priority setting, investment and policy development for the livestock sector in six priorities</td>
<td>0 / 0 (0%)</td>
<td>3,100,889 / 3,100,889 (100%)*</td>
</tr>
<tr>
<td>2.1 No milestone</td>
<td>Not applicable</td>
<td>Policy- or decision-makers in 4 priority countries use the evidence on the benefits of including gender equity considerations</td>
<td>N/A</td>
<td>747,312 / 747,312 (100%)*</td>
</tr>
<tr>
<td>2.2 Paper on emerging gender issues in selected livestock value chains generated and disseminated. Report on strategy and entry points to improve youth participation in livestock value chains identified.</td>
<td>Report and Publications</td>
<td>Local or national development partners in four priority countries adopt gender-transformative and youth-supportive approaches (using the evidence from the CRP).</td>
<td>0 / 0 (0%)</td>
<td>1,743,727 / 1,743,727 (100%)*</td>
</tr>
<tr>
<td>3.1 Published paper on the relationship between women empowerment and nutrition outcomes.</td>
<td>Publication</td>
<td>National and international development partners, government agencies and the private sector invest in and use the most successful approaches to enhancing livestock-mediated nutritional impact, including institutional arrangements and behavioural approaches, in 4 priority countries.</td>
<td>0 / 140,714 (0%)</td>
<td>1,667,362 / 2,625,400 (64%)</td>
</tr>
<tr>
<td>4.1 Report on efficient small ruminant production portfolios for Ethiopia</td>
<td>Report</td>
<td>Livestock communities across 4 priority countries apply tested technologies, management strategies and institutional arrangements that have been developed through system optimization, taking the multiple functions of livestock into account.</td>
<td>0 / 970,232 (0%)</td>
<td>1,929,086 / 8,534,822 (23%)</td>
</tr>
<tr>
<td>5.1 Paper on lessons learned and knowledge products to guide partners on improved institutional arrangements in livestock value chains</td>
<td>Paper</td>
<td>Development partners, private sector and government agencies across 6 priority countries apply innovative institutional arrangements to enhance competitiveness and inclusiveness.</td>
<td>0 / 3,291,897 (0%)</td>
<td>3,005,307 / 25,417,893 (12%)</td>
</tr>
<tr>
<td>5.2 Paper on the contribution of livestock to livelihoods generated and disseminated</td>
<td>Paper</td>
<td>Policy and decision-makers in 4 priority countries use CRP-developed evidence when developing policy options relative to improving the performance of livestock value chains</td>
<td>0 / 1,410,814 (0%)</td>
<td>1,287,988 / 10,893,383 (12%)</td>
</tr>
</tbody>
</table>
LIVESTOCK Table 2: SLOs, IDOs and sub-IDOs with proposed Resource Outcome indicators

(*) Flagships and Sub-IDOs listed are extracted from the LIVESTOCK Table 1-2 of the Full Proposal

(**) The proposed Research Outcomes are taken from Flagship Theories of Change and Cluster of Activity Outcomes 2022

(***) Targets and proposed contribution to target by (flagship x sub-IDO) have been defined based on current draft POWB for 2017

Most indicators combine contributions from management and cross-cutting elements (impact assessment, gender and youth, capacity development, open-access, communications etc.). The cross-cutting elements and their budgets are described in greater detail in the proposal.

<table>
<thead>
<tr>
<th>FP*</th>
<th>SLO*</th>
<th>IDO*</th>
<th>Sub-IDO*</th>
<th>Research Outcomes – Indicator**</th>
<th>2017 Target***</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FP5 - LLAFS</strong></td>
<td><strong>SLO 1: Reduced Poverty</strong></td>
<td>Increased resilience of the poor to climate change and other shocks</td>
<td>Increased household capacity to cope with shocks</td>
<td>• CRP tested technologies, management strategies and institutional arrangements that have been developed through system optimization, taking the multiple functions of livestock into account disseminated to national research and development partners in CRP priority countries and other locations&lt;br&gt;• Number of livestock communities applying tested technologies, management strategies and institutional arrangements that have been developed through system optimization, taking the multiple functions of livestock into account&lt;br&gt;• Number of livestock communities implementing CBBPs</td>
<td>No target 2017&lt;br&gt;8 communities implementing CBBPs</td>
</tr>
<tr>
<td><strong>FP5 - LLAFS</strong></td>
<td></td>
<td>Enhanced smallholder market access</td>
<td>Reduced market barriers</td>
<td>• CRP evidence generated and disseminated to local and national partners on efficiency and effectiveness of institutional arrangements in CRP priority countries and other locations&lt;br&gt;• Number of development partners applying innovative institutional arrangements to enhance competitiveness and inclusiveness in CRP priority countries and other locations</td>
<td>4 institutional arrangements&lt;br&gt;No target 2017</td>
</tr>
<tr>
<td><strong>FP1 - LG</strong></td>
<td></td>
<td>Increased incomes and employment</td>
<td>Increased livelihood opportunities</td>
<td>• Adoption of improved livestock, that are both productive and adapted, by women and men resource poor livestock keepsers in CRP priority countries and other locations (CBBP = Community-based breeding program)</td>
<td>Ethiopia - 5 sheep &amp; 2 goat CBBP (1890 HH, 10400 direct beneficiaries); Tanzania - 2 goat CBBP (no HH target 2017)</td>
</tr>
<tr>
<td><strong>FP5 - LLAFS</strong></td>
<td></td>
<td></td>
<td></td>
<td>• CRP evidence generated and disseminated to local and national partners on efficiency and effectiveness of institutional arrangements in CRP priority countries and other locations&lt;br&gt;• Number of development partners applying innovative institutional arrangements to enhance competitiveness and inclusiveness, using CRP tested technologies, management strategies and institutional arrangements that have been developed through system optimization, taking the multiple functions of livestock into account, in CRP priority countries and other locations&lt;br&gt;• Number of livestock communities applying tested technologies, management strategies and institutional arrangements that have been developed through system optimization, taking the multiple functions of livestock into account in CRP priority countries and other locations&lt;br&gt;• Number of livestock communities implementing CBBPs</td>
<td>4 institutional arrangements&lt;br&gt;No target 2017&lt;br&gt;8 communities implementing CBBPs</td>
</tr>
</tbody>
</table>
| FP3 - F&F | More efficient use of inputs | • Number of research and development partners, decision makers and input suppliers using improved tools for regional and national feed supply and demand scenarios in CRP priority countries and other locations.  
• Number of research & development partners, the private sector and/or community-level organisations: a) using refined CGIAR stationary and mobile NIRS hubs, b) using well targeted training modules in feed processing and feeding, c) using scalable and gender-responsive processing technologies, d) using on-farm feed assessment tools, in CRP priority countries and other locations.  
• Number of livestock keepers applying management strategies to conserve and rehabilitate rangelands and use diets that increase productivity (with L&E and LLAFS FPs) in CRP priority countries and other locations.  
• Number of partners testing and validating inclusive business models for improved supply of forages and feed processing systems in CRP priority countries and other locations  
• Number of small- or medium-sized enterprises co-created with development and private-sector partners in decentralized feed processing, forage marketing or seed multiplication in CRP priority countries and other locations.  
• Number of development partners, the private sector (feed & forage traders, feed processors) and farmers increasing delivery and uptake of feed and forage technologies through proof-of-concept scaling, business model development and value-chain approaches in CRP priority countries and other locations. | Vietnam, Ethiopia | No target 2017 |
| FP1 - LG | Increased productivity | • Number of national research and development partners and the private sector using CRP developed business models for multiplication and delivery of improved livestock genetics to resource poor women and men livestock keepers in CRP priority countries and other locations.  
• Adoption of improved livestock, that are both productive and adapted, by women and men resource poor livestock keepers in CRP priority countries and other locations. | Small ruminant in Ethiopia - 14 national partners using dissemination models | Nigeria, Ethiopia, Tanzania - pilot chicken testing (7,500 HH total); Ethiopia - pilot small ruminant (600 HH); Ethiopia, Tanzania - pilot phenotypic recording dairy cattle |
| FP2 - LH | Closed yield gaps through improved agronomic and animal husbandry practices | • Animal health / extension worked in CRP priority countries and other locations using CRP developed tools to identify the most critical animal/herd health interventions  
• Number of resource poor livestock keepers adoption CRP developed herd health management packages  
• Number of vaccine candidates taken up for safety and efficacy testing by regulatory authorities and/or commercial producers; research partners using novel assays and point-of-care diagnostics and/or number of national and international research partners, government agencies and the private sector using CRP developed diagnostic tools and vaccines for disease control in CRP priority countries and other locations  
• Number of government, development and private sector actors using tested business models to deliver products and services to livestock keepers in CRP priority countries and other locations  
• Improved access to livestock-related health services and products for resource poor livestock keepers in CRP priority countries and other locations. | 2 countries, 2000 farmers pilot | no target 2017 |
<table>
<thead>
<tr>
<th>CRP Performance 2017</th>
<th>November 2016</th>
</tr>
</thead>
</table>

### FP3 - F&F

<table>
<thead>
<tr>
<th>SLO 3: Food &amp; fish security for health</th>
<th>Number of local, national &amp; international research &amp; development partners, the private sector, decision-makers and/or livestock producers: a) able to diagnose feed constraints and opportunities and to effectively prioritise and target feed and forage interventions, b) accessing and disseminating superior Brachiaria and Megathyrsus cultivars, c) using CRP developed forage &amp; rangeland resources (with enhanced traits) to increase the rate of genetic gain and exploit the genetic diversity of forages &amp; rangeland species to enhance stress-tolerance, biomass productivity &amp; nutritive value or d) integrating CRP developed platform of genomic and phenotyping tools and technologies into forage breeding programs in CRP priority countries and other locations.</th>
<th>No target 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of CGIAR crop improvement programs have adopted (BNI) across various crops and forages</td>
<td>No target 2017</td>
</tr>
<tr>
<td></td>
<td>Number of new forage, rangeland and crop cultivars, superior to local (based on food, feed &amp; forage traits weighted according to target domains), made available by the private sector (release agencies) and/or applied in CRP priority countries and other locations</td>
<td>No target 2017</td>
</tr>
<tr>
<td></td>
<td>Number of national &amp; international development partners, government agencies &amp; extension services, the private sector and community-based organisations: a) better utilising existing and novel feed and forage resources, b) testing / adopting / scaling CRP developed extension approaches in CRP priority countries and other locations</td>
<td>No target 2017</td>
</tr>
<tr>
<td></td>
<td>Number of development partners and the private sector disseminating genetically enhanced tropical forages to producers in CRP priority countries and other locations.</td>
<td>No target 2017</td>
</tr>
</tbody>
</table>

### FP1 - LG

<table>
<thead>
<tr>
<th>SLO 1: Improved forage and feed security for increased production and food safety</th>
<th>Number of policy makers, national research and development partners and the private sector using CRP knowledge (data) to develop or refine genetic improvement strategies in CRP priority countries and other locations</th>
<th>No target 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved genetic gain</td>
<td>Number of policy makers, national research and development partners and the private sector adopting CRP development guidelines on policy and institutional arrangements for improvement of AnGR in CRP priority countries and other locations</td>
<td>No target 2017</td>
</tr>
<tr>
<td>Increased conservation and use of genetic resources</td>
<td>Number of policy makers, national research and development partners and the private sector using CRP knowledge (data) to develop or refine genetic conservation and use strategies in CRP priority countries and other locations</td>
<td>No target 2017</td>
</tr>
<tr>
<td>Number of policy makers, national research and development partners and the private sector adoption CRP development guidelines on policy and institutional arrangements for conservation of AnGR</td>
<td>No target 2017</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 interventions</td>
</tr>
<tr>
<td></td>
<td>Number of national and international development partners, government agencies and private sector: a) testing innovative options for nutrition impact, adoptability and cost-effective institutional arrangements and behavioural approaches within communities, b) investing in and using the most successful approaches to enhancing livestock-mediated nutritional impact, including institutional arrangements and behavioural approaches in CRP priority countries and other locations</td>
<td>No target 2017</td>
</tr>
<tr>
<td></td>
<td>Number of national and international research partners with increased capacity and knowledge in the use and delivery of AM and AP in order to prevent emergency of resistance in CRP priority countries and other locations</td>
<td>No target 2017</td>
</tr>
<tr>
<td></td>
<td>Number of policy makers engaging in discussion on AMR monitoring based on CRP research outputs in CRP priority countries and other locations</td>
<td>No target 2017</td>
</tr>
<tr>
<td></td>
<td>Number of policy makers, national research and development partners using CRP development tools to prioritize research and development interventions that reduce livestock disease risks for resource poor livestock keepers in CRP priority countries and other locations</td>
<td>No target 2017</td>
</tr>
</tbody>
</table>

### FP5 - LLAFS

<table>
<thead>
<tr>
<th>SLO 2: Improved food and nutrition security for health</th>
<th>Number of local, national &amp; international research &amp; development partners, the private sector, decision-makers and/or livestock producers: a) able to diagnose feed constraints and opportunities and to effectively prioritise and target feed and forage interventions, b) accessing and disseminating superior Brachiaria and Megathyrsus cultivars, c) using CRP developed forage &amp; rangeland resources (with enhanced traits) to increase the rate of genetic gain and exploit the genetic diversity of forages &amp; rangeland species to enhance stress-tolerance, biomass productivity &amp; nutritive value or d) integrating CRP developed platform of genomic and phenotyping tools and technologies into forage breeding programs in CRP priority countries and other locations.</th>
<th>No target 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved diets for poor and vulnerable people</td>
<td>Number of policy makers, national research and development partners and the private sector using CRP knowledge (data) to develop or refine genetic improvement strategies in CRP priority countries and other locations</td>
<td>No target 2017</td>
</tr>
<tr>
<td>Increased access to diverse nutrient-rich foods</td>
<td>Number of policy makers, national research and development partners and the private sector adopting CRP development guidelines on policy and institutional arrangements for improvement of AnGR in CRP priority countries and other locations</td>
<td>No target 2017</td>
</tr>
<tr>
<td></td>
<td>Number of policy makers, national research and development partners and the private sector adopting CRP development guidelines on policy and institutional arrangements for conservation of AnGR</td>
<td>No target 2017</td>
</tr>
</tbody>
</table>

### FP2 - LH

| SLO 1: Improved forage and feed security for increased production and food safety | Number of local, national & international research & development partners, the private sector, decision-makers and/or livestock producers: a) able to diagnose feed constraints and opportunities and to effectively prioritise and target feed and forage interventions, b) accessing and disseminating superior Brachiaria and Megathyrsus cultivars, c) using CRP developed forage & rangeland resources (with enhanced traits) to increase the rate of genetic gain and exploit the genetic diversity of forages & rangeland species to enhance stress-tolerance, biomass productivity & nutritive value or d) integrating CRP developed platform of genomic and phenotyping tools and technologies into forage breeding programs in CRP priority countries and other locations. | No target 2017 |
| Reduced biological and chemical hazards in the food system | Number of policy makers, national research and development partners and the private sector using CRP knowledge (data) to develop or refine genetic improvement strategies in CRP priority countries and other locations | No target 2017 |
|                                                                                   | Number of policy makers, national research and development partners and the private sector adopting CRP development guidelines on policy and institutional arrangements for improvement of AnGR in CRP priority countries and other locations | No target 2017 |
|                                                                                   | Number of policy makers, national research and development partners and the private sector adopting CRP development guidelines on policy and institutional arrangements for conservation of AnGR | No target 2017 |
|                                                                                   | Number of policy makers, national research and development partners using CRP development tools to prioritize research and development interventions that reduce livestock disease risks for resource poor livestock keepers in CRP priority countries and other locations | No target 2017 |

### FP2 - LH

| SLO 1: Improved food and nutrition security for health | Number of local, national & international research & development partners, the private sector, decision-makers and/or livestock producers: a) able to diagnose feed constraints and opportunities and to effectively prioritise and target feed and forage interventions, b) accessing and disseminating superior Brachiaria and Megathyrsus cultivars, c) using CRP developed forage & rangeland resources (with enhanced traits) to increase the rate of genetic gain and exploit the genetic diversity of forages & rangeland species to enhance stress-tolerance, biomass productivity & nutritive value or d) integrating CRP developed platform of genomic and phenotyping tools and technologies into forage breeding programs in CRP priority countries and other locations. | No target 2017 |
| Improved human and animal health through better agricultural practices | Number of policy makers, national research and development partners and the private sector using CRP knowledge (data) to develop or refine genetic improvement strategies in CRP priority countries and other locations | No target 2017 |
|                                                                                   | Number of policy makers, national research and development partners and the private sector adopting CRP development guidelines on policy and institutional arrangements for improvement of AnGR in CRP priority countries and other locations | No target 2017 |
|                                                                                   | Number of policy makers, national research and development partners and the private sector adopting CRP development guidelines on policy and institutional arrangements for conservation of AnGR | No target 2017 |
|                                                                                   | Number of policy makers, national research and development partners using CRP development tools to prioritize research and development interventions that reduce livestock disease risks for resource poor livestock keepers in CRP priority countries and other locations | No target 2017 |

### FP1 - LG

| SLO 2: Improved food and nutrition security for health | Number of local, national & international research & development partners, the private sector, decision-makers and/or livestock producers: a) able to diagnose feed constraints and opportunities and to effectively prioritise and target feed and forage interventions, b) accessing and disseminating superior Brachiaria and Megathyrsus cultivars, c) using CRP developed forage & rangeland resources (with enhanced traits) to increase the rate of genetic gain and exploit the genetic diversity of forages & rangeland species to enhance stress-tolerance, biomass productivity & nutritive value or d) integrating CRP developed platform of genomic and phenotyping tools and technologies into forage breeding programs in CRP priority countries and other locations. | No target 2017 |
| Reduced biological and chemical hazards in the food system | Number of policy makers, national research and development partners and the private sector using CRP knowledge (data) to develop or refine genetic improvement strategies in CRP priority countries and other locations | No target 2017 |
| Number of policy makers, national research and development partners and the private sector adopting CRP development guidelines on policy and institutional arrangements for improvement of AnGR in CRP priority countries and other locations | No target 2017 |
| Number of policy makers, national research and development partners and the private sector adopting CRP development guidelines on policy and institutional arrangements for conservation of AnGR | No target 2017 |
| Number of policy makers, national research and development partners using CRP development tools to prioritize research and development interventions that reduce livestock disease risks for resource poor livestock keepers in CRP priority countries and other locations | No target 2017 |

### FP2 - LH

<p>| SLO 1: Improved food and nutrition security for health | Number of local, national &amp; international research &amp; development partners, the private sector, decision-makers and/or livestock producers: a) able to diagnose feed constraints and opportunities and to effectively prioritise and target feed and forage interventions, b) accessing and disseminating superior Brachiaria and Megathyrsus cultivars, c) using CRP developed forage &amp; rangeland resources (with enhanced traits) to increase the rate of genetic gain and exploit the genetic diversity of forages &amp; rangeland species to enhance stress-tolerance, biomass productivity &amp; nutritive value or d) integrating CRP developed platform of genomic and phenotyping tools and technologies into forage breeding programs in CRP priority countries and other locations. | No target 2017 |
| Improved human and animal health through better agricultural practices | Number of policy makers, national research and development partners and the private sector using CRP knowledge (data) to develop or refine genetic improvement strategies in CRP priority countries and other locations | No target 2017 |
|                                                                                   | Number of policy makers, national research and development partners and the private sector adopting CRP development guidelines on policy and institutional arrangements for improvement of AnGR in CRP priority countries and other locations | No target 2017 |
|                                                                                   | Number of policy makers, national research and development partners and the private sector adopting CRP development guidelines on policy and institutional arrangements for conservation of AnGR | No target 2017 |
|                                                                                   | Number of policy makers, national research and development partners using CRP development tools to prioritize research and development interventions that reduce livestock disease risks for resource poor livestock keepers in CRP priority countries and other locations | No target 2017 |</p>
<table>
<thead>
<tr>
<th>SLO 3: Improved natural resources systems and ecosystems services</th>
<th>FP4 - ENV</th>
<th>Improved natural resources systems and ecosystems services</th>
<th>FP4 - ENV</th>
<th>Cross-cutting: Climate Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural capital enhanced and protected especially from climate change</td>
<td>Number of national government agencies, making improvements in land tenure arrangements for reduced land degradation in CRP priority countries and other locations</td>
<td>No target 2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land, water and forest degradation (including deforestation) minimized and reversed</td>
<td>Number of extension systems, development partners and government agencies adopting novel approaches for ex-ante environmental assessment to identify win-win options in CRP priority countries and other locations</td>
<td>No target 2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of national &amp; international development partners, government agencies and extension systems, including livestock production technology developers in CRP priority countries and other locations considering environmental concerns in decision-making</td>
<td>Number of research and development partners using quantification of environmental benefits leads to select and further develop management options in CRP priority countries and other locations</td>
<td>No target 2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of government agencies and development partners at local and national levels in CRP priority countries and other locations promoting CRP promoted environmental management options</td>
<td>Number of research and development partners in CRP priority countries and other locations using quantification of environmental impacts to guide the development and selection of productivity-enhancing options.</td>
<td>No target 2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of research and development partners using CRP developed targeted solutions to sustainably increase productivity of cattle, small ruminants and pigs in the face of on-going environmental changes in CRP priority countries and other locations.</td>
<td>Number of communities piloting payments for ecosystem services in CRP priority countries and other locations</td>
<td>No target 2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of national government agencies designing and implementing key policies to improve the environmental management of livestock systems in CRP priority countries and other locations</td>
<td>Number of research and development partners using CRP developed targeted solutions to sustainably increase productivity of cattle, small ruminants and pigs in the face of on-going environmental changes in CRP priority countries and other locations.</td>
<td>No target 2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(For all sub-IDO) Number of publications aimed at targeted global agendas developed and disseminated appropriately</td>
<td>(For all sub-IDO) Evidence generated by CRP Livestock influences key global livestock agendas (IPCC, Global agenda for Sustainable Livestock)</td>
<td>2 publications aimed at global agendas.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduced net greenhouse gas emissions from agriculture, forests and other forms of land use</td>
<td>Number of research and development partners using CRP developed targeted solutions to sustainably increase productivity of cattle, small ruminants and pigs in the face of on-going environmental changes in CRP priority countries and other locations.</td>
<td>No target 2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(For all sub-IDO) Number of publications aimed at targeted global agendas developed and disseminated appropriately</td>
<td></td>
<td>2 publications aimed at global agendas.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FP5 - LLAFS</td>
<td>Gender-equitable control of productive assets and resources</td>
<td>• Gender norms and opportunities for social changes are assessed; GTAs that also support youth are developed, tested and their impact assessed, and knowledge disseminated to partners in CRP priority countries and other locations. Number of local or national development partners adopting gender transformative and youth supportive approaches using CRP generated evidence in CRP priority countries and other locations (later outcome).</td>
<td>1 tool (youth strategy) No target 2017</td>
<td></td>
</tr>
<tr>
<td>FP1 - LG</td>
<td>Technologies that reduce women’s labour and energy expenditure developed and disseminated</td>
<td>• Number of partners using gendered analysis relevant to livestock production and productivity in CRP priority countries and locations.</td>
<td>Local and national partners in 2 sites of Ethiopia (poultry production)</td>
<td></td>
</tr>
<tr>
<td>FP2 - LH</td>
<td>• Number of partners using gendered analysis relevant to livestock production and productivity in CRP priority countries and locations</td>
<td>• Number of partners using CRP developed tools to prioritize gender research and development interventions that reduce livestock disease risks for resource poor livestock keepers, esp. women, in CRP priority countries and other locations. Number of farmers (m/w) using gender sensitive herd health packages Number of farmers (m/w) with better access to animal health services</td>
<td>No target 2017 1000 women in 2 countries (pilot)</td>
<td></td>
</tr>
<tr>
<td>FP3 - F&amp;F</td>
<td>• Number of partners using gender-sensitive (and/or gender analysed) Flagship developed outputs</td>
<td></td>
<td>No target 2017</td>
<td></td>
</tr>
<tr>
<td>FP4 - ENV</td>
<td>• Number of partners using CRP developed tools to assess the impact of policies on equitable participation of livestock actors in the value-chain in CRP priority countries and other locations. Number of policy or decision-makers using CRP generated evidence on the benefits of including gender equity considerations in CRP priority countries and other locations (later outcome).</td>
<td></td>
<td>No target 2017</td>
<td></td>
</tr>
<tr>
<td>FP4 - ENV</td>
<td>• Role of women and young people in fostering environmental management promoted and strengthened across CRP priority country communities and with development partners. Number of households (women &amp; youth focus) adopting CRP developed gender responsive environmental management options that are well adapted to Global Environmental Change (GEC) in CRP priority countries and other locations.</td>
<td></td>
<td>No target 2017</td>
<td></td>
</tr>
<tr>
<td>FP5 - LLAFS</td>
<td>Improved capacity of women and young people to participate in decision-making</td>
<td>• Number of partners using CRP developed tools to assess the impact of policies on equitable participation of livestock actors in the value-chain in CRP priority countries and other locations. Number of policy or decision-makers using CRP generated evidence on the benefits of including gender equity considerations in CRP priority countries and other locations. Gender norms and opportunities for social changes are assessed; GTAs that also support youth are developed, tested and their impact assessed, and knowledge disseminated to partners in CRP priority countries and other locations. Number of local or national development partners adopting gender transformative and youth supportive approaches using CRP generated evidence in CRP priority countries and other locations.</td>
<td>No target 2017 No target 2017 Tanzania &amp; Ethiopia - assessment No target 2017</td>
<td></td>
</tr>
</tbody>
</table>
| FPS - LLAFS | Cross-cutting: | Conducive agricultural policy environment | • CRP evidence generated on policy options relative to improving the performance of livestock value chains and disseminated to national partners in CRP priority countries and other locations  
• Number of policy and decision-makers in CRP priority countries and other locations use CRP-developed evidence when developing policy options relative to improving the performance of livestock value chains  
• Number of national and international research partners and policy makers use analyses of livestock-sector dynamics, investment and ex-ante impact assessments to guide priority setting, investment and policy development for the livestock sector in CRP priority and other countries - *should be across many sub-IDOs!* | Kenya (4 counties; dairy)  
No target 2017  
No target 2017 |
| --- | --- | --- | --- | --- |
| All FP | Cross-cutting: | Enhanced institutional capacity of partner research organisations | • Number of partner organisations who use CGIAR (gender sensitive) learning materials and approaches  
• Partner institutions perceptions of the benefits and challenges of using CapDev enabled approaches generated by CRPs  
• Percentage of stakeholders expressing a positive attitude towards CapDev efforts in the CRP | partners in 2 countries  
No target 2017  
No target 2017 |
|  | Capacity development | Enhanced individual capacity in partner research organisations through training and exchange | • Number of fellows/trainees (disaggregated by gender, length of training, etc.)  
• Number of long-term fellows working in national/regional agricultural systems (24 months after completing fellowship)  
• Number of peer reviewed publications led by National Agricultural Research System (NARS) partners with CGIAR co-authors  
• Fellows and trainees applying research-for-development skills, tools and methods in their work  
• Number of capacity development materials produced | Approx. 50  
No target 2017  
1 - 2 per country  
No target 2017  
approx. 20 (1/CoA) |
|  |  | Increased capacity for innovation in partner research organisations | • Composite index measuring capacity to innovate (to be defined with the capacity to innovate and the resilience and adaptive capacity group)  
• Partner institutions perceptions of the benefits and challenges of using CapDev enabled approaches generated by CRPs | No target 2017  
No target 2017 |
|  |  | Increased capacity for innovation in partner development organisations and in poor and vulnerable communities | • Number of multi-stakeholder platforms CRP Livestock engages with  
• Percentage of stakeholders expressing a positive attitude towards CapDev efforts in the CRP  
• Percentage of stakeholders expressing a positive change in collaborative capacity  
• Partner institutions perceptions of the benefits and challenges of using CapDev enabled approaches generated by CRPs | 1 - 2 in CRP priority countries  
No target 2017  
No target 2017  
No target 2017 |
## MAIZE
### MAIZE FP1: Enhancing MAIZE’s R4D Impacts

<table>
<thead>
<tr>
<th>Milestone Description for 2017</th>
<th>Means of Verifying</th>
<th>For which 2022 outcomes</th>
<th>Budget 2017</th>
<th>6-year W1-2 / total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Ex-ante impact assessments identify potential opportunities, threats and game changes for MAIZE</td>
<td>Reports, policy briefs, dissemination documentation</td>
<td>Increased capacity of partner organizations through MAIZE foresight and ex-ante analysis</td>
<td>466,124</td>
<td>8,569,006 / 37%</td>
</tr>
<tr>
<td>1.2 Adoption and impact studies on technologies-rolling plan based on progress of technologies along the theory of change</td>
<td>Reports, policy briefs, dissemination documentation</td>
<td>Increased capacity of beneficiaries to adopt research outputs through better MAIZE learning from adoption studies and impact assessment</td>
<td>559,348</td>
<td>10,282,807 / 37%</td>
</tr>
<tr>
<td>1.3 Gender/social inclusion lenses applied to 2-4 MAIZE innovation pipelines and assessments</td>
<td>Reports, global recognized women empowerment indicators, case studies</td>
<td>Improved capacity of women and young people to participate in decision-making through MAIZE’s gender and social inclusiveness</td>
<td>466,124</td>
<td>6,855,205 / 37%</td>
</tr>
<tr>
<td>1.4 Preparation and roll-out of rapid value chain assessments with proper gender lens in selected countries to identify opportunities and bottlenecks in MAIZE</td>
<td>Reports, case studies, dissemination documentation</td>
<td>Increased capacity of partner organizations through MAIZE market/value chain opportunities prioritized for their livelihoods enhancing potential</td>
<td>372,899</td>
<td>8,855,005 / 37%</td>
</tr>
</tbody>
</table>

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26 From MAIZE AFS Phase II Full Proposal Table D  
27 From MAIZE AFS Phase II Full Proposal Table B
## MAIZE FP2: Novel Diversity and Tools for Increasing Genetic Gains

<table>
<thead>
<tr>
<th>Milestone Description for 2017&lt;sup&gt;28&lt;/sup&gt;</th>
<th>Means of Verifying&lt;sup&gt;1&lt;/sup&gt;</th>
<th>For which 2022 outcomes&lt;sup&gt;2&lt;/sup&gt;</th>
<th>Budget 2017</th>
<th>6-year WI-1-2/ total (%)&lt;sup&gt;29&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Most recent 5 years phenotypic, genotypic and geneological data curated and stored in centralized data repositories.</td>
<td>Annual storage of data in open access databases and other data repositories. Annual download of data metrics, Project reports</td>
<td>Efficiency and effectiveness of MAIZE partners and global research community enhanced by use of new data capture, storage, dissemination and analysis tools</td>
<td>255,446.38</td>
<td>1,737,524/ 5,604,915.09 (31%)</td>
</tr>
<tr>
<td>2.2 Second-generation tropicalized haploid inducers with at least 10% haploid induction rate (HIR) developed and made available to maize researchers globally.</td>
<td>List of public/private sector institutions that received second-generation haploid inducers from MAIZE</td>
<td>Increased use of doubled haploids by MAIZE partners, accelerating genetic gains</td>
<td>1,346,908.17</td>
<td>9,181,488 / 29,553,188.65 (31%)</td>
</tr>
<tr>
<td>2.3 Comprehensive characterization of genebank accessions using genotypic, geospatial and adaptive distribution data conducted, and at least 1000 high value accessions identified through in-silico approaches.</td>
<td>Metrics on annual genebank accession shipments to maize researchers globally. Project reports. Training materials. Genomic selection models, marker and haplotype and accession information provided in open access and other data repositories</td>
<td>New germplasm sources of genetic variation and molecular markers for prioritized traits used by MAIZE partners</td>
<td>487,670.32</td>
<td>3,317,091 / 10,700,292.44 (31%)</td>
</tr>
<tr>
<td>2.4 Multi-location testing of at least 300 pre-breeding germplasm entries for at least two priority traits (MLN, Tar spot complex) and general hybrid performance.</td>
<td>CRP/Project reports.</td>
<td>MAIZE partners and global research community use novel sources of useful genetic variance for drought, MLN, Tar spot complex, and other key traits</td>
<td>232,223.94</td>
<td>1,579,567 / 5,552,375.35 (31%)</td>
</tr>
</tbody>
</table>

<sup>28</sup> From MAIZE AFS Phase-II Full Proposal Table D
<sup>29</sup> From MAIZE AFS Phase-II Full Proposal Table B
### MAIZE FP3: Stress Tolerant and Nutritious Maize

<table>
<thead>
<tr>
<th>Milestone Description for 2017&lt;sup&gt;30&lt;/sup&gt;</th>
<th>Means of Verifying&lt;sup&gt;1&lt;/sup&gt;</th>
<th>For which 2022 outcomes&lt;sup&gt;2&lt;/sup&gt;</th>
<th>Budget 2017</th>
<th>6-year W1-2/ total (%)&lt;sup&gt;31&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 Stage 4 hybrid advancement cohort with a 3% annual yield advantage under targeted abiotic and biotic stresses in SSA, Asia and LA, as compared to previous year’s benchmark hybrids; Integration of key GIS information into MAIZE breeding pipelines for developing new varieties with traits required for future environments; Two genetic gains era (baseline) studies conducted to assess genetic gains under optimal and relevant stress environments in Asia and Latin America.</td>
<td>Open access databases; publications; reports; annual MAIZE germplasm shipments to public and private sector partners in SSA, LA and Asia; Improved MAIZE varieties released by seed enterprises and national programs (presented in MAIZE Atlas)</td>
<td>Increase in the rate of genetic gain for grain yield (as measured in breeders’ trials) in rainfed, climate-vulnerable environments of SSA from 0.6% to 1.2% annually, and from 53% to at least 1.75% in Asia and LA (linked to FP2 and Genetic Gains Platform)</td>
<td>1,535,184.34</td>
<td>94,928,995.35 (11%)</td>
</tr>
<tr>
<td>3.2 An MLN Phytosanitary Community of Practice (CoP) established and functional in ESA, implementing harmonized protocols for effectively detecting and preventing trans-boundary movement of MLN pathogens, especially MCMV.</td>
<td>Tracking online tools; Web portal; Consolidated MLN Survey Reports from SSA; SOPs and surveillance tools/documents; Documented Training Materials; CoP Meeting Minutes; Communications products.</td>
<td>Effective pest/disease surveillance, monitoring and diagnostics protocols/procedures for controlling the spread and impact of existing/emerging threats (e.g., MLN), established in SSA</td>
<td>153,518.43</td>
<td>9,402,899.64 (11%)</td>
</tr>
<tr>
<td>3.3 At least 300 hybrids and 30 OPVs with high levels of micronutrients and desirable grain quality traits evaluated in multiple locations for agronomic performance and nutrient levels.</td>
<td>Open access databases; publications; reports; annual MAIZE germplasm shipments to public and private sector partners in SSA, LA and Asia; Improved nutritive MAIZE varieties released by seed enterprises and national programs.</td>
<td>Nutritious maize hybrids/varieties with superior agronomic performance and desirable gender-informed traits (processing properties, palatability and storability) adopted in targeted geographies in SSA, Asia and LA (linked to A4NH)</td>
<td>245,609.43</td>
<td>1,670,750 / 15,188,839.42 (11%)</td>
</tr>
<tr>
<td>3.4 Digital platform (proximal and remote) on unmanned aerial vehicle (UAVs) equipped with various high resolution cameras (hyper-spectral, multi-spectral, thermal, RGB etc., depending on targeted traits) in support of high-throughput phenotyping and real-time data capture; Linkages developed with Phenotyping Modules in the Genetic Gains Platform.</td>
<td>Surveys; literature review; Qualitative data on improvement in collection of phenotypic data and efficiency of breeding programs; Phenotyping site surveys; Breeding hubs surveys; Reports; Training materials, and list of participants of training courses; Communication products.</td>
<td>Reduction in product development and elite line recycling time and costs through integration of novel tools/technologies in breeding programs.</td>
<td>245,609.58</td>
<td>1,670,751 / 15,188,839.72 (11%)</td>
</tr>
<tr>
<td>3.5 Parental lines of improved MAIZE hybrids evaluated annually for seed productivity, herbicide sensitivity, and other desirable agronomic traits; Gender and socio-economic considerations included when designing crosses for developing products, seed production research and determining recommendation domains.</td>
<td>Online information on seed production information packages of MAIZE parental lines and hybrids; Reduced cost of goods sold (COGS); Surveys; Reports</td>
<td>Reduced cost of seed production (= reduced “cost of goods sold or COGS”) of newly developed and released maize varieties.</td>
<td>276,333.15</td>
<td>1,679,594 / 17,491,273.34 (11%)</td>
</tr>
<tr>
<td>3.6 Availability and affordability of MAIZE-derived novel varieties improved in target geographies through public-private partnerships.</td>
<td>MAIZE Atlas showing improved MAIZE varieties commercialized by partners in SSA, Asia and LA; Documentation of old and obsolete maize varieties replaced by seed companies with improved MAIZE hybrids; Variety adoption monitoring reports; Training materials, and list of participants of MAIZE training courses; Surveys, literature review, and qualitative data.</td>
<td>Enhanced adoption of climate resilient and nutritious maize varieties by smallholder farmers in stress-prone rainfed environments of SSA, Asia and LA providing better yields and stability.</td>
<td>64,073.73</td>
<td>4,176,876 / 39,791,598.54 (11%)</td>
</tr>
</tbody>
</table>

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<sup>30</sup> From MAIZE AFS Phase-II Full Proposal Table D  
<sup>31</sup> From MAIZE AFS Phase-II Full Proposal Table B  

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CRP Performance 2017  
November 2016

CGIAR System Organization
MAIZE FP4: Sustainable intensification of maize-based systems for better livelihoods of smallholders

<table>
<thead>
<tr>
<th>Milestone Description for 2017(^{32})</th>
<th>Means of Verifying(^1)</th>
<th>For which 2022 outcomes(^2)</th>
<th>Budget 2017</th>
<th>6-year W1-2 / total(^{33})</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-criteria assessments taking into account environmental and social acceptability aspects, based on standardized protocols for multi-criteria assessments of advanced crop management packages (not individual technologies)</td>
<td>Reports, case study documentation, significant change stories, management options and DSS systems, NARS Partners trained and systems approach, Framework developed by IASA and ORNL delivered</td>
<td>Improved understanding of farmers’ livelihood strategies and their diversity, allowing NARES and extension partners to target and implement institutional and technical interventions (in collaboration with other CRPs with a systems flagship)</td>
<td>391,007.95</td>
<td>2,659,602 / 24,178,196.95 (11%)</td>
</tr>
<tr>
<td>Innovative tools, methods and multi-media extension materials to enhanced soil quality, nutrient and water use efficiency through participatory approaches</td>
<td>Reports, case studies, materials, dissemination documentation, tools</td>
<td>Decision support systems for nutrient and water management used by development partners</td>
<td>4,132,669</td>
<td>4,432,669 / 40,296,994.92 (11%)</td>
</tr>
<tr>
<td>Increased adoption of combinations of SI strategies, resource and labour saving technologies in specific target geographies compared to 2016</td>
<td>CRP Commissioned External Evaluation reports, project/donor-driven impact studies; partner self-assessments</td>
<td>Adoption of productivity enhancing technologies by smallholder farming communities through participatory methods</td>
<td>651,679.77</td>
<td>4,432,669 / 40,296,994.92 (11%)</td>
</tr>
<tr>
<td>Existing scaling approaches including public/private partnership and context specific business models evaluated in target geographies leading to improve scaling models and critical scaling factors defined</td>
<td>Documentation review, Survey of private sector CRP Commissioned External Evaluation reports</td>
<td>Impact at scale through adoption of SI technical innovation and practices and technical capacity reinforcement of scaling partners</td>
<td>912,351.74</td>
<td>6,205,737 / 56,415,792.88 (11%)</td>
</tr>
</tbody>
</table>

Total 2017 budget for FP1 to FP4 (across all funding sources, and excluding management costs) | 2017 W1 & W2 needed (only for FP1 to FP4, and excluding management costs) |
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>US$ 64,140,240</td>
<td>US$ 9,863,822</td>
</tr>
</tbody>
</table>

\(^{32}\) From MAIZE AFS Phase-II Full Proposal Table D

\(^{33}\) From MAIZE AFS Phase-II Full Proposal Table B
Table 2: MAIZE AFS - FPs, SLOs, IDOs and sub-IDOs with Indicators and Targets per sub-IDO for 2017.

(*) MAIZE FP5, IDOs and Sub-IDOs are extracted from the MAIZE AFS Phase-II Full Proposal PIM Tables A and C.

(**) The proposed CRP-level indicators are based on Table 1.2: MAIZE value proposition under two investment scenarios, in terms of contributions to the CGIAR SRF targets (2022), of the MAIZE AFS Phase-II Full Proposal.

<table>
<thead>
<tr>
<th>MAIZE FP (*)</th>
<th>SLO</th>
<th>Proposed CRP-level indicators at SLO Level (**)</th>
<th>IDO</th>
<th>Sub-IDO (*)</th>
<th>Indicators per Sub-IDO</th>
<th>Targets for 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>FP1</td>
<td>Reduced Poverty (SLO1)</td>
<td>Number of farm households that have adopted improved MAIZE varieties and/or management practices, with 30-40% women farmer participation, and 10% women-headed households (million households)</td>
<td>1.1</td>
<td>1.1.2 Reduced production risk</td>
<td>Number of additional farmers adopting MAIZE technologies (improved varieties/management practices) that reduce production risks</td>
<td>At least 0.75 million additional farmers adopt MAIZE technologies (improved varieties/management practices) that reduce production risks</td>
</tr>
<tr>
<td>FP2</td>
<td>Number of maize consumers and producers (men, women, children), of which 50% are female, assisted to exit poverty (&lt;$1.25/day) (million people)</td>
<td>1.3</td>
<td>1.3.3 Increased value capture by producers</td>
<td>Number of additional farmers with % increase in income, gender disaggregated, where possible</td>
<td>At least 0.5 million additional farmers increase their income by 5%, of which 50% are female</td>
<td></td>
</tr>
<tr>
<td>FP3</td>
<td>1.3.4 More efficient use of inputs</td>
<td>Number of additional farmers adopting MAIZE technologies (improved varieties/management practices) that increase input use efficiency</td>
<td>At least 1 million additional farmers adopt MAIZE technologies (improved varieties/management practices) that increase input use efficiency</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FP4</td>
<td>1.4.1 Reduced pre- and post-harvest losses, including those caused by climate change</td>
<td>Number of additional farmers adopting MAIZE technologies (improved abiotic and biotic stress tolerant/resistant varieties and integrated weed management practices) that contribute to reduced pre- and post-harvest losses</td>
<td>At least 0.5 million additional farmers adopt MAIZE technologies (improved abiotic and biotic stress tolerant/resistant varieties and integrated weed management practices) contributing to reduced pre- and post-harvest losses</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.4.2 Closed yield gaps</td>
<td>Number of additional farmers adopting improved MAIZE crop management practices that reduce yield gaps</td>
<td>At least 0.3 million additional farmers adopt improved MAIZE crop management practices</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.4.3 Enhanced genetic gain</td>
<td>% increase in maize genetic gain for the targeted agro-ecologies in SSA, Asia and Latin America</td>
<td>At least 1.0-1.5% increase in maize genetic gain recorded in the On-farm Trials</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

# An improved MAIZE variety is an elite product derived completely from CGIAR (CIMMYT/IITA) maize lines or a combination product derived using both CGIAR elite maize line(s) and proprietary public/private sector maize line(s) as parents.
<table>
<thead>
<tr>
<th>FP1</th>
<th>1.4</th>
<th>FP2</th>
<th>FP3</th>
<th>FP4</th>
</tr>
</thead>
<tbody>
<tr>
<td>% genetic gain (as measured in breeders’ trials) in the target environments and for target traits</td>
<td>Number of additional germplasm bank accessions, and traits from these, used in breeding programs targeting resource-poor farmers</td>
<td>% increase in genetic gain for key traits in the target agro-ecologies assessed in the MAIZE breeding programs</td>
<td>Number of personnel from public and private sector institutions trained on improved pathogen/pest diagnostics and surveillance tools</td>
<td>At least 3% increase in genetic gain of Stage 4 hybrid advancement cohorts under targeted abiotic and biotic stresses in SSA, Asia and LA, as compared to benchmark commercial hybrids and internal genetic gain checks from previous years.</td>
</tr>
<tr>
<td>At least 20 additional pre-bred families, derived from identified maize germplasm accessions with target traits relevant for SSA and Latin America, evaluated through MAIZE breeding programs</td>
<td>At least 0.75 million additional farmers adopt improved MAIZE varieties with abiotic and biotic stress tolerance</td>
<td>Number of additional farmers adopting improved crop management practices that reduce yield gaps in maize-based farming systems</td>
<td>At least 0.3 million additional farmers adopt improved crop management practices that reduce yield gaps in maize-based farming systems</td>
<td></td>
</tr>
<tr>
<td>1.4.1 Reduced pre- and post-harvest losses, including those caused by climate change</td>
<td>1.4.2 Closed yield gaps through improved agronomic and animal husbandry practices</td>
<td>Number of additional maize germplasm bank accessions and pre-bred lines using germplasm bank accessions distributed to public and private sector partners (through SMTA) from CIMMYT and IITA maize genebanks</td>
<td>At least 1000 additional high-value maize accessions and pre-bred lines developed using germplasm bank accessions comprehensively characterized and distributed to public and private sector partners</td>
<td></td>
</tr>
<tr>
<td>1.4.4 Increased conservation and use of genetic resources</td>
<td>Number of additional farmers adopting improved crop management practices that reduce yield gaps in maize-based farming systems</td>
<td>Number of additional novel, functionally useful alleles/haplotypes identified in maize germplasm accessions for trait improvement and germplasm enhancement</td>
<td>Breeder-ready markers/high-value haplotypes for at least two additional prioritized traits validated (under FP2) and/or deployed in MAIZE breeding programs (FP3)</td>
<td></td>
</tr>
<tr>
<td>Number of people (men, women, children), of which 50% are female, assisted out of hunger and meet minimum dietary requirements</td>
<td>Number of additional people (including men, women, children), of which 50% are female, consuming biofortified maize, especially Quality Protein Maize (QPM), in target countries in SSA, LA and Asia.</td>
<td>Number of additional people (including men, women, children), of which 50% are female, consuming biofortified maize, especially Quality Protein Maize (QPM), in target countries in SSA, LA and Asia.</td>
<td>At least 100,000 additional people consume biofortified maize, especially QPM.</td>
<td></td>
</tr>
<tr>
<td>At least 150,000 additional women consume adequate number of food groups through farm diversification</td>
<td>Number of women of reproductive age in maize-based farming households consuming adequate number of food groups through farm diversification.</td>
<td>Number of additional maize germplasm bank accessions and pre-bred lines using germplasm bank accessions distributed to public and private sector partners (through SMTA) from CIMMYT and IITA maize genebanks</td>
<td>At least 50 persons from public and private sector institutions in SSA trained on harmonized protocols for effectively detecting and preventing trans-boundary movement of MLN pathogens.</td>
<td></td>
</tr>
<tr>
<td><strong>FP1, FP4</strong></td>
<td><strong>FP4</strong></td>
<td><strong>FP2, FP3, FP4</strong></td>
<td><strong>Cross-cutting IDOs</strong></td>
<td><strong>FP1, FP2, FP3, FP4</strong></td>
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</tr>
<tr>
<td><strong>Improved natural resources and agro-ecosystem services (SLO3)</strong></td>
<td><strong>% increase in water- and/or nutrient-use efficiency through improved crop management practices in maize-based farming systems</strong></td>
<td><strong>3.2</strong></td>
<td><strong>3.2.2 Agricultural systems diversified and intensified in ways that protect soils and water</strong></td>
<td><strong>Number of additional farmers adopting MAIZE technologies (improved varieties and management practices) that diversify and intensify MAIZE AFS and increase input use efficiency</strong></td>
</tr>
<tr>
<td><strong>At least 0.25 million additional farmers adopting MAIZE technologies (conservation agriculture, soil C sequestration, and land-sparing) that reduce GHG emissions</strong></td>
<td><strong>Reduction in GHG emissions from maize-based farming systems through improved farm management practices</strong></td>
<td><strong>Number of additional farmers adopting MAIZE technologies (conservation agriculture, soil C sequestration, and land-sparing) that reduce GHG emissions</strong></td>
<td><strong>At least 0.25 million additional farmers adopting MAIZE technologies (conservation agriculture, soil C sequestration, and land-sparing) that reduce GHG emissions</strong></td>
<td></td>
</tr>
<tr>
<td><strong>At least 0.5 million additional farmers adopting MAIZE technologies (climate-resilient varieties and climate-smart management practices) that enhance capacity to deal with climatic risks and extremes</strong></td>
<td><strong>A.1</strong></td>
<td><strong>A.1.4 Enhanced capacity to deal with climatic risks and extremes</strong></td>
<td><strong>Number of additional farmers adopting MAIZE technologies (climate-resilient varieties and climate-smart management practices) that enhance capacity to deal with climatic risks and extremes</strong></td>
<td><strong>At least 0.5 million additional farmers adopting MAIZE technologies (climate-resilient varieties and climate-smart management practices) that enhance capacity to deal with climatic risks and extremes</strong></td>
</tr>
<tr>
<td><strong>At least 0.2 million additional women and young people improve their capacity through MAIZE knowledge products and technologies</strong></td>
<td><strong>B.1</strong></td>
<td><strong>B.1.3 Improved capacity of women and young people to participate in decision-making</strong></td>
<td><strong>Number of additional women and young people improving their capacity through MAIZE knowledge products and technologies</strong></td>
<td><strong>At least 0.2 million additional women and young people improve their capacity through MAIZE knowledge products and technologies</strong></td>
</tr>
<tr>
<td><strong>At least 250 existing/new private sector institutions and 50-60 existing/new public sector partner institutions continue to engage under MAIZE and strengthen their research/development capacity in the target geographies using MAIZE tools/technologies/know-how and decision support systems</strong></td>
<td><strong>C.1</strong></td>
<td><strong>C.1.1 increased capacity of beneficiaries to adopt research outputs</strong></td>
<td><strong>Number of existing/new public and private sector institutions strengthening their research/development capacity using MAIZE tools/technologies/know-how and decision support systems</strong></td>
<td><strong>Number of policy decisions taken based on engagement and information dissemination by MAIZE</strong></td>
</tr>
<tr>
<td><strong>At least one policy decision taken based on engagement and information dissemination by MAIZE</strong></td>
<td><strong>D.1</strong></td>
<td><strong>D.1.1 Enhanced institutional capacity of partner research organizations</strong></td>
<td><strong>Number of existing/new NARS institutions benefiting from MAIZE research outputs, infrastructure development, and capacity strengthening programs</strong></td>
<td><strong>At least 40-50 existing/new NARS partner institutions benefit from MAIZE research outputs, infrastructure development, and capacity strengthening programs</strong></td>
</tr>
</tbody>
</table>
## PIM (Policies, Institutions and Markets)

### PIM FP1: Technological Innovation and Sustainable Intensification

<table>
<thead>
<tr>
<th>Milestone Description for 2017</th>
<th>Means of Verifying</th>
<th>For which 2022 outcomes</th>
<th>2017 W1-2 budget</th>
<th>6-year W1-2 budget</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.1</strong> Updated foresight modeling data, tools and analyses are used by CRPs and CGIAR Centers</td>
<td>References in CRP and partner organization plans</td>
<td>Foresight models and results are used by 12 regional and national research organizations or government agencies in Africa, Asia and Latin America and global development organizations as inputs to their priority-setting (includes capacity development)</td>
<td>1,035,000</td>
<td>6,398,163</td>
</tr>
<tr>
<td><strong>1.2</strong> Advancement of biosafety regulatory frameworks at national level</td>
<td>Tracking of policy changes on web and project progress reports</td>
<td>Studies on policies, regulations, and investment in support of agricultural science, technology, and innovation are used by key government entities in 3 CGIAR countries of collaboration (includes capacity development)</td>
<td>1,242,000</td>
<td>7,677,795</td>
</tr>
<tr>
<td><strong>1.3</strong> Data and analyses of agricultural R&amp;D are used in strategies and programming decisions in national agricultural research organizations</td>
<td>Data available on ASTI websites, NARS annual reports, CRP led assessments</td>
<td>Budget allocations for agricultural research exceed projections of the 2012-2016 trend in 5 CGIAR countries of collaboration (includes capacity development)</td>
<td>828,000</td>
<td>5,118,530</td>
</tr>
<tr>
<td><strong>1.4</strong> Implementation partners use research results on innovative dissemination methods to increase technology adoption</td>
<td>Impact assessment studies</td>
<td>In 3 CGIAR countries of collaboration, adoption of selected promising technologies and management practices is 20% above counterfactual without supportive technology dissemination innovations and policies (includes capacity development)</td>
<td>1,035,000</td>
<td>6,398,163</td>
</tr>
</tbody>
</table>
## PIM FP2: Economywide Factors Affecting Agricultural Growth and Rural Transformation

<table>
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<th>2017 W1-2 budget</th>
<th>6-year W1-2 budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Evidence on the ways that alternative (agricultural and non-agricultural) public expenditures and public services contribute to agricultural development and rural welfare considered by governments and civil society via policy fora in 1 CGIAR country of collaboration</td>
<td>Country and cross-country research and policy studies</td>
<td>Governments in at least 3 CGIAR countries of collaboration use empirical evidence and quantitative methods to modify their allocation of public resource towards better targeted investments favouring inclusive agricultural growth and rural transformation (includes capacity development)</td>
<td>813,000</td>
<td>5,025,803</td>
</tr>
<tr>
<td>1.2 Evidence on the constraints and opportunities for raising agricultural growth and rural incomes considered by governments via policy fora in 2 CGIAR countries of collaboration</td>
<td>Country and cross-country research and policy studies</td>
<td>Governments in at least 3 CGIAR countries of collaboration use tools and evidence on the economy-wide factors affecting rural transformation to develop policies that are better targeted towards raising agricultural growth and rural incomes (includes capacity development)</td>
<td>1,219,500</td>
<td>7,538,705</td>
</tr>
<tr>
<td>1.3 Evidence on viable entry points for integrating research into the policy process used in multi-stakeholder fora in 1 CGIAR country of collaboration</td>
<td>Country and cross-country research and policy studies</td>
<td>Governments in at least 3 CGIAR countries of collaboration use tools and evidence on the economy-wide factors affecting rural transformation to develop policies that are better targeted towards raising agricultural growth and rural incomes (includes capacity development)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.4 NONE</td>
<td></td>
<td>Agricultural growth and rural incomes are increased (above counterfactual trend) in 3 CGIAR countries of collaboration implementing evidence-based policies and/or public expenditure allocations (includes capacity development)</td>
<td>677,500</td>
<td>4,188,170</td>
</tr>
</tbody>
</table>
## PIM FP3: Inclusive and Efficient Value Chains

<table>
<thead>
<tr>
<th>Milestone Description for 2017</th>
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<th>For which 2022 outcomes</th>
<th>2017 W1-2 budget</th>
<th>6-year W1-2 budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Evidence is used to support changes in trade policy and/or regulations with global and regional implications in 1 instance</td>
<td>PIM assessment studies</td>
<td>Evidence is used to support changes in trade policy and/or regulations with global and regional implications in 3 instances (includes capacity development)</td>
<td>702,000</td>
<td>4,339,624</td>
</tr>
<tr>
<td>1.2 The main distortions in international and national markets and priority interventions for major 5 value chains in CGIAR countries of collaboration are identified</td>
<td>Nominal rates of protection from the Ag-Incentives Consortium (FAO, World Bank, OECD, IFPRI)</td>
<td>Research and development organizations use PIM tools for value chain analysis and development in 20 instances in 6 countries of CGIAR collaboration (includes capacity development)</td>
<td>1,228,500</td>
<td>7,594,341</td>
</tr>
<tr>
<td>1.3 Postharvest losses by source are quantified, leading to prioritization of actions in priority value chains in CGIAR countries of collaboration</td>
<td>PIM studies and documentation of consultations with implementation partners</td>
<td>Research and development organizations use PIM tools to address postharvest losses in 10 countries, including 5 CGIAR countries of collaboration (includes capacity development)</td>
<td>702,000</td>
<td>4,339,624</td>
</tr>
<tr>
<td>1.4 Value chain scaling models are used by public and private sector agents to achieve greater development impact in 2 CGIAR countries of collaboration</td>
<td>Impact assessment studies</td>
<td>Implementation partners in three countries use analysis of approaches to scaling to increase numbers of beneficiaries by 50% in designated projects (includes capacity development)</td>
<td>526,500</td>
<td>3,254,718</td>
</tr>
<tr>
<td>1.5 NONE</td>
<td></td>
<td>Earnings of smallholder male and female farmers from specific value chains increase by 20% as a result of interventions in these value chains in 3 CGIAR countries of collaboration (includes capacity development)</td>
<td>351,000</td>
<td>2,169,812</td>
</tr>
</tbody>
</table>
## PIM FP4: Social Protection for Agriculture and Resilience

<table>
<thead>
<tr>
<th>Milestone Description for 2017</th>
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<th>2017 W1-2 budget</th>
<th>6-year W1-2 budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evidence is used in policy discussions of national social protection programs and policies in 2 CGIAR countries of collaboration</td>
<td>PIM study reports</td>
<td>National social protection programs and policies are modified based on evidence in 4 countries, including 3 CGIAR countries of collaboration (includes capacity development)</td>
<td>632,000</td>
<td>3,906,898</td>
</tr>
<tr>
<td>New social protection implementation mechanisms are tested across different in several CGIAR countries of collaboration</td>
<td>Monitoring reports of implementing partners impact assessment studies</td>
<td>Improved social protection innovations provide food and nutrition benefits to poor households in 3 countries (includes capacity development)</td>
<td>553,000</td>
<td>3,418,535</td>
</tr>
<tr>
<td>New insurance products are tested at scale with implementation partners in 1 CGIAR country of collaboration</td>
<td>Monitoring reports of implementing partners impact assessment studies</td>
<td>New insurance products are being used by smallholder farmers in 3 countries, including 2 CGIAR countries of collaboration (includes capacity development)</td>
<td>395,000</td>
<td>2,441,811</td>
</tr>
</tbody>
</table>
### Milestone Description for 2017

<table>
<thead>
<tr>
<th>Milestone Description for 2017</th>
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<th>For which 2022 outcomes</th>
<th>2017 W1-2 budget</th>
<th>6-year W1-2 budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 The toolbox of methods for tenure research is used by researchers</td>
<td>PIM website and outcome assessments</td>
<td>Evidence informs natural resource governance and tenure policy processes/implementation in 12 countries, including 6 CGIAR countries of collaboration (includes capacity development)</td>
<td>699,000</td>
<td>4,321,078</td>
</tr>
<tr>
<td>1.2 In collaboration with policymakers, innovative tenure security-enhancing innovations are tested across relevant contexts in 2 CGIAR countries of collaboration</td>
<td>Study reports</td>
<td>Improved policies, institutions, or implementation modalities regarding tenure security are adopted in 6 countries, with greater security of beneficiaries documented in at least 2 (includes capacity development)</td>
<td>699,000</td>
<td>4,321,078</td>
</tr>
<tr>
<td>1.3 Opportunities for landscape governance work across CRPs are agreed upon and initiated</td>
<td>Study reports</td>
<td>Improved landscape-level governance arrangements are implemented in 6 countries, with more productive and equitable management in at least 2 (includes capacity development)</td>
<td>932,000</td>
<td>5,761,438</td>
</tr>
</tbody>
</table>
## PIM FP6: Cross-cutting Gender Research and Coordination

<table>
<thead>
<tr>
<th>Milestone Description for 2017</th>
<th>Means of Verifying</th>
<th>For which 2022 outcomes</th>
<th>2017 W1-2 budget</th>
<th>6-year W1-2 budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 PIM gender research methods and guidelines are used by CGIAR researchers and partner research organizations in 5 CGIAR countries of collaboration</td>
<td>Study reports citations of PIM publications on gender research methods</td>
<td>National researchers use improved gender research methods in 5 CGIAR countries of collaboration (includes capacity development)</td>
<td>489,250</td>
<td>2,936,355</td>
</tr>
<tr>
<td>1.2 Gender equity enhancing recommendations from case studies are synthesized and discussed with policy makers in 2 CGIAR countries of collaboration</td>
<td>Policy briefs and PIM studies</td>
<td>Gender dimensions of policies are strengthened in 4 CGIAR countries of collaboration (includes capacity development)</td>
<td>293,550</td>
<td>1,761,813</td>
</tr>
<tr>
<td>1.3 Research on effective interventions for empowering women in agriculture is used by 2 implementation partners</td>
<td>PIM outcome assessments</td>
<td>The value of indicators of women’s empowerment in agriculture increase in 3 CGIAR countries of collaboration (includes capacity development)</td>
<td>195,700</td>
<td>1,174,542</td>
</tr>
</tbody>
</table>
# PIM Table 2. Proposed indicators by sub-IDO. November 14, 2016

<table>
<thead>
<tr>
<th>FP</th>
<th>SLO</th>
<th>IDO</th>
<th>Sub-IDO</th>
<th>Proposed draft indicators</th>
<th>Targets for 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>FP4</td>
<td></td>
<td>Increased resilience of the poor to climate change and other shocks</td>
<td>Increased household capacity to cope with shocks</td>
<td># households covered by social protection programs that benefited from input from PIM&lt;br&gt; # farmers using improved insurance/financial products improved by PIM</td>
<td>7,000,000&lt;br&gt;10,000</td>
</tr>
<tr>
<td>FP3</td>
<td>FP4</td>
<td>Enhanced smallholder market access</td>
<td>Improved access to financial and other services</td>
<td># farmers using improved insurance/financial products improved by PIM</td>
<td>10,000</td>
</tr>
<tr>
<td>FP3</td>
<td></td>
<td>Reduced poverty (SLO1)</td>
<td>Reduced market barriers</td>
<td>Nominal rate of protection for targeted commodities and countries</td>
<td>Baseline established</td>
</tr>
<tr>
<td>FP2</td>
<td>FP3</td>
<td>Reduced incomes and employment</td>
<td>Increased livelihood opportunities</td>
<td>Proportion non-farm income generation in rural areas&lt;br&gt; Rural poverty rates in 10 countries of collaboration</td>
<td>Baseline established&lt;br&gt;Baseline established</td>
</tr>
<tr>
<td>FP3</td>
<td></td>
<td>Reduced poverty (SLO1)</td>
<td>Increased value capture by producers</td>
<td>Nominal rate of protection for targeted commodities and countries</td>
<td>Baseline established</td>
</tr>
<tr>
<td>FP2</td>
<td>FP3</td>
<td>Reduced incomes and employment</td>
<td>More efficient use of inputs</td>
<td>Proportion non-farm income generation in rural areas&lt;br&gt; Rural poverty rates in 10 countries of collaboration</td>
<td>Baseline established&lt;br&gt;Baseline established</td>
</tr>
<tr>
<td>FP3</td>
<td></td>
<td>Increased productivity</td>
<td>Reduced pre and post-harvest losses</td>
<td># commodity x country studies of PHL using Improved measurement methods&lt;br&gt; # commodity x country studies testing interventions to address PHL</td>
<td>6&lt;br&gt;2</td>
</tr>
<tr>
<td>FP1</td>
<td></td>
<td>Closed yield gaps</td>
<td>5-year moving average of yields for mandate products in 10 countries of collaboration</td>
<td></td>
<td>Baseline established</td>
</tr>
<tr>
<td>FP1</td>
<td></td>
<td>Increased conservation and use of genetic resources</td>
<td>Biodiversity indicators from foresight modelling work in 10 countries of collaboration</td>
<td></td>
<td>Baseline established</td>
</tr>
<tr>
<td>FP4</td>
<td>FP5</td>
<td>Increased access to productive assets, including natural resources</td>
<td># countries tracking progress towards tenure policy reforms</td>
<td></td>
<td>8</td>
</tr>
</tbody>
</table>

CRP Performance 2017
November 2016
<table>
<thead>
<tr>
<th>FP</th>
<th>SLO</th>
<th>IDO</th>
<th>Sub-IDO</th>
<th>Proposed draft indicators</th>
<th>Targets for 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>FP4</td>
<td>Improved food and nutrition security and health (SLO2)</td>
<td>Improved diets for poor and vulnerable people</td>
<td>Increased access to diverse nutrient rich foods</td>
<td># households covered by social protection programs that benefited from input from PIM</td>
<td>7,000,000</td>
</tr>
<tr>
<td>FP5</td>
<td>Improved natural resources and agro-ecosystem services (SLO3)</td>
<td>Enhanced benefits from ecosystem goods and services</td>
<td>More productive and equitable management of natural resources</td>
<td># of communities using identified improved models for managing shared resources</td>
<td>1,000</td>
</tr>
<tr>
<td>FP1</td>
<td>Climate change</td>
<td>Mitigation and adaptation achieved</td>
<td>Improved forecasting of impacts of climate change and targeted technology development</td>
<td># organizations using improved foresight models incorporating climate change</td>
<td>6</td>
</tr>
<tr>
<td>FP2</td>
<td>Gender and youth</td>
<td>Equity and inclusion achieved</td>
<td>Gender equitable control of productive assets and resources</td>
<td># tenure security interventions validated for equity effects Women’s empowerment in agriculture index</td>
<td>2 Baseline established</td>
</tr>
<tr>
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<td>Women’s empowerment in agriculture index</td>
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<td>Baseline established</td>
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<td>Baseline established</td>
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<td>Baseline established</td>
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<td></td>
<td></td>
<td></td>
<td>Baseline established</td>
<td></td>
</tr>
<tr>
<td>FP4</td>
<td>Conducive environment for managing shocks and vulnerability</td>
<td># social protection programs using improved delivery mechanisms</td>
<td>4</td>
<td></td>
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</tr>
<tr>
<td><strong>FP</strong></td>
<td><strong>SLO</strong></td>
<td><strong>IDO</strong></td>
<td><strong>Sub-IDO</strong></td>
<td><strong>Proposed draft indicators</strong></td>
<td><strong>Targets for 2017</strong></td>
</tr>
<tr>
<td>FP1 FP2 FP3 FP4 FP5 FP6</td>
<td>Capacity development</td>
<td>National partners and beneficiaries enabled</td>
<td>Enhanced institutional capacity of partner research organizations</td>
<td>% PIM projects with national research partners</td>
<td>75</td>
</tr>
<tr>
<td>FP1 FP2 FP3 FP4 FP5 FP6</td>
<td></td>
<td></td>
<td>Enhanced individual capacity in partner research organizations through training and exchange</td>
<td>% respondents to survey who reported improved knowledge of CGIAR gender research and tools</td>
<td>9,000 50</td>
</tr>
<tr>
<td>FP5</td>
<td></td>
<td></td>
<td>Increased capacity for innovation in partner development organizations</td>
<td># groups and multi-stakeholder platforms facilitated by PIM</td>
<td>20</td>
</tr>
</tbody>
</table>
### RICE

**RICE FP1: Accelerating impact and equity in 2017**

<table>
<thead>
<tr>
<th>Milestone Description for 2017</th>
<th>Means of Verifying</th>
<th>For which 2022 outcome</th>
<th>Milestone budget 2017 W1-2/total $ (%)</th>
<th>6-year outcome budget W1-2/total $ (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Updated rice supply-demand scenario analyses, horizon scanning, and target domains for RICE technologies identified or refined (rolling plan)</td>
<td>Reports, targets domain maps, RICE Management Information System updates</td>
<td>Foresight analyses and priority setting used by RICE and partner scientists to develop and target technology options</td>
<td>466,878/2,900,367 (16%)</td>
<td>3,040,000 / 19,000,000 (16%)</td>
</tr>
<tr>
<td>1.2 Measures of women empowerment quantified using RICE baseline data at key action sites study on youth’s role in decision making initiated</td>
<td>Women empowerment indicators in RICE Management Information System case stories reports</td>
<td>Improved role in decision making by women and youth in rice value chains as evidenced by empowerment measures at key action sites</td>
<td>432,229/2,685,119 (16%)</td>
<td>2,720,000 / 17,000,000 (16%)</td>
</tr>
<tr>
<td>1.3 10% of key regions have at least one functional multi-stakeholder platform at key action sites</td>
<td>Reports, RICE Management Information System indicators</td>
<td>Well-functioning multi-stakeholder platforms for innovation at six action sites (Bangladesh, India, Nepal, Nigeria, Senegal, Tanzania)</td>
<td>268,823/1,669,999 (16%)</td>
<td>1,760,000 / 11,000,000 (16%)</td>
</tr>
<tr>
<td>1.4 250-300 scholars (30% women) enrolled in advanced degree training (bachelors, masters, PhD)</td>
<td>Training center statistics</td>
<td>New cadre of young, well-trained scientists - 30% women - engaged in rice research</td>
<td>89,608/556,666 (16%)</td>
<td>640,000 / 4,000,000 (16%)</td>
</tr>
<tr>
<td>1.5 No milestone in 2017</td>
<td>-</td>
<td>Effective public and private delivery systems for seeds of improved rice varieties in six countries (Bangladesh, India, Nepal, Nigeria, Senegal, Tanzania)</td>
<td>-</td>
<td>800,000/5,000,000 (16%)</td>
</tr>
<tr>
<td>1.6 Adoption and impact studies on NRM technologies and/or varieties - rolling plan based on progress of technologies along the impact pathway</td>
<td>Reports RICE Management Information System updates</td>
<td>Impacts and adoption of RICE technologies assessed</td>
<td>390,201/2,424,029 (16%)</td>
<td>2,560,000 / 16,000,000 (16%)</td>
</tr>
<tr>
<td>1.7 Annual updates of progress and performance indicators reflective learning workshops commissioned reviews and evaluations (rolling plan)</td>
<td>Reports RICE Management Information System updates</td>
<td>Functional and effective results-based management system for RICE and its partners</td>
<td>510,211/3,169,564 (16%)</td>
<td>3,200,000 / 20,000,000 (16%)</td>
</tr>
</tbody>
</table>
### RICE FP2: Upgrading rice value chains in 2017

<table>
<thead>
<tr>
<th>Milestone Description for 2017</th>
<th>Means of Verifying</th>
<th>For which 2022 outcomes</th>
<th>Milestone budget 2017 W1-2/total $ (%)</th>
<th>6-year outcome budget W1-2/total $ (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 No milestone in 2017</td>
<td></td>
<td>Diversified enterprise opportunities through upgraded value chains at six action sites (Indonesia, Myanmar, Vietnam; Cote d'Ivoire, Nigeria, Tanzania)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1.2 Baseline surveys conducted and entry points for loss reduction/value addition identified</td>
<td>Reports, case study documentation, significant change stories, RICE Management Information System indicators</td>
<td>Income by value-chain actors increased by 10% at six action sites through improved access to financial and other services (Indonesia, Myanmar, Vietnam, Cote d'Ivoire, Nigeria, Tanzania)</td>
<td>96,836/267,093 (36%)</td>
<td>576,000 / 1,600,000 (36%)</td>
</tr>
<tr>
<td></td>
<td>Reports, case study documentation, significant change stories, RICE Management Information System indicators</td>
<td>Income by value-chain actors increased by 15% through adoption of at least one of the postharvest or value addition practices or technologies at six action sites (Bangladesh, Cambodia, Indonesia, Benin, Cote d'Ivoire, Nigeria)</td>
<td>174,637/481,683 (36%)</td>
<td>1,116,000 / 3,100,000 (36%)</td>
</tr>
<tr>
<td>1.3 Capacity development needs among partner research organizations along the rice value chain identified</td>
<td>Reports, research projects at partner research organizations, RICE Management Information System updates</td>
<td>Capacity development needs among partner research organizations along the rice value chain identified</td>
<td>125,772/346,904 (36%)</td>
<td>8282,000 / 2,300,000 (36%)</td>
</tr>
</tbody>
</table>
### RICE FP3: Sustainable farming systems in 2017

<table>
<thead>
<tr>
<th>Milestone Description for 2017</th>
<th>Means of Verifying</th>
<th>For which 2022 outcomes</th>
<th>Milestone budget 2017 W1-2/total $ (%)</th>
<th>6-year outcome budget W1-2/total $ (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Farming systems analyses platform established within RICE and with other CRPs at eight key action sites</td>
<td>Reports, case study documentation, RICE Management Information System indicators, management option dissemination materials</td>
<td>Results of completed farming systems analyses used to focus development activities on key opportunities for adapting to climate risks at eight action sites (Nigeria, Senegal, Tanzania, Madagascar, Vietnam, Indonesia, Bangladesh, Myanmar)</td>
<td>193,747/1,495,490 (13%)</td>
<td>1,300,000 / 10,000,000 (13%)</td>
</tr>
<tr>
<td>1.2 Baseline rice yield gap quantified, and constraints and opportunities identified at eight key action sites</td>
<td>Reports, case study documentation, significant change stories, RICE Management Information System indicators, management option dissemination materials</td>
<td>Improved management practices that reduce yield gap by 10-15% developed and disseminated at eight action sites (Nigeria, Senegal, Tanzania, Madagascar, Vietnam, Indonesia, Bangladesh, Myanmar)</td>
<td>308,590/2,381,939 (13%)</td>
<td>1,950,000 / 15,000,000 (13%)</td>
</tr>
<tr>
<td>No milestone in 2017</td>
<td>-</td>
<td>Improved management practices that increase input use efficiency by 5% developed and disseminated at eight action sites (Nigeria, Senegal, Tanzania, Madagascar, Vietnam, Indonesia, Bangladesh, Myanmar)</td>
<td>-</td>
<td>1,943,311 / 15,000,000 (13%)</td>
</tr>
<tr>
<td>1.3 Benchmark indicators established for women farmers' labor use at seven key action sites</td>
<td>Reports, case study documentation, significant change stories, RICE Management Information System indicators, management option dissemination materials</td>
<td>Value chain actors including farmers and service providers using new mechanization options designed to increase women's labor productivity at seven action sites (Nigeria, Senegal, Tanzania, Vietnam, Indonesia, Bangladesh, Myanmar)</td>
<td>132,253/1,020,831 (13%)</td>
<td>845,000 / 6,500,000 (13%)</td>
</tr>
<tr>
<td>1.4 GHG emissions and carbon capture benchmarked at three action sites</td>
<td>Reports, case study documentation, significant change stories, RICE Management Information System indicators, management option dissemination materials</td>
<td>Improved rice management practices that reduce GHG by 5% disseminated at three action sites (Bangladesh, Philippines, Vietnam)</td>
<td>132,253/1,020,831 (13%)</td>
<td>910,000 / 7,000,000 (13%)</td>
</tr>
<tr>
<td>1.5 Baseline farming system description completed at six action sites</td>
<td>Reports, case study documentation, significant change stories, RICE Management Information System indicators, management option dissemination materials</td>
<td>Options to diversity rice farms with other crops, animals, or trees developed and disseminated at six action sites (Cote d'Ivoire, Madagascar, Tanzania, India, Bangladesh, Myanmar) (together with other CRPs)</td>
<td>345,622/2,667,786 (13%)</td>
<td>6,760,000 / 52,000,000 (13%)</td>
</tr>
<tr>
<td>No milestone in 2017</td>
<td>-</td>
<td>Diversified on-farm diets sourced through diversified farming systems at four action sites (Cote d'Ivoire, Madagascar, Bangladesh, Myanmar) (together with other CRPs)</td>
<td>-</td>
<td>2,202,419 / 21,600,000 (13%)</td>
</tr>
<tr>
<td>No milestone in 2017</td>
<td>-</td>
<td>Increased capacity for innovation in partner research organizations</td>
<td>-</td>
<td>2,798,367 / 21,600,000 (13%)</td>
</tr>
</tbody>
</table>
## RICE FP4: Global Rice Array in 2017

<table>
<thead>
<tr>
<th>Milestone Description for 2017</th>
<th>Means of Verifying</th>
<th>For which 2022 outcomes</th>
<th>Milestone budget 2017 W1-2/total $ (%)</th>
<th>6-year outcome budget W1-2/total $ (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Global array delimited, baseline information including gender mapping (FP1) and historic climate and crop performance data gathered for crop-model assisted constraint mapping (current scenario)</td>
<td>Existence of rice array sites, data in open access data bases, reports, RICE Management Information System indicators</td>
<td>Predicted global rice production risks used to guide development and targeting of climate change-adapted technologies at least for the most vulnerable rice agroecosystems</td>
<td>424,952/1,398,942 (30%)</td>
<td>2,700,000/9,000,000 (30%)</td>
</tr>
<tr>
<td>1.2 Existing HTP field-based and specialized platforms upgraded and 60% of phenotyping sites managed by NARS identified</td>
<td>Existence of phenotyping platforms, phenotype-genotype data in open access data bases, reports, RICE Management Information System indicators</td>
<td>A functional global phenotyping network composed to 30% by non-CRP partners (including self-sponsored), and genetic donors (&gt;10) and ideotypes (2-4) adopted by breeding programs to develop climate-smart rice varieties</td>
<td>904,267/2,976,850 (30%)</td>
<td>5,760,000/19,200,000 (30%)</td>
</tr>
<tr>
<td>1.3 Genomic information baseline obtained for populations to be phenotyped in CoA 4.2</td>
<td>Publications, reports, open access data bases (eg SNP Seek)</td>
<td>At least 5 major QTLs/genes that are stable across environment and management, for all four mega rice environments, are integrated in the respective varietal development pipelines</td>
<td>409,155/1,346,939 (30%)</td>
<td>2,610,000/8,700,000 (30%)</td>
</tr>
<tr>
<td>1.4 Capacity development needs in pre-breeding and Big Data identified among partner research organizations</td>
<td>Reports, research projects at partner research organizations, RICE Management Information System updates</td>
<td>Increased capacity for innovation in pre-breeding and Big Data in partner research organizations</td>
<td>162,260/534,160 (30%)</td>
<td>1,020,000/3,400,000 (30%)</td>
</tr>
</tbody>
</table>

No milestone in 2017

Characterized pathogens populations and diversity used to predict varietal deployment for at least 3 major rice diseases

- 6,287,963/20,698,265 (30%)

No milestone in 2017

- A functional rice data hub providing open access phenotypic and genotypic information and data analysis tools to global users

- 2,399,754/7,900,000 (30%)
### RICE FP5: New rice varieties in 2017

<table>
<thead>
<tr>
<th>Milestone Description for 2017</th>
<th>Means of Verifying</th>
<th>For which 2022 outcomes</th>
<th>Milestone budget 2017 W1-2/total $ (%)</th>
<th>6-year outcome budget W1-2/total $ (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 5-10 donors/genes achieved from GRiSP in use by breeding programs screening of of 100 accessions from 3 K panel each year to identify donors/gene/QTLs for trait biology (biotic, abiotic) initiated, diversity analysis and system biology research initiated</td>
<td>Genes, markers etc described in publications and reports, open access data bases (eg SNP Seek)</td>
<td>Rice diversity in rice gene banks used globally for identification of traits and discovery of new genes</td>
<td>502,270/3,014,210 (16%)</td>
<td>3,120,000 / 19,500,000 (16%)</td>
</tr>
<tr>
<td>1.2 Based on GRiSP results, analysed and identified new breeding tools and resources for precision breeding, gene editing, genomic selection, breeding simulations, candidate genes (20), markers (16), reference panels (4)</td>
<td>Tools described in publications and reports, available online, documented use in reports</td>
<td>Novel tools for precision biotech breeding based on genetic diversity shared open access and globally</td>
<td>848,175/5,090,044 (16%)</td>
<td>5,264,000 / 32,900,000 (16%)</td>
</tr>
<tr>
<td>1.3 Upgraded breeding programs, and 10-20 lines from GRiSP with 5-10% higher yield nominated for release</td>
<td>Existence of lines and new varieties, line development and variety release tracking in RICE Management Information System</td>
<td>New rice varieties resulting in 1.3 % genetic gain in intensive systems</td>
<td>1,012,789/6,077,915 (16%)</td>
<td>6,288,000 / 39,300,000 (16%)</td>
</tr>
<tr>
<td>No milestone in 2017</td>
<td>-</td>
<td>Rice varieties with 20, 15, 10% reduction in yield loss caused by factors induced by climate change, in mega deltas, rainfed lowlands, and uplands, respectively</td>
<td>-</td>
<td>6,798,675/40,800,000 (16%)</td>
</tr>
<tr>
<td>No milestone in 2017</td>
<td>-</td>
<td>High quality and high nutritious rice varieties that are preferred by men and women farmers and consumers</td>
<td>-</td>
<td>1,083,122/6,500,000 (16%)</td>
</tr>
<tr>
<td>No milestone in 2017</td>
<td>-</td>
<td>Prototype C4 rice lines with increased yield potential available</td>
<td>-</td>
<td>533,229/3,221,306 (16%)</td>
</tr>
<tr>
<td>1.4 Capacity development needs on modern rice breeding technologies identified among partner research organizations</td>
<td>Reports, research projects at partner research organizations, RICE Management Information System updates</td>
<td>Increased capacity on modern rice breeding technologies in partner research organizations</td>
<td>646,908/3,882,206 (16%)</td>
<td>4,000,000 / 25,000,000 (16%)</td>
</tr>
</tbody>
</table>
The indicators proposed in Table 2 are high-level development outcome indicators. In addition, and in consultation with donors/System Council, many of the indicators from CRP phase 1 can be monitored and reported, such as number of publications, data bases, data base usage, key technologies in development, in field testing, etc (see Annex 1 of the annual CRP phase 1 reports).

Most of the indicators in Table 2 are contributed to by a combination of flagship projects (FPs) working together. For example, most household surveys to collect indicators at farm level are done by FP1, while changes in the indicator values are driven by adoption of technologies developed and disseminated by other FPs; the development of improved rice varieties is contributed to by both FP 4 and 5, while large-scale distribution of new rice varieties is facilitated by the work on improved seed systems in FP1 (hence all contributing to indicators related to the sub-IDO ‘increased genetic gain’); the development of improved crop and post-harvest management technologies is undertaken in FPs 3 and 2, respectively, but dissemination through partnership, multi-stakeholder platforms, and innovation systems is facilitated by FP1; validation of adoption rates of improved varieties, management and post-harvest technologies (developed in FPs 4-5, 3 and 2, respectively) and impact on income and livelihoods is undertaken in FP1.

<table>
<thead>
<tr>
<th>SLO</th>
<th>IDO</th>
<th>Sub-IDO</th>
<th>Indicator</th>
<th>FP</th>
<th>Target 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3</td>
<td>Increased incomes and employment</td>
<td>1.3.2 Increased livelihoods opportunities</td>
<td>Diversity of farm activities (crop types, livestock and fish breeds, tree species); (survey annual rapid and 3-4y detailed)</td>
<td>FP1, FP3</td>
<td>New indicator from GRiSP; Baseline established</td>
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<tr>
<td></td>
<td></td>
<td>1.3.3 Increased value capture by producers</td>
<td>Farmers’ income, gender disaggregated where possible (survey annual rapid and 3-4y detailed)</td>
<td>FP1, FP3</td>
<td>Income by farmer adopters (GRiSP carry-over) increased by 5-10% over non-adopters at three-five key action sites</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.3.4 More efficient use of inputs</td>
<td>Water- and nutrient-use efficiency (survey annual rapid and 3-4y detailed)</td>
<td>FP1, FP3</td>
<td>Water and/or nutrient efficiencies by farmer adopters (GRiSP carry-over) increased by 5% over non-adopters at three-five key action sites</td>
</tr>
<tr>
<td>1.4</td>
<td>Increased productivity</td>
<td>1.4.1 Reduced pre and post-harvest losses, incl. climate change</td>
<td>Adoption rate of technologies that reduce postharvest loss in the rice value chain, gender disaggregated where possible (every 3-4 year)</td>
<td>FP2</td>
<td>Methodology established for tracking adoption rate of post-harvest technologies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.4.2 Closed yield gaps through improved agronomic and animal husbandry practice</td>
<td>National rice yields; yield at farm level (survey annual rapid and 3-4y detailed)</td>
<td>FP1, FP3</td>
<td>Maintain global average rice yield increase of 50 kg/ha/year; corroborated at farm level at key action sites</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Yield gap at farm level (survey annual rapid and 3-4y detailed)</td>
<td>FP1, FP3</td>
<td>Yield gap by farmer adopters (GRiSP carry-over) reduced by 5% over non-adopters at three-five key action sites</td>
</tr>
<tr>
<td>1.4.3 Enhanced genetic gains</td>
<td>Adoption rate of improved crop and natural resource management technologies (including adaptive to climate change, and mitigating GHG emissions), gender disaggregated where possible (survey annual rapid and 3-4y detailed)</td>
<td>FP1, FP3</td>
<td>5% adoption of GRiSP improved technologies (over baseline) at key action sites (eg through STRASA, CSISA, CORIGAP, FLAR etc; East India, Africa Hubs; FLAR countries Latin America)</td>
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</tr>
<tr>
<td></td>
<td>Rice genetic gain (Annual)</td>
<td>FP4, FP5</td>
<td>1.1-1.3% genetic gain (yearly)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of new rice varieties with high yield potential, tolerance to stress, high market quality, and/or high nutritious value released by national systems (Annual)</td>
<td>FP4, FP5</td>
<td>50-70</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adoption rate of new rice varieties with high yield potential, tolerance to stress, high market quality, and/or high nutritious value, gender disaggregated where possible (national rice statistics, survey annual rapid and 3-4y detailed)</td>
<td>FP1, FP5</td>
<td>5% adoption of GRiSP improved varieties (over baseline) at key action sites. Globally: Annual adoption rate of rice varieties with GRiSP-center pedigree on 4-5 million hectares by around 7 million farmers (50% female)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.4.4 Increased conservation and use of genetic resources</td>
<td>Number of rice variety seed lots distributed globally (Annual)</td>
<td>FP 4, FP5</td>
<td>75,000-100,000 seed lots</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Improved Food and Nutrition Security and health (SLO2)

#### 2.1 Improved diets for poor and vulnerable people

2.1.2 Increased access to diverse nutrient-rich foods

<table>
<thead>
<tr>
<th></th>
<th>Number of new rice varieties with high yield potential, tolerance to stress, high market quality, and/or high nutritious value released by national systems (Annual)</th>
<th>FP4, FP5</th>
<th>1-2 high zinc rice varieties</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Adoption rate of new rice varieties with high yield potential, tolerance to stress, high market quality, and/or high nutritious value, gender disaggregated where possible (survey annual rapid and 3-4y detailed)</td>
<td>FP1, FP5</td>
<td>Baseline to be established</td>
</tr>
<tr>
<td></td>
<td>Diversity of farm activities (crop types, livestock and fish breeds, tree species); (survey annual rapid and 3-4y detailed)</td>
<td>FP1, FP3</td>
<td>New indicator from GRiSP; Baseline established</td>
</tr>
</tbody>
</table>

### Improved natural resources and agro-ecosystems (SLO3)

3.3 More sustainably managed agro-ecosystems

3.3.2 Enhanced adaptive capacity to climate risk

<table>
<thead>
<tr>
<th></th>
<th>Number of new rice varieties with high yield potential, tolerance to stress, high market quality, and/or high nutritious value released by national systems (Annual)</th>
<th>FP4, FP5</th>
<th>25-35</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross cutting issues</td>
<td>Number of new rice varieties with high yield potential, tolerance to stress, high market quality, and/or high nutritious value released by national systems (Annual)</td>
<td>FP4, FP5</td>
<td>25-35</td>
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</tr>
<tr>
<td>A.1 Mitigation and adaptation achieved</td>
<td>Adoption rate of new rice varieties with high yield potential, tolerance to stress, high market quality, and/or high nutritious value, gender disaggregated where possible (survey annual rapid and 3-4y detailed)</td>
<td>FP1, FP5</td>
<td>5% adoption of GRiSP improved varieties (over baseline) at key action sites (eg through STRASA, CSISA, CORIGAP, FLAR etc; East India, Africa Hubs; FLAR countries Latin America)</td>
</tr>
<tr>
<td>A.1.4 Enhanced adaptive capacity to deal with climate risk</td>
<td>Number of new rice varieties with high yield potential, tolerance to stress, high market quality, and/or high nutritious value released by national systems (Annual)</td>
<td>FP4, FP5</td>
<td>25-35</td>
</tr>
<tr>
<td></td>
<td>Adoption rate of new rice varieties with high yield potential, tolerance to stress, high market quality, and/or high nutritious value, gender disaggregated where possible (survey annual rapid and 3-4y detailed)</td>
<td>FP1, FP5</td>
<td>5% adoption of GRiSP improved varieties (over baseline) at key action sites (eg through STRASA, CSISA, CORIGAP, FLAR etc; East India, Africa Hubs; FLAR countries Latin America)</td>
</tr>
<tr>
<td></td>
<td>Adoption rate of improved crop and natural resource management technologies (including adaptive to climate change, and mitigating GHG emissions), gender disaggregated where possible (survey annual rapid and 3-4y detailed)</td>
<td>FP1, FP3</td>
<td>5% adoption of GRiSP improved technologies (over baseline) at key action sites (eg through STRASA, CSISA, CORIGAP, FLAR etc; East India, Africa Hubs; FLAR countries Latin America)</td>
</tr>
<tr>
<td></td>
<td>Diversity of farm activities (crop types, livestock and fish breeds, tree species); (survey annual rapid and 3-4y detailed)</td>
<td>FP1, FP3</td>
<td>New indicator from GRiSP; Baseline established</td>
</tr>
<tr>
<td></td>
<td>3.3.3 Reduced net greenhouse gas emissions from agriculture, forests and other forms of land use</td>
<td>Adoption rate of improved crop and natural resource management technologies (including adaptive to climate change, and mitigating GHG emissions), gender disaggregated where possible (survey annual rapid and 3-4y detailed)</td>
<td>FP1, FP3</td>
</tr>
</tbody>
</table>

Adoption rate of new rice varieties with high yield potential, tolerance to stress, high market quality, and/or high nutritious value, gender disaggregated where possible (survey annual rapid and 3-4y detailed)

Adoption rate of improved crop and natural resource management technologies (including adaptive to climate change, and mitigating GHG emissions), gender disaggregated where possible (survey annual rapid and 3-4y detailed)

Diversity of farm activities (crop types, livestock and fish breeds, tree species); (survey annual rapid and 3-4y detailed)
<table>
<thead>
<tr>
<th>B.1 Equity and inclusion achieved</th>
<th>B.1.2 Technologies that reduce women’s labor and energy</th>
<th>Number of manual labor days contributed by women farmers, or adoption rate of mechanization machinery (survey annual rapid and 3-4y detailed)</th>
<th>FP1, FP3</th>
<th>New indicator from GRiSP; Baseline established</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B.1.3 Improved capacity of women and youth to participate in decision making</td>
<td>Women farmer empowerment index (survey annual rapid and 3-4y detailed)</td>
<td>FP1</td>
<td>New indicator from GRiSP; Baseline established</td>
</tr>
<tr>
<td>C.1 Enabling environment improved</td>
<td>C.1.1 Increased capacity of beneficiaries to adopt research outputs</td>
<td>Adoption rate of new rice varieties with high yield potential, tolerance to stress, high market quality, and/or high nutritious value, gender disaggregated where possible (national rice statistics, survey annual rapid and 3-4y detailed)</td>
<td>FP1, FP5</td>
<td>5% adoption of GRiSP improved varieties (over baseline) at key action sites. Globally: Annual adoption rate of rice varieties with GRiSP-center pedigree on 4-5 million hectares by around 7 million farmers (50% female)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adoption rate of improved crop and natural resource management technologies (including adaptive to climate change, and mitigating GHG emissions), gender disaggregated where possible (survey annual rapid and 3-4y detailed)</td>
<td>FP1, FP3</td>
<td>5% adoption of GRiSP improved technologies (over baseline) at key action sites (eg through STRASA, CSISA, CORIGAP, FLAR etc; East India, Africa Hubs; FLAR countries Latin America)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adoption rate of technologies that reduce postharvest loss in the rice value chain, gender disaggregated where possible (every 3-4 year)</td>
<td>FP2</td>
<td>New indicator from GRiSP; Baseline established</td>
</tr>
<tr>
<td>D.1 National partners and beneficiaries enabled</td>
<td>D.1.2 Enhanced individual capacity in partner research organizations through training and exchange</td>
<td>Number of male and female interns, and MS and PhD scholars in RICE (annual)</td>
<td>All FPs, but all reported under FP1</td>
<td>150-175 female short-term trainees; 200-225 male short-term trainees (BSc, MSc, PhD, interns) enrolled</td>
</tr>
<tr>
<td></td>
<td>D.1.4 Increased capacity for innovation in partner development organizations and in poor and vulnerable communities</td>
<td>Number of innovation platforms, learning alliances, and other multi-stakeholder platforms (annual)</td>
<td>FP1, FP2, FP3</td>
<td>3-5 at end of GRiSP</td>
</tr>
</tbody>
</table>
## RTB (Roots, Tubers and Bananas)

**FP1-Discovery research for enhanced utilization of RTB genetic resources**

<table>
<thead>
<tr>
<th>ID/Source</th>
<th>Milestone description for 2017</th>
<th>Means of verifying</th>
<th>For which outcomes (2022)</th>
<th>Budget 2017 (USD) W1-2 / total (%)</th>
<th>6-year (USD) W1-2 / total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 PIM TDA</td>
<td>Advanced tools applied for genomic mapping and editing for all RTB crops</td>
<td>Journal articles, Working papers</td>
<td>Outcome 1,1: For each RTB crop, populations with at least 3 end-users preferred traits and adapted to 2 targeted regions are available (For more details please refer to Table FP1,4)</td>
<td>874,526 / 3,015,606 (29%)</td>
<td>5,800,708 / 20,002,442 (29%)</td>
</tr>
<tr>
<td>1.2 PIM TDA</td>
<td>Participatory methods for trait definition and selection (including at least 30% of female participants) used in at least (5) RTB/partners joint assessments</td>
<td>Journal articles, Working papers, Annual reports of relevant stakeholders</td>
<td>Outcome 1,2: Across RTB crops, average 25% reduction of time needed for traits discovery and incorporation into breeding pipelines</td>
<td>1,311,789 / 4,523,409 (29%)</td>
<td>8,701,062 / 30,003,662 (29%)</td>
</tr>
<tr>
<td>1.3 PIM TDA</td>
<td>Best practices and existing systems for assessing and monitoring the conservation status of RTB wild relatives and landraces identified</td>
<td>Study report</td>
<td>Outcome 1,3: Conservation status of wild relatives and landraces of at least 3 RTB crops improved in 3 key hotspots</td>
<td>655,894 / 2,261,705 (29%)</td>
<td>4,350,531 / 15,001,831 (29%)</td>
</tr>
<tr>
<td>1.4 FPN</td>
<td>SMART targets for traits linked with enhanced resilience of RTB populations to climate shocks formulated and included in breeding program designed for at least 2 RTB crops</td>
<td>Working papers, RTB internal documents</td>
<td>Outcome 1,4: At least 20% of newly developed RTB breeding populations with enhanced resilience to climatic shocks available for testing in FP2</td>
<td>655,894 / 2,261,705 (29%)</td>
<td>4,350,531 / 15,001,831 (29%)</td>
</tr>
<tr>
<td>1.5 PIM TDA</td>
<td>Breeding community of practice established in collaboration with at least 15 stakeholders in 6 countries</td>
<td>Annual reports of relevant stakeholders</td>
<td>Outcome 1,5: Collaboration for more effective breeding enhanced through a breeding community of practices including at least 40 stakeholders in 10 countries</td>
<td>437,263 / 1,507,803 (29%)</td>
<td>2,900,354 / 10,001,221 (29%)</td>
</tr>
<tr>
<td>1.6 FPN</td>
<td>Trainings for breeders and geneticists on gender roles and consumer preferences organized</td>
<td>Training reports</td>
<td>Outcome 1,6: Enhanced capacity in genomic selection and advanced breeding methods of at least 150 R&amp;D partners, of which at least 30% are female, through short and long term trainings</td>
<td>437,263 / 1,507,803 (29%)</td>
<td>2,900,354 / 10,001,221 (29%)</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
<td>4,372,629 / 15,078,031 (29%)</td>
<td>29,003,540 / 100,012,208 (29%)</td>
</tr>
</tbody>
</table>

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34 Sources: PIM TD – Performance Indicators Matrix Table D; PIM TDA – PIM TD Adjusted; FPN – CRP Full Proposal Narrative and Annexes

35 See Section: 2.1.1.8 CLIMATE CHANGE

36 See Section: 1.0.10 CAPACITY DEVELOPMENT – Table on CapDev Actions
### FP2-Adaptive productive varieties and quality seed of RTB crops

<table>
<thead>
<tr>
<th>ID/Source</th>
<th>Milestone description for 2017</th>
<th>Means of verifying</th>
<th>For which outcomes</th>
<th>Budget 2017 (USD) W1-2 / total (%)</th>
<th>6-year (USD) W1-2 / total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2.1</strong> PIM TDA</td>
<td>Rapid multiplication techniques for seed/planting material validated for at least 2 RTB crops and framework to support best fitting options for different seed multipliers categories developed</td>
<td>Program and Project Reports</td>
<td>Outcome 2.1: 20,000,000 people (4,000,000 HH), of which 50% are women, increased their annual income by increasing RTB sales and diversifying market strategies</td>
<td>825,066 / 5,893,325 (14%)</td>
<td>5,472,639 / 39,090,282 (14%)</td>
</tr>
<tr>
<td><strong>2.2</strong> PIM TD</td>
<td>Crop-specific evidences collected on the effect of genotype, management and environment on seed degeneration rate</td>
<td>Scientific publications and reports</td>
<td>Outcome 2.2: At least 5,000,000 HH increased their annual RTB yield by at least 10%</td>
<td>2,090,166 / 14,929,758 (14%)</td>
<td>13,864,020 / 99,028,716 (14%)</td>
</tr>
<tr>
<td><strong>2.3</strong> PIM TDA</td>
<td>Gender-differentiated users-need and preferences for trait selection assessed in 4 countries and results communicated to orient breeding programs</td>
<td>Scientific publications and reports, Annual reports of relevant stakeholders</td>
<td>Outcome 2.3: Targeted breeding programs increased by 10% the diversity of the genetic base used (e.g. number of banana wild species used as parental lines)</td>
<td>275,022 / 1,964,442 (14%)</td>
<td>1,824,213 / 13,030,094 (14%)</td>
</tr>
<tr>
<td><strong>2.4</strong> PIM TDA</td>
<td>At least one RTB candidate variety rich in vitamins and/or micronutrients proposed in (10) target countries for national trials</td>
<td>Annual reports of national breeding programs and other relevant partners</td>
<td>Outcome 2.4: Annual production of at least one nutrient-rich RTB crop increased by 5-10% in 10 targeted countries</td>
<td>880,070 / 6,286,214 (14%)</td>
<td>5,837,482 / 41,696,301 (14%)</td>
</tr>
<tr>
<td><strong>2.5</strong> PIM TDA</td>
<td>Climate responsive breeding targets developed for 3 RTB crops in at least 5 target environments</td>
<td>Scientific publications and reports</td>
<td>Outcome 2.5: Capacity to deal with climate risks and extremes increased for at least 1,000,000 HH</td>
<td>275,022 / 1,964,442 (14%)</td>
<td>1,824,213 / 13,030,094 (14%)</td>
</tr>
<tr>
<td><strong>2.6</strong> PIM TD</td>
<td>Baseline of gender roles in seed multiplication and/or crop production and/or varietal selection available in five countries/crops</td>
<td>Scientific publications and reports</td>
<td>Outcome 2.6: At least 35% increase in number of female and young beneficiaries of at least 500,000 HH perceive to have better control over assets and resources</td>
<td>220,017 / 1,571,553 (14%)</td>
<td>1,459,371 / 10,424,075 (14%)</td>
</tr>
<tr>
<td><strong>2.7</strong> PIM TDA</td>
<td>Regulatory frameworks for seed production and seed quality control (including QDS) under discussion in 5 countries</td>
<td>Program and Project Reports, Annual reports and official documents of relevant stakeholders</td>
<td>Outcome 2.7: Regulatory frameworks for seed production and seed quality control (including QDS) under implementation in 10 countries</td>
<td>385,031 / 2,750,219 (14%)</td>
<td>2,553,898 / 18,242,132 (14%)</td>
</tr>
<tr>
<td><strong>2.8</strong> PIM TD</td>
<td>75 individuals (50% female) trained through long term programs (e.g. MSc and PhD students)</td>
<td>Program and Project Reports, Thesis</td>
<td>Outcome 2.8: Every year, 8,000 R&amp;D stakeholders (50% female) trained through short term programs on designing and implementing smallholder-oriented breeding programs and sustainable seed systems</td>
<td>550,044 / 3,928,884 (14%)</td>
<td>3,648,426 / 26,060,188 (14%)</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
<td>5,500,437 / 39,288,836 (14%)</td>
<td>36,484,263 / 260,601,882 (14%)</td>
</tr>
</tbody>
</table>

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37 Sources: PIM TD – Performance Indicators Matrix Table D; PIM TDA – PIM TD Adjusted; FPN – CRP Full Proposal Narrative and Annexes
### FP3-Resilient RTB crops

<table>
<thead>
<tr>
<th>ID/ Source</th>
<th>Milestone description for 2017</th>
<th>Means of verifying</th>
<th>For which outcomes</th>
<th>Budget 2017 (USD) W1-2 / total (%)</th>
<th>6-year (USD) W1-2 / total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 PIM TDA</td>
<td>Baseline of pest incidence and damage available for 4 countries</td>
<td>Scientific publications and reports</td>
<td>Outcome 3.1: In areas affected by pests and diseases, RTB yield restored to pre-infection conditions for at least at least 1,500,000 farmer HH, of which at least 25% are female headed households</td>
<td>1,496,542 / 7,876,539 (19%)</td>
<td>9,926,529 / 52,244,887 (19%)</td>
</tr>
<tr>
<td>3.2 PIM TD</td>
<td>Global Pest Risk Analysis (PRA) available for at least 3 target RTB pests and diseases</td>
<td>Scientific publications and reports</td>
<td>Outcome 3.2: 1,800,000 ha of current RTB production area converted to sustainable cropping systems</td>
<td>1,039,266 / 5,469,819 (19%)</td>
<td>6,893,423 / 36,281,172 (19%)</td>
</tr>
<tr>
<td>3.3 PIM TDA</td>
<td>At least 5 gender-sensitive and site-specific practices for crop, soil fertility and water management tested under diverse agro-ecologies</td>
<td>Scientific publications and reports</td>
<td>Outcome 3.3: Capacity to deal with climate risks and extremes increased for at least 1,000,000 HH</td>
<td>831,412 / 4,375,855 (19%)</td>
<td>5,514,738 / 29,024,937 (19%)</td>
</tr>
<tr>
<td>3.4 PIM TD</td>
<td>Downscaled climate change models linked to insect disease modelling for at least 5 major pest/regional combinations</td>
<td>Scientific publications, databases/models and reports</td>
<td>Outcome 3.4: New technologies and practices have been equally adopted women and men farmers</td>
<td>207,853 / 1,093,964 (19%)</td>
<td>1,378,684 / 7,256,234 (19%)</td>
</tr>
<tr>
<td>3.5 PIM TD</td>
<td>Gender differentiated needs assessment of capacity development available in at least 8 pest/country combinations</td>
<td>Scientific publications and reports</td>
<td>Outcome 3.5: 25 National and 5 regional plant protection agencies with strategies for containment and management under implementation</td>
<td>290,994 / 1,531,549 (19%)</td>
<td>1,930,158 / 10,158,728 (19%)</td>
</tr>
<tr>
<td>3.6 PIM TD</td>
<td>Cost effective diagnostic tools and protocols developed for at least 3 key pests and diseases</td>
<td>Scientific publications and reports</td>
<td>Outcome 3.6: Growing number of extension services (governmental org., NGOs and private sector) providing advice on improved ICM and IPDM increased</td>
<td>290,994 / 1,531,549 (19%)</td>
<td>1,930,159 / 10,158,729 (19%)</td>
</tr>
<tr>
<td>3.7 PIM TD</td>
<td>Engagement of stakeholders in impact pathway analysis for ICM/IPDM in at least 3 cluster/country combination</td>
<td>Program and Projects reports</td>
<td>Outcome 3.7: Growing number of extension services (governmental org., NGOs and private sector) providing advice on improved ICM and IPDM increased</td>
<td>1,417,062 / 21,879,274 (19%)</td>
<td>27,573,691 / 145,124,687 (19%)</td>
</tr>
</tbody>
</table>

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38 Sources: PIM TD – Performance Indicators Matrix Table D; PIM TDA – PIM TD Adjusted; FPN – CRP Full Proposal Narrative and Annexes

CGIAR System Organization
FP4-Nutritious RTB food and value added through postharvest innovation

<table>
<thead>
<tr>
<th>ID/Source</th>
<th>Milestone description for 2017</th>
<th>Means of verifying</th>
<th>For which outcomes</th>
<th>Budget 2017 (USD) W1-2 / total (%)</th>
<th>6-year (USD) W1-2 / total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1 PIM TD</td>
<td>RTB value chains, including processing supply chains and fresh market chains, analyzed in 5 countries, with a gender-sensitive approach, to identify opportunities for products improvement/development</td>
<td>Scientific publications and reports</td>
<td>Outcome 4.1: 700,000 households, 25% of which are female headed, have increased their income by 15-20% by increasing and diversifying RTB sales (food, feed, industrial raw material and seeds)</td>
<td>358,365 / 1,257,864 (11%)</td>
<td>2,377,027 / 21,609,333 (11%)</td>
</tr>
<tr>
<td>4.2 PIM TD</td>
<td>Baseline of efficiencies and processing losses available for 5 local SME types in 3 countries</td>
<td>Scientific publications and reports</td>
<td>Outcome 4.2: 20,000 small scale processors, 30% of which are female, reduced water- and energy-related production costs by 15-20% in cassava sector with growing spillover in other RTB crops</td>
<td>358,365 / 1,257,864 (11%)</td>
<td>2,377,027 / 21,609,333 (11%)</td>
</tr>
<tr>
<td>4.3 PIM TD</td>
<td>RTB value chains analyzed in 5 countries to identify priority entry points for reducing post-harvest losses, improving storage, and stepping up waste utilization</td>
<td>Scientific publications and reports</td>
<td>Outcome 4.3: Post-harvest physical and quality losses reduced in at least 10 countries through better post-harvest management, improved storage, and utilization of waste across RTB crops</td>
<td>268,774 / 2,443,398 (11%)</td>
<td>1,782,770 / 16,207,000 (11%)</td>
</tr>
<tr>
<td>4.4 PIM TD</td>
<td>For ongoing dissemination of OFSP, biofortified cassava, and other nutritious RTB crops: education/counseling and SBCC methodologies, partnerships, metrics and results documented and analyzed in 10 countries</td>
<td>Scientific publications and reports</td>
<td>Outcome 4.4: Diet quality indices increased by 20% for at least 2,000,000 farmer households and urban/rural consumers</td>
<td>447,956 / 4,072,330 (11%)</td>
<td>2,971,283 / 27,011,666 (11%)</td>
</tr>
<tr>
<td>4.5 PIM TD</td>
<td>Gender analysis of RTB value chains and RTB post-harvest intervention approaches documented in 4 countries</td>
<td>Scientific publications and reports</td>
<td>Outcome 4.5: At least 35% increase in number of women and youth beneficiaries in at least 200,000 HH who perceive to have better control over assets and resources</td>
<td>143,346 / 1,303,146 (11%)</td>
<td>950,811 / 8,643,733 (11%)</td>
</tr>
<tr>
<td>4.6 PIM TDA</td>
<td>RTB crops and products compliant with national nutrition and safety standards for inclusion in mainstream national nutrition programs in at least 2 countries</td>
<td>Study reports, Annual reports of relevant stakeholders, projects reports</td>
<td>Outcome 4.6: Food-based nutrition programs/initiatives promoting RTB crops under implementation in at least 10 countries</td>
<td>107,510 / 977,359 (11%)</td>
<td>713,108 / 6,482,800 (11%)</td>
</tr>
<tr>
<td>4.7 FPN40</td>
<td>Partnership models and value chain approaches tested to strengthen institutional capacity for scaling</td>
<td>Program and Projects reports</td>
<td>Outcome 4.7: 60 development-focused organizations, including women’s networks and alliances, having increased their capacity for innovation (e.g. enhanced human capital and improved collaboration network in relevant domains) to scale up fuller utilization of RTB</td>
<td>107,510 / 977,359 (11%)</td>
<td>2,377,027 / 6,482,800 (11%)</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
<td>1,791,825 / 16,289,321 (11%)</td>
<td>11,885,133 / 108,046,665 (11%)</td>
</tr>
</tbody>
</table>

39 Sources: PIM TD – Performance Indicators Matrix Table D; PIM TDA – PIM TD Adjusted; FPN – CRP Full Proposal Narrative and Annexes

40 See Section: 1.0.10 CAPACITY DEVELOPMENT – Table on CapDev Actions
## FP5 - Improving livelihoods at scale

<table>
<thead>
<tr>
<th>ID/ Source</th>
<th>Milestone description for 2017</th>
<th>Means of verifying</th>
<th>For which outcomes</th>
<th>Budget 2017 (USD) W1-2 / total (%)</th>
<th>6-year (USD) W1-2 / total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1 PIM TDA</td>
<td>Trade-offs and synergies among different SDI options for market-driven household income improvement in RTB-based farming systems analyzed in at least 2 target countries</td>
<td>Scientific publications and reports</td>
<td>Outcome 5.1: Income increased by 20% for at least 550,000 HH</td>
<td>736,533 / 2,946.134 (25%)</td>
<td>4,885,409 / 19,541,634 (25%)</td>
</tr>
<tr>
<td>5.2 PIM TDA</td>
<td>SDI options identified with farmers and farm communities and expected effects on whole-farm productivity assessed in at least 2 countries</td>
<td>Scientific publications and reports</td>
<td>Outcome 5.2: Whole-farm productivity increased by 25% for at least 1,000,000 HH</td>
<td>491,022 / 1,964.089 (25%)</td>
<td>3,256,939 / 13,027,756 (25%)</td>
</tr>
<tr>
<td>5.3 PIM TDA</td>
<td>Options for whole-diets improvements in RTB-related farming systems identified in 2 countries</td>
<td>Scientific publications and reports</td>
<td>Outcome 5.3: Diet quality indices increased by 20% for at least 300,000 farmer households</td>
<td>491,022 / 1,964.089 (25%)</td>
<td>3,256,939 / 13,027,756 (25%)</td>
</tr>
<tr>
<td>5.4 PIM TDA</td>
<td>In at least 3 RTB-related farming systems, effects of selected SDI approaches on soil water and nutrient cycles assessed and documented</td>
<td>Scientific publications and reports</td>
<td>Outcome 5.4: Improved soil management practices adopted on at least 200,000 ha cultivated by smallholder farmers</td>
<td>491,022 / 1,964.089 (25%)</td>
<td>3,256,939 / 13,027,756 (25%)</td>
</tr>
<tr>
<td>5.5 PIM TD</td>
<td>Households options for improving their resilience to climate risks and extremes assessed in RTB-related farming systems in 5 countries</td>
<td>Scientific publications and reports</td>
<td>Outcome 5.5: Capacity to deal with climate risks and extremes increased for at least 500,000 HH</td>
<td>491,022 / 1,964.089 (25%)</td>
<td>3,256,939 / 13,027,756 (25%)</td>
</tr>
<tr>
<td>5.6 PIM TDA</td>
<td>Gender-responsive methods and tools for assessing SDI options for market-driven household income improvement developed</td>
<td>Working papers, Manuals and training materials</td>
<td>Outcome 5.6: At least 35% increase in number of female and young beneficiaries of at least 200,000 HH perceive to have better control over assets and resources</td>
<td>245,511 / 982.045 (25%)</td>
<td>1,628,470 / 6,513,878 (25%)</td>
</tr>
<tr>
<td>5.7 FPN42</td>
<td>Tools and methods for CapDev on gender-responsive and transformative approaches developed</td>
<td>Working papers, Training materials, Project and Program reports</td>
<td>Outcome 5.7: RTB delivery flagships and at least 55 research and development partner organizations with more gender-responsive planning and implementation processes, reflected in at least 5 additional collaborative arrangements with public sector and civil society organizations supporting gender transformation</td>
<td>245,511 / 982.045 (25%)</td>
<td>1,628,470 / 6,513,878 (25%)</td>
</tr>
<tr>
<td>5.8 PIM TD</td>
<td>At least 1 systems innovation coalition established in 5 countries selected for site integration and problem identification and prioritization exercises conducted</td>
<td>Annual reports of Innovation Coalitions and relevant stakeholders</td>
<td>Outcome 5.8: At least 66 cases where RTB crops/technologies are newly included in policies or programs executed by government agencies, NGOs, and/or private sector</td>
<td>491,022 / 1,964.089 (25%)</td>
<td>3,256,939 / 13,027,756 (25%)</td>
</tr>
<tr>
<td>5.9 PIM TD</td>
<td>At least 4 ex post impact studies completed</td>
<td>Project and Program reports</td>
<td>Outcome 5.8: At least 66 cases where RTB crops/technologies are newly included in policies or programs executed by government agencies, NGOs, and/or private sector</td>
<td>491,022 / 1,964.089 (25%)</td>
<td>3,256,939 / 13,027,756 (25%)</td>
</tr>
</tbody>
</table>

41 Sources: PIM TD – Performance Indicators Matrix Table D; PIM TDA – PIM TD Adjusted; FPN – CRP Full Proposal Narrative and Annexes

42 See Section: ANNEX 2: RTB Capacity Development (CapDev)
<table>
<thead>
<tr>
<th>ID/ Source</th>
<th>Milestone description for 2017</th>
<th>Means of verifying</th>
<th>For which outcomes</th>
<th>Budget 2017 (USD) W1-2 / total (%)</th>
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</tr>
</thead>
<tbody>
<tr>
<td>5.10 PIM TDA</td>
<td>20 individuals (50% female) trained through long term programs (e.g. MSc and PhD students)</td>
<td>Project and Program reports</td>
<td>Outcome 5.9: At least 1,500 research/development staff in RTB and in mixed-type partner organizations across prime target countries with strengthened research and innovation capacities including gender-responsive and transformative research</td>
<td>736,533 / 2,946.134 (25%)</td>
<td>4,885,409 / 19,541,634 (25%)</td>
</tr>
<tr>
<td>5.11 PIM TD</td>
<td>Comparative assessment of scaling models (desk study)</td>
<td>Scientific publications and reports</td>
<td>Outcome 5.10: At least 5 partnerships and scaling models tested in a minimum of 5 target countries and adjusted to be fit for purpose</td>
<td>491,022 / 1,964.089 (25%)</td>
<td>3,256,939 / 13,027,756 (25%)</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
<td>4,910,223 / 19,640,893 (25%)</td>
<td>32,569,390 / 130,277,560 (25%)</td>
</tr>
</tbody>
</table>

**TOTAL BUDGET 2017**

<table>
<thead>
<tr>
<th></th>
<th>USD</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>FP1-Discovery research for enhanced utilization of RTB genetic resources</td>
<td>15,078,031</td>
<td>13,44%</td>
</tr>
<tr>
<td>FP2-Adaptive productive varieties and quality seed of RTB crops</td>
<td>39,288,836</td>
<td>35,02%</td>
</tr>
<tr>
<td>FP3-Resilient RTB crops</td>
<td>21,879,274</td>
<td>19,50%</td>
</tr>
<tr>
<td>FP4-Nutritious RTB food and value added through postharvest innovation</td>
<td>16,289,321</td>
<td>14,52%</td>
</tr>
<tr>
<td>FP5-Improving livelihoods at scale</td>
<td>19,640,893</td>
<td>17,51%</td>
</tr>
<tr>
<td>FPs Total</td>
<td>112,176,354</td>
<td>100,00%</td>
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<tr>
<td>Management and support cost</td>
<td>2,000,000</td>
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<tr>
<td>Grand Total</td>
<td>114,176,354</td>
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<table>
<thead>
<tr>
<th></th>
<th>USD</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>W1/2</td>
<td>22,500,000</td>
<td>20%</td>
</tr>
<tr>
<td>W3</td>
<td>62,675,111</td>
<td>55%</td>
</tr>
<tr>
<td>Bilateral</td>
<td>29,001,242</td>
<td>25%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>114,176,354</td>
<td>100%</td>
</tr>
</tbody>
</table>
### Table 2: RTB-FPs, SLOs, IDOs and sub-IDOs with proposed indicators

**SLOs, IDOs and sub-IDOs, RTB-FPs contribution: proposed indicators and targets**

<table>
<thead>
<tr>
<th>SLOs</th>
<th>IDOs</th>
<th>Sub IDOs</th>
<th>FPs contribution</th>
<th>Indicators proposed</th>
<th>Annual targets[^43]^</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced Poverty (SLO1)</td>
<td>1.4 Increased incomes and employment</td>
<td>1.3.1 Diversified enterprise opportunities</td>
<td>x x x</td>
<td># of small and medium enterprises (SMEs) in seed and processing sectors reached through RTB and partners' initiatives informed by RTB research[^a]</td>
<td>2K 10K 25K</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.3.4 More efficient use of inputs</td>
<td>x</td>
<td># of SMEs who adopted more efficient RTB post-harvest technologies and practices[^b]</td>
<td>6K 20K</td>
</tr>
<tr>
<td></td>
<td>1.3 Increased productivity</td>
<td>1.4.1 Reduced pre- and post-production losses, including those caused by climate change</td>
<td>x x</td>
<td># of farmer households in RTB farming systems who adopted sustainable management practices[^b]</td>
<td>0.5 Mo 1.5 Mo</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td># of SMEs who adopted more efficient post-harvest technologies and practices[^b]</td>
<td>6K 20K</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.4.2 Closed yield gaps through improved agronomic and animal husbandry practices</td>
<td>x x x</td>
<td># of farmer households who adopted quality planting material (improved RTB varieties or clean seeds)[^c]</td>
<td>2.0 Mo 5.0 Mo</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td># of farmer households in RTB farming systems who adopted sustainable management practices[^b]</td>
<td>0.5 Mo 1.5 Mo</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Crop yield gap[^d]</td>
<td>NB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.4.3 Enhanced genetic gain</td>
<td>x x</td>
<td>Increase in yield under researcher controlled trials and other changes in quality parameters[^c]</td>
<td>NB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.4.4 Increased conservation and use of genetic resources</td>
<td>x x</td>
<td># of RTB diversity key hotspots with improved conservation status of wild relatives and landraces[^e]</td>
<td>2 5</td>
</tr>
<tr>
<td>Improved Food and Nutrition Security for Health (SLO2)</td>
<td>2.1 Improved diets for poor and vulnerable people</td>
<td>2.1.1 Increased availability of diverse nutrient-rich foods</td>
<td>x</td>
<td># of countries with increased production (&gt;5%) of targeted RTB crops[^f]</td>
<td>3 10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.1.3 Optimized consumption of diverse nutrient-rich foods</td>
<td>x x</td>
<td># of farmer households who adopted RTB varieties rich in vitamins and/or micronutrients[^e]</td>
<td>0.5 Mo 2 Mo</td>
</tr>
</tbody>
</table>

[^43]: Targets and proposed contribution to target by [flagship x sub-IDO] will need to be defined as indicative information by flagship science leaders

[^44]: Source: RTB Full proposal
<table>
<thead>
<tr>
<th>SLOs</th>
<th>IDOs</th>
<th>Sub IDOs</th>
<th>FPs contribution</th>
<th>Indicators proposed</th>
<th>Annual targets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved Natural Resources Systems and Ecosystems Services (SLO3)</td>
<td>3.2</td>
<td>3.2.2</td>
<td>x</td>
<td># of farmers in RTB farming systems who adopted sustainable management practices</td>
<td>0.5 Mo, 1.5 Mo</td>
</tr>
<tr>
<td></td>
<td>3.2.3</td>
<td>x</td>
<td>% of newly developed RTB breeding populations with enhanced resilience to climatic shocks available for testing in FP2</td>
<td>2, 10, 20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.3</td>
<td>3.3.1</td>
<td>x</td>
<td># of National and regional plant protection agencies with strategies for containment and management of pests and diseases developed using PRA and Climate Change scenarios</td>
<td>4, 10, 30</td>
</tr>
<tr>
<td>Climate change (CC)</td>
<td>A.1</td>
<td>A.1.4</td>
<td>x</td>
<td>% of RTB-developed technologies and practices assessed in terms of adaptation to future climates</td>
<td>10, 30, 60</td>
</tr>
<tr>
<td>Gender and youth (CC)</td>
<td>B.1</td>
<td>B.1.1</td>
<td>x x x</td>
<td>Increase (%) of female and young beneficiaries who perceive to have better control over assets and resources</td>
<td>5, 15, 35</td>
</tr>
<tr>
<td></td>
<td>B.1.3</td>
<td></td>
<td></td>
<td># of partner organizations with more gender-responsive planning and implementation processes</td>
<td>10, 25, 55</td>
</tr>
<tr>
<td></td>
<td>B.1.3</td>
<td></td>
<td></td>
<td># of collaborative arrangements with public sector and civil society organizations supporting gender transformation</td>
<td>1, 3, 5</td>
</tr>
<tr>
<td>Policies and Institutions (CC)</td>
<td>C.1</td>
<td>C.1.1</td>
<td></td>
<td># of policies, regulatory frameworks or programs led by government agencies, NGOs, and/or private sector in relevant topics (e.g. RTB seed systems, quarantine and protocols for safe germplasm movements, agriculture for nutrition initiatives, standards for processed RTB-based food) that have included RTB research results in their design</td>
<td>15, 35, 66</td>
</tr>
<tr>
<td></td>
<td>C.1.3</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>D.1 National partners and institutional capacity of</td>
<td>D.1.1</td>
<td>x</td>
<td>x</td>
<td># multi-stakeholder partnerships and scaling models under implementation</td>
<td>1, 3, 5</td>
</tr>
<tr>
<td>SLOs</td>
<td>IDOs</td>
<td>Sub IDOs</td>
<td>FPs contribution</td>
<td>Indicators proposed</td>
<td>Annual targets&lt;sup&gt;a3&lt;/sup&gt;</td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td>----------</td>
<td>------------------</td>
<td>---------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Capacity development (CC)</td>
<td>beneficiaries enabled</td>
<td>partner research organizations</td>
<td></td>
<td># short and long term trainings and trainees (disaggregated by topic and sex)</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 2 3 4 5</td>
<td></td>
<td>1 2 3 4 5 6&lt;sup&gt;a4&lt;/sup&gt;</td>
</tr>
<tr>
<td>D.1.2 Enhanced individual capacity in partner research organizations through training and exchange</td>
<td>x x x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D.1.4 Increased capacity for innovation in partner development organizations and in poor and vulnerable communities</td>
<td>x x x</td>
<td></td>
<td># number of extension services (governmental org., NGOs and private sector) that are using RTB research results for providing advice on ICM and IPDM</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td># of development-focused organizations, including women’s networks and alliances, having increased their capacity for innovation (e.g. enhanced human capital and improved collaboration network in relevant domains) to scale up fuller utilization of RTB</td>
<td>10 30 60</td>
<td></td>
</tr>
</tbody>
</table>

**Sources**

<sup>a</sup> CRP Full Proposal. Annex 5 - Results-based management strategy for RTB  
<sup>b</sup> Indicator for CRP level goals. See RTB Full proposal, section: 1.0.2 GOALS, OBJECTIVES, TARGETS  
<sup>c</sup> CRP Full Proposal. Table FP1.4. Overview of target traits for breeding of RTB crops  
<sup>d</sup> Indicator for 2022 Outcomes. See RTB PIM Table B  

**Note**

Indicators related to adoption rates will be calculated based on regular adoption studies realized by RTB, ISPC and other partner organizations. Targets and actual value will be presented every 3 years.

Indicators related with changes in skills and practices at the next-user level (e.g. NARS, government agencies, NGOs, private sector organizations) will be monitored and reported every year when the information will be provided directly by scientists and projects staff and every 2 years when data collection will be based on surveys.
## WHEAT FP1: Enhancing wheat’s R4D strategy for impact.

<table>
<thead>
<tr>
<th>Milestone Description for 2017(^{45})</th>
<th>Means of Verifying(^2)</th>
<th>For which 2022 outcomes(^1)</th>
<th>Budget 2017</th>
<th>6-year W1-2 ($ million) / total (%)(^46)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Ex-ante impact assessments identify potential opportunities, threats and game changes for WHEAT to support outcomes 1.1, 1.2, 1.3</td>
<td>Supporting publications: Reports, policy briefs, dissemination documentation</td>
<td>Last mile provider (extension partners, farmer organization, community-based organizations, private sector) increased access and promotion of technologies to farmers</td>
<td>$337,269</td>
<td>2.29 / 4.41 (52%)</td>
</tr>
<tr>
<td>1.2 Adoption and impact studies on technologies—rolling plan based on progress of technologies along the theory of change</td>
<td>Reports, policy briefs, dissemination documentation</td>
<td>National and regional policy makers improved policy-making and increased investment based on evidence</td>
<td>$337,269</td>
<td>2.29 / 4.41 (52%)</td>
</tr>
<tr>
<td>1.3 Gender / social inclusion lenses will be applied to 2 to 4 WHEAT innovation pipelines and assessments</td>
<td>Reports, global recognized women empowerment indicators, case studies</td>
<td>Farmers have greater awareness and access to, and increased adoption and adaptation of improved technologies</td>
<td>$604,714</td>
<td>4.11 / 7.91 (52%)</td>
</tr>
<tr>
<td>1.4 Preparation and roll-out of rapid value chain assessments with proper gender lens conducted to identify opportunities and bottlenecks in WHEAT</td>
<td>Perform, review annual portfolio analysis Supporting publications (foresight; ex ante; impact pathways; value chains) publicized</td>
<td>Farmers have greater awareness and access to, and increased adoption and adaptation of improved technologies</td>
<td>$604,714</td>
<td>4.11 / 7.91 (52%)</td>
</tr>
<tr>
<td>Total:</td>
<td>$1,883,967</td>
<td>Total:</td>
<td>$1,883,967</td>
<td>12.81 / 24.51 (52%)</td>
</tr>
</tbody>
</table>

\(^{45}\) From WHEAT Full Proposal Table D  
\(^{46}\) From WHEAT Full Proposal Table B
WHEAT FP2: Novel diversity and tools for improving genetic gains and breeding efficiency.

<table>
<thead>
<tr>
<th>Milestone Description for 2017(^47)</th>
<th>Means of Verifying(^1)</th>
<th>For which 2022 outcomes(^2)</th>
<th>Budget 2017</th>
<th>6-year W1-2 ($ million)/total (%)(^48)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased use of open-access databases to store and share WHEAT data.</td>
<td>Database usage/user monitoring (e.g. platforms available/used, open access databases, reports)</td>
<td>Crop researchers worldwide increased use of novel germplasm and tools for validation, refinement and development of products</td>
<td>$532,886</td>
<td>3.62 / 10.35 (35%)</td>
</tr>
<tr>
<td>New alleles for heat and drought, other climate change-related traits identified, validation work initiated, and incorporated into the breeding pipeline</td>
<td>Reports. Number of source germplasm available for use in breeding for each trait.</td>
<td>Crop researchers worldwide and across disciplines access more novel germplasm and tools</td>
<td>$1,065,772</td>
<td>7.24 / 20.71 (35%)</td>
</tr>
<tr>
<td>Greater number of experimental, pre-bred germplasm lines, incorporating enhanced drought, heat and yellow rust tolerance or resistance, available for evaluation and use by partners.</td>
<td>Number of pre-bred materials grown by partners, and number of partners participating and returning data about performance of the materials.</td>
<td>Breeders develop improved varieties more efficiently through greater access and use of documented germplasm and tools</td>
<td>$530,602</td>
<td>3.61 / 10.31 (35%)</td>
</tr>
<tr>
<td>Improved precision of GS models using high throughput phenotyping and/or environmental data</td>
<td>GS modeling outputs matched to phenotypic data</td>
<td>Crop researchers worldwide increased use of novel germplasm and tools for validation, refinement and development of products</td>
<td>$532,886</td>
<td>3.62 / 10.33 (35%)</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td><strong>Total:</strong></td>
<td><strong>$2,662,146</strong></td>
<td><strong>Total:</strong> 18.10 / 51.53 (35%)</td>
</tr>
</tbody>
</table>

\(^{47}\) From WHEAT Full Proposal Table D  
\(^{48}\) From WHEAT Full Proposal Table B
WHEAT FP3: Better varieties reach farmers faster.

<table>
<thead>
<tr>
<th>Milestone Description for 2017(^{49})</th>
<th>Means of Verifying(^1)</th>
<th>For which 2022 outcomes(^1)</th>
<th>Budget 2017</th>
<th>6-year W1-2 / total (%)(^{50})</th>
</tr>
</thead>
<tbody>
<tr>
<td>No 2017 milestone, but 2018 is:</td>
<td>Policy change tracking</td>
<td>National regulators of crop variety release improved enabling environment to speeding-up release of improved varieties (merge with 3.5 National partners increased improved variety release)</td>
<td>$1,053,413</td>
<td>7.16 / 16.6 (43%)</td>
</tr>
<tr>
<td>National regulators of variety release and seed supply provide enabling environment to speed up release of improved varieties and farmers’ access to quality seed, in 2-3 target countries</td>
<td>3.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No 2017 or 2018 milestone, but 2019 is:</td>
<td>Release and adoption data, via national focal point network, documented in wheatatlas.org</td>
<td>Non-and –subsistence farmers adopted improved varieties</td>
<td>$702,275</td>
<td>4.77 / 11.1 (43%)</td>
</tr>
<tr>
<td>Greater farmer adoption of released varieties (based on CGIAR research) in specific WHEAT target countries, compared to 1994-2014 average</td>
<td>3.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No 2017 milestone, but 2018 is:</td>
<td>Effect of applying genomic tools to improve CC-relevant traits / Rate at which high-quality phenotypic data, associated germplasm with heat, drought tolerance available for wheat breeders globally</td>
<td>Partner breeding teams improved breeding processes by adopting new technologies, methodologies, genetic resources</td>
<td>$1,755,688</td>
<td>11.94 / 27.77 (43%)</td>
</tr>
<tr>
<td>Improved knowledge of genetic basis of climate change adaptation on global scale thru combination of GS, platforms, unified databases</td>
<td>3.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initiate Global Pests &amp; Diseases Observatory with user inputs, to monitor, assess races/biotypes of key diseases and pests</td>
<td>Number of cooperators (data contributors) and users</td>
<td>Partner breeding teams increased multidisciplinary and multi-institutional collaboration (merge with: Partner breeding teams improved breeding processes by adopting new technologies, methodologies, genetic resources)</td>
<td>$702,275</td>
<td>4.77 / 11.1 (43%)</td>
</tr>
<tr>
<td>3.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No 2017 milestone, but 2018 is:</td>
<td>With A4NH: Verify if consumption of wheat varieties with enhanced nutritional and healthy components reduces malnutrition rates, cardiovascular diseases, type 2 diabetes, cancer in CGIAR target geographies</td>
<td>Farmer organizations increased access and promotion of adoption of improved varieties to farmers (gender and other social identities as customer attributes in relation to seed diffusion interventions, including varietal promotion and replacement)</td>
<td>$1,053,413</td>
<td>7.16 / 16.66 (43%)</td>
</tr>
<tr>
<td>Develop wheat with enhanced healthy properties: reduce chronic diseases risk (incl high content of dietary fiber to address obesity)</td>
<td>3.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All molecular markers linked to traits of agronomic importance converted onto SNP-based platforms. SNP-based low and high density genotyping hubs established</td>
<td>Effects of markers and genes linked to target traits in diverse genetic backgrounds; rates of genetic gain by incorporating and combining new alleles (genetic studies) / Change in cultivar replacement rates</td>
<td>Partner breeding teams improved exchange and utilization of germplasm and data</td>
<td>$702,275</td>
<td>4.77 / 11.1 (43%)</td>
</tr>
<tr>
<td>New options, approaches piloted to fast track release of varieties, accelerated seed multiplication and dissemination</td>
<td>Change in sustainable farmer access to improved seeds; farmer uptake of seeds (vs own); Number of farmers with access to quality seeds / change in degree of commercialisation of seed sector (public, private) / change in scaling-up of new technologies and practices through Agricultural Innovation Platforms, innovation hubs</td>
<td>Extension partners (universities, national /state / provincial governments) increased access and promotion of adoption of improved varieties to farmers, and increased investment in emerging private sector circumstances (merge with: 3.8 Farmer organizations increased access and promotion of adoption of improved varieties to farmers)</td>
<td>$1,053,413</td>
<td>7.16 / 16.66 (43%)</td>
</tr>
<tr>
<td>3.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total: $7,022,753</td>
<td>Total: 47.77 / 43%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^{49}\) From WHEAT Full Proposal Table D

\(^{50}\) From WHEAT Full Proposal Table B

CGIAR System Organization
## Milestone Description for 2017\(^1\)

### 4.1
Multi-criteria assessments taking into account environmental and social acceptability aspects, based on standardized protocols for multi-criteria ‘step’ assessments of advanced crop management packages (not individual technologies)

<table>
<thead>
<tr>
<th>Means of Verifying(^2)</th>
<th>For which 2022 outcomes(^3)</th>
<th>Budget 2017</th>
<th>6-year W1-2 ($ million) / total (%)(^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in: Food sufficiency &amp; security; - Income &amp; Assets; - Investment &amp; ROI of (system) technology</td>
<td>4.7 Actors in SI increased participation in feedback loops via monitoring, evaluation and sharing of lessons learned &amp; 4.8 Actors in SI increased consideration and integration of gender and social inclusion into policies, processes and practices</td>
<td>$250,907</td>
<td>1.71 / 15.17 (11%)</td>
</tr>
</tbody>
</table>

### 4.2
Build skills necessary to monitor soil, crop parameters (to evaluate crop management practices)

| CRP Commissioned External Evaluation; farmer organizations & innovation platforms: Change in degree of linkages to (private, public sector) input suppliers & output buyers | 4.6 Private sector (and public sector) increased provision of services to smallholder farmers to increased their ability to adopt SI practices and products & 4.4 NARS increased use of participatory approach in system research, enhanced capacity and knowledge to create awareness and develop improved technologies | $250,512 | 1.70 / 15.15 (11%) |

### 4.3
Water-saving benefits of farmers using most water-efficient cultivars and optimum agronomy and irrigation systems validated for 2 WHEAT target regions

| % change in nitrate losses, P losses % change in herbicide/pesticide use per unit of production % change from baseline for fertilizer N consumption, soil C indices, erosion indices, soil biological properties SDSN 15: NUE in food systems (FAO, IFA as lead monitoring) SDSN 16: Crop water productivity (tons of harvested product per unit irrigation water, FAO lead monitor | 4.9 Smallholder farmers increased their capacity to adopt and adapt SI practices and products (associated with crosscutting sub-IDO) & 4.6 Private sector (and public sector) increased provision of services to smallholder farmers to increased their ability to adopt SI practices and products & 4.3 Local and regional actors (NGOs, farmer groups, extension agents, private sector) increased promotion of SI practices and products | $250,907 | 1.71 / 15.17 (11%) |

Increase resource use efficiencies (irrigation water, N, P) while maintaining high, stable yields: NW Mexico, the Indo-Gangetic Plains

| Change in nutrient, water & labor use | 4.2 Donors, policy-makers (local, regional and national), advocacy NGOs and private sector increased investment and improved enabling environment for adoption of SI practices and products & 4.3 Local and regional actors (NGOs, farmer groups, extension agents, private sector) increased promotion of SI practices and products & 4.6 Private sector (and public sector) increased provision of services to smallholder farmers increased their ability to adopt SI practices and products | $250,907 | 1.71 / 15.17 (11%) |

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\(^1\) From WHEAT Full Proposal Table D

\(^2\) From WHEAT Full Proposal Table B

CGIAR System Organization
<table>
<thead>
<tr>
<th>4.4</th>
<th>Increased adoption of combinations of SI strategies, technologies in specific target geographies compared to 2016</th>
<th>CRP Commissioned External Evaluation, project/donor-driven impact studies; national partner self-assessments</th>
<th>4.7 Actors in SI increased participation in feedback loops via monitoring, evaluation and sharing of lessons learned &amp; 4.8 Actors in SI increased consideration and integration of gender and social inclusion into policies, processes and practices &amp; 4.10 Smallholder farmers adopted and adapted SI practices and products</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.5</td>
<td>Better understand smallholder farming systems diversity and trajectories (which drive adoption) and feedback between farming systems and their operating landscapes</td>
<td>Farm/System scale: System health (nutrient cycling, biodiversity, biomass) Landscape scale: Land-use change; Soil loss/ degradation; Soil health (AFSIS); - Net productivity (vegetation, biomass); Ecosystem services (biodiversity, water); Documentation review, Survey of private sector</td>
<td>4.2Donors, policy-makers (local, regional and national), advocacy NGOs and private sector increased investment and improved enabling environment for adoption of SI practices and products &amp; 4.3 Local and regional actors (NGOs, farmer groups, extension agents, private sector) increased promotion of SI practices and products &amp; 4.6 Private sector (and public sector) increased provision of services to smallholder farmers to increased their ability to adopt SI practices and products</td>
</tr>
<tr>
<td>4.6</td>
<td>Private sector (and public sector) increased provision of services to smallholder farmers to increased their ability to adopt SI practices and products</td>
<td>CRP Commissioned External Evaluation</td>
<td>5.12 / 45.49 (11%)</td>
</tr>
<tr>
<td>4.7</td>
<td>CRP Commissioned External Evaluation</td>
<td>4.7 Actors in SI increased participation in feedback loops via monitoring, evaluation and sharing of lessons learned &amp; 4.8 Actors in SI increased consideration and integration of gender and social inclusion into policies, processes and practices &amp; 4.10 Smallholder farmers adopted and adapted SI practices and products</td>
<td>5.12 / 45.49 (11%)</td>
</tr>
<tr>
<td>4.8</td>
<td>Actors in SI increased consideration and integration of gender and social inclusion into policies, processes and practices &amp; 4.10 Smallholder farmers adopted and adapted SI practices and products</td>
<td>4.7 Actors in SI increased participation in feedback loops via monitoring, evaluation and sharing of lessons learned &amp; 4.8 Actors in SI increased consideration and integration of gender and social inclusion into policies, processes and practices &amp; 4.10 Smallholder farmers adopted and adapted SI practices and products</td>
<td>5.12 / 45.49 (11%)</td>
</tr>
</tbody>
</table>

| Total: $1,504,653 | Total: $752,327 | 5.12 / 45.49 (11%) | 5.12 / 45.49 (11%) |
Table 2: WHEAT AFS -FPs, SLOs, IDOs and sub-IDOs with proposed indicators

(*) WHEAT-FPs and Sub-IDOs listed in black are extracted from the WHEAT PIM Table C (Full proposal)

(**) Targets for 2017 are in alignment with the WHEAT II PIM tables, in terms of contributions to the CGIAR SRF targets (2022) of the WHEAT AFS Phase-II Full Proposal

<table>
<thead>
<tr>
<th>WHEAT FP (*)</th>
<th>SLO</th>
<th>IDO</th>
<th>Sub-IDO (*)</th>
<th>Proposed CRP-level indicators</th>
<th>Targets for 2017 (**)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FP1</td>
<td>Reduced Poverty (SLO)</td>
<td>1.1 Increased resilience of the poor to climate change and other shocks</td>
<td>1.1.2 Reduced production risk</td>
<td>Adoption rate of WHEAT technologies (varieties/management practices) that potentially reduce production risks</td>
<td>At least 0.9 million farmers and others adopt new WHEAT technologies (varieties/management practices) that potentially reduce production risks</td>
</tr>
<tr>
<td>FP3</td>
<td>1.3 Increased income and employment</td>
<td>1.3.3 Increased value capture by producers</td>
<td>Farmers’ income, gender disaggregated where possible</td>
<td>At least 0.6 million farmers increase their income by 5%, of which 50% are female</td>
<td></td>
</tr>
<tr>
<td>FP4</td>
<td>1.4 Increased productivity</td>
<td>1.4.1 Reduced pre- and post-harvest losses, including those caused by climate change</td>
<td>Adoption rate of WHEAT technologies (varieties/management practices) that potentially reduce losses</td>
<td>At least 0.1 million farmers and others adopt new WHEAT technologies (varieties/management practices) that potentially reduce losses</td>
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<tr>
<td></td>
<td>1.4.2 Closed yield gaps</td>
<td>Adoption rate of WHEAT improved crop management practices</td>
<td>At least 0.3 million farmers and others adopt new WHEAT improved crop management practices</td>
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<td></td>
<td>1.4.3 Enhanced genetic gain</td>
<td>Wheat genetic gain, Number of released wheat varieties with improved abiotic and biotic stress resilience, Adoption rate of WHEAT improved varieties with abiotic and biotic stress resilience</td>
<td>1% increase in wheat genetic gain, At least 60 new WHEAT-derived varieties released by NARS globally</td>
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</tr>
<tr>
<td>FP1</td>
<td>FP2</td>
<td>FP3</td>
<td>1.4 Improved Food and Nutrition Security and health (SLO2)</td>
<td>1.4.4 Increased conservation and use of genetic resources</td>
<td>Number of legally and physically available accessions in the CIMMYT, ICARDA wheat genebanks</td>
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</tr>
<tr>
<td>FP1</td>
<td>FP2</td>
<td>FP4</td>
<td>Improved natural resources and agro-ecosystem services (SLO3)</td>
<td>1.4.2 Closed yield gaps through improved agronomic and animal husbandry practices</td>
<td>Adoption rate of WHEAT improved crop management practices</td>
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<tr>
<td></td>
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<td></td>
<td>3.2 Enhanced benefits from ecosystem goods and services</td>
<td>1.4.4 Increased conservation and use of genetic resources</td>
<td>Number of legally and physically available accessions in the CIMMYT, ICARDA wheat genebanks</td>
</tr>
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<td></td>
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<td></td>
<td>3.2.2 Agricultural systems diversified and intensified in ways that protect soils and water</td>
<td>Adoption rate of WHEAT improved varieties with zinc enriched grains (zinc bio-fortified) in South Asia</td>
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<td></td>
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<td></td>
<td>3.2.3 Enrichment of plant and animal biodiversity for multiple goods and services</td>
<td>Adoption rate of WHEAT technologies (varieties/management practices) that diversify and intensify WHEAT AFS and potentially increase input use efficiency</td>
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<td></td>
<td></td>
<td>Adoption rate of WHEAT technologies (varieties/management practices) that diversify and intensify WHEAT AFS and potentially reduce GHG emissions</td>
<td></td>
</tr>
<tr>
<td>FP4</td>
<td>Climate Change</td>
<td>A.1.4 Enhanced capacity to deal with climatic risks and extremes</td>
<td>Adoption rate of WHEAT technologies (varieties/management practices) that enhance capacity to deal with climatic risks and extremes</td>
<td>At least 0.9 million farmers and others adopt new WHEAT technologies (varieties/management practices) that enhance capacity to deal with climatic risks and extremes</td>
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</tr>
<tr>
<td>FP1</td>
<td>Gender &amp; Youth</td>
<td>B.1.3 Improved capacity of women and young people to participate in decision-making</td>
<td>Women farmer empowerment index (WEIA)</td>
<td>At least 0.12 million women increase their WEIA by 5%</td>
<td></td>
</tr>
<tr>
<td>FP1, 3, 4</td>
<td>Policies &amp; Instit.</td>
<td>C.1.1 Increased capacity of beneficiaries to adopt research outputs</td>
<td>Adoption rate of WHEAT technologies (varieties/management practices)</td>
<td>At least 1.25 million farmers and others adopt new WHEAT technologies (varieties/management practices)</td>
<td></td>
</tr>
<tr>
<td>FP2, 3</td>
<td>Capacity Dev</td>
<td>D.1.1 Enhanced institutional capacity of partner research organizations</td>
<td>Number of partners formally trained (long- and short term trainings)</td>
<td>140 partners formally trained (long- and short term trainings)</td>
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</tr>
</tbody>
</table>
## WLE (Water, Land and Ecosystems)

### WLE FP1: Restoring Degraded Landscapes (RDL)

<table>
<thead>
<tr>
<th>CoA¹</th>
<th>Milestone Description for 2017</th>
<th>Means of Verifying</th>
<th>For which 2022 outcomes</th>
<th>Budget 2017²</th>
<th>6-year W1-2 / total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>1. Analysis of factors affecting success and failure of land restoration initiatives and recommendations for new initiatives completed.</td>
<td>Draft synthesis report</td>
<td>Outcome 1.1: Governments, agencies, and local stakeholders invest in research based strategies and programs in 3 countries targeting adoption of restorative and preventative practices that enhance ecosystem services</td>
<td>W1-2: $184,000</td>
<td>W1-2 $5,624,472 (17%)</td>
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<td></td>
<td>W3/Bilateral: $373,730</td>
<td>W3/Bilateral $27,460,658</td>
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<td></td>
<td></td>
<td>Total: $557,810</td>
<td>Total $33,085,130</td>
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<tr>
<td></td>
<td>2. Work planning with governments, agencies and local stakeholders active in land restoration in three countries carried out.</td>
<td>Agreed work plan</td>
<td></td>
<td>W1-2: $593,000</td>
<td>W1-2 $5,624,472 (17%)</td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td>W3/Bilateral: $917,000</td>
<td>W3/Bilateral $27,460,658</td>
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<td></td>
<td></td>
<td>Total: $1,510,000</td>
<td>Total $33,085,130</td>
</tr>
<tr>
<td>1.2</td>
<td>1. Methodological guide on measuring soil carbon for carbon trading identified, and guide content agreed upon in three focal countries.</td>
<td>Draft methodological guide completed</td>
<td>Outcome 1.2: Climate financing, national strategies and programs invest in research-based practices to build soil fertility and soil carbon in three countries, providing food security, adaptation and mitigation benefits</td>
<td>W1-2: $634,000</td>
<td>W1-2 $5,624,472 (17%)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>W3/Bilateral: $888,000</td>
<td>W3/Bilateral $27,460,658</td>
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<td></td>
<td></td>
<td>Total: $1,522,000</td>
<td>Total $33,085,130</td>
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<tr>
<td></td>
<td>2. Review of current and promising new predictive models to simulate Soil Organic Carbon-dynamics completed.</td>
<td>Synthesis report written and results presented at the 2nd Agriculture and Climate Change Conference (Spain)</td>
<td></td>
<td>W1-2: $226,000</td>
<td>W1-2 $2,812,236/ (17%)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>W3/Bilateral: $356,000</td>
<td>W3/Bilateral $13,730,330</td>
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<td></td>
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<td></td>
<td></td>
<td>Total: $581,000</td>
<td>Total $16,542,566</td>
</tr>
<tr>
<td>1.3</td>
<td>1. One national expert workshop on monitoring land restoration and avoiding land degradation conducted in each of the six focus countries.</td>
<td>Synthesis report of country workshops written including proposed monitoring framework</td>
<td>Outcome 1.3: Capacity of national partners enhanced leading to national, district, and regional agencies in 6 countries adopting recommended monitoring and verification frameworks</td>
<td>W1-2: $205,000</td>
<td>W1-2 $2,812,236/ (17%)</td>
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<td></td>
<td>W3/Bilateral: $568,000</td>
<td>W3/Bilateral $13,730,330</td>
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<td></td>
<td>Total: $773,000</td>
<td>Total $16,542,566</td>
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<tr>
<td></td>
<td>2. Review of key land degradation risks completed and respective risk maps produced</td>
<td>Publication on future land degradation risks including feedback from partners</td>
<td></td>
<td>W1-2: $205,000</td>
<td>W1-2 $2,812,236/ (17%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>W3/Bilateral: $568,000</td>
<td>W3/Bilateral $13,730,330</td>
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<td></td>
<td>Total: $773,000</td>
<td>Total $16,542,566</td>
</tr>
</tbody>
</table>

¹ CoA denotes a Cluster of Activities under a Flagship Project

² The W3/bilateral budget for 2017 is based on current estimates. Budgets will be developed in more detail as part of the 2017 planning process. An updated budget will be included in the 2017 POWB.
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</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>1. Phase 1 business models refined and implemented with public/private sector involvement in 6 countries</td>
<td>Funded development proposals/policy briefs/press articles indicating LWS designs and recommendations</td>
<td>Outcome 2.1: Evidence of LWS solutions and investment options informing policy, practice, and investments into smallholder ALWM, in 4 countries</td>
<td>W1-2: $688,000</td>
<td>W1-2 $5,046,112 (17%)</td>
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<tr>
<td></td>
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<td>Policy brief [3] indicating the use of ALWM recommendations at scale</td>
<td></td>
<td>W3/Bilateral: $1,609,000</td>
<td>W3/Bilateral $24,636,900</td>
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<tr>
<td></td>
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<td></td>
<td>Total: $2,293,000</td>
<td></td>
<td>Total $29,683,012</td>
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<td>2. Phase 1 recommendations on ALWM interventions evident in policy recommendations in Ethiopia, Ghana and India.</td>
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<tr>
<td>22</td>
<td>1. Accelerate sustainable intensification by identifying key target points for new opportunities to scale-up and out field/farm interventions in irrigation systems</td>
<td>Synthesis document for 3 countries</td>
<td>Outcome 2.2 Adoption of sustainability considerations and management improvements into ALWM investments and revitalization, new-build investments for small, medium and large irrigation</td>
<td>W1-2: $153,000</td>
<td>W1-2 $7,569,168 (17%)</td>
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<td></td>
<td>W3/Bilateral: $357,000</td>
<td>W3/Bilateral $36,955,351</td>
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<td></td>
<td>Total: $510,000</td>
<td></td>
<td>Total $44,524,519</td>
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<td></td>
<td>2. Improved baseline/benchmark indicator systems that enhance irrigation performance, gender equity and ecosystem services in 2 African irrigation investments efforts with IFAs and/or national public sector investment partners</td>
<td>Funded development proposals/policy briefs/press indicating LSIS designs and recommendations</td>
<td></td>
<td>W1-2: $153,000</td>
<td></td>
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<td></td>
<td>W3/Bilateral: $357,000</td>
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<td>Total: $510,000</td>
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<td></td>
<td>3. Identify how problematic LSIS in 3 countries (India, Ethiopia, Egypt) can be improved by new business models and partnerships and supporting capacity building needs</td>
<td>Proceedings of multi-stakeholder workshops in 3 countries outlining key intervention strategies for sustainable intensification of LSIS</td>
<td></td>
<td>W1-2: $153,000</td>
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<td>W3/Bilateral: $357,000</td>
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<td>Total: $510,000</td>
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<th>6-year W1-2 / total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>15 rapidly growing cities have* implemented in-depth analysis on their food value chains and farming system for capacity development and policy advice. *Led by city agencies in charge of agriculture or food</td>
<td>City reports, factsheets, Policy briefs, and Policy narratives</td>
<td>Outcome 3.1: Increased capacity and evidence for male and female stakeholders and policy makers to implement urban and peri-urban agriculture (UPA) related policies and farming system innovations</td>
<td>W1-2: $132,000</td>
<td>W1-2 $2,085,733 (17%)</td>
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<td></td>
<td></td>
<td>W3/Bilateral: $416,000</td>
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<td>Total: $548,000</td>
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<td></td>
<td></td>
<td>W3/Bilateral: $10,183,285</td>
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<td></td>
<td>Total $12,269,018</td>
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<tr>
<td>3.2</td>
<td>10 rapidly growing cities have adopted a monitoring system for UPA related innovations and development of food related policies and actions.</td>
<td>City strategic plans and monitoring reports</td>
<td></td>
<td>W1-2: $132,000</td>
<td>W1-2 $2,762,561 (17%)</td>
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<td>W3/Bilateral: $415,000</td>
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<td>Total: $547,000</td>
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<td></td>
<td>W3/Bilateral: $13,487,796</td>
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<td></td>
<td>Total $16,250,357</td>
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<tr>
<td>3.3</td>
<td>Field trials for waste-based soil rehabilitation established for major plantation crops in Sri Lanka targeting recommendations for private sector investments on e.g. 180,000 ha under tea.</td>
<td>Project reports and websites, scientific papers</td>
<td>Outcome 3.2: Increased business capacities in nutrient, water and energy recovery from domestic and agro-industrial waste for intensified food crop production</td>
<td>W1-2: $132,000</td>
<td>W1-2 $2,762,561 (17%)</td>
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<td></td>
<td></td>
<td>W3/Bilateral: $508,000</td>
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<td>Total: $640,000</td>
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<td>W3/Bilateral: $13,487,796</td>
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<td></td>
<td>Total $16,250,357</td>
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<td></td>
<td>Innovative financing mechanisms developed to support implementation and catalyse scaling-up of RRR business models in Kenya, Ethiopia, Uganda and Ghana</td>
<td>Publications on innovative financing mechanisms and policy briefs</td>
<td></td>
<td>W1-2: $132,000</td>
<td>W1-2 $2,762,561 (17%)</td>
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<td></td>
<td></td>
<td>W3/Bilateral: $250,000</td>
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<td>Total: $382,000</td>
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<td></td>
<td>W3/Bilateral: $13,487,796</td>
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<td></td>
<td></td>
<td>Total $16,250,357</td>
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<td></td>
<td>Business models (n=18) for resource recovery from fecal sludge promoted through the initiation of a free Massive Open Online Courses (MOOC) for entrepreneurs of both gender across Africa, Asia and Latin America.</td>
<td>MOOC Curriculum, website and subscription records</td>
<td></td>
<td>W1-2: $132,000</td>
<td>W1-2 $2,762,561 (17%)</td>
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<td>W3/Bilateral: $250,000</td>
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<td>Total: $382,000</td>
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<td></td>
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<td>W3/Bilateral: $13,487,796</td>
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<td></td>
<td></td>
<td>Total $16,250,357</td>
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<tr>
<td></td>
<td>Advisory services to ADB and World Bank in Nepal and India for adoption and replication of resource oriented solid and liquid waste management in small towns with potential to impact about 300,000 people.</td>
<td>Project implementation reports, acknowledged WLE guidance by developing banks</td>
<td>Outcome 3.3: Increased public and private investments and adoption of WLE FP3 policy advise on safe fecal matter management and environmental protection</td>
<td>W1-2: $221,000</td>
<td>W1-2 $2,762,561 (17%)</td>
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<td>W3/Bilateral: $319,000</td>
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<td>Total: $540,000</td>
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<td></td>
<td></td>
<td>W3/Bilateral: $13,487,796</td>
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<td></td>
<td>Total $16,250,357</td>
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<td></td>
<td>Guidelines developed for the Indian Ministry of Urban Development on safety handling of fecal sludge to be applied in 7,935 towns with a total population of 377 million.</td>
<td>MoUD acknowledges/ publishes guidelines</td>
<td></td>
<td>W1-2: $221,000</td>
<td>W1-2 $2,762,561 (17%)</td>
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<td></td>
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<td>W3/Bilateral: $400,000</td>
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<td>Total: $621,000</td>
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</tbody>
</table>

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WLE FP4: Managing Resource Variability, Risks and Competing Uses for Increased Resilience (VCR)

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<th>6-year W1-2 / total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1. Flood insurance theoretical and institutional framework and tools delivered. (co-developed with CCAFS)</td>
<td>Project reports, tools, documented, partnership platform</td>
<td>W1-2: $243,000  W3/Bilateral: $372,000  Total: $570,000</td>
<td>W1-2: $243,000  W3/Bilateral: $372,000  Total: $570,000</td>
<td>W1-2: $3,339,314 (17%)  W3/Bilateral: $16,303,707  Total: 19,643,021</td>
</tr>
<tr>
<td></td>
<td>2. Initial results from water variability pilot experiments in the Ganges Basin and/or SE Asia adapted to Southern Africa.</td>
<td>Project reports, tools, documented.</td>
<td>Outcome 4.1: Increased evidence for stakeholders and policy makers to implement WLE solutions that increase water supply for agricultural production, livelihoods and ecosystems, and that decrease economic and human losses from water variability extremes</td>
<td>W1-2: $81,000  W3/Bilateral: $777,000  Total: $858,000</td>
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<td></td>
<td>3. Cross-CRP modes of operation and learning are identified to support ex-ante analyses of the impacts of water variability in selected AFS areas of intervention</td>
<td>Work plan developed with RICE, FISH and MAIZE</td>
<td>W1-2: $81,000  W3/Bilateral: N/A  Total: $81,000</td>
<td>W1-2: $81,000  W3/Bilateral: $200,000  Total: $281,000</td>
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<tr>
<td></td>
<td>4. Science-policy exchange processes and learning alliances around water variability challenges and opportunities and the role of ecosystem services strengthened to increase resilience of investments in sustainable intensification</td>
<td>Blog pieces, events attended and co-developed products on water, the environment and resilience</td>
<td>W1-2: $243,000  W3/Bilateral: $100,000  Total: $343,000</td>
<td>W1-2: $243,000  W3/Bilateral: N/A  Total: N/A</td>
<td></td>
</tr>
<tr>
<td>4.1</td>
<td>1. Increased capacity for better management of portfolios of natural and built infrastructure in an era of climate change in basin agencies in West and East Africa.</td>
<td>Results of multi-criteria optimization analysis; published recommendations, reports of capacity building for decision makers and technocrats.</td>
<td>W1-2: $81,000  W3/Bilateral: $200,000  Total: $281,000</td>
<td>W1-2: $81,000  W3/Bilateral: $200,000  Total: $281,000</td>
<td>W1-2: $2,226,209 (17%)  W3/Bilateral: $10,869,138  Total: $13,095,347</td>
</tr>
<tr>
<td></td>
<td>2. Methodology for the assessment of key targets under SDG 6 [water] developed and applied with linkages to SDG2.</td>
<td>Reports, papers and policy notes on key challenges and opportunities to meeting the water and food security goals</td>
<td>Outcome 4.2: Increased public and private sector adoption of WLE policy advise on changes in water resource infrastructure planning and management, leading to enhanced ecosystem services and increased resilience</td>
<td>W1-2: $162,000  W3/Bilateral: $70,000  Total: $232,000</td>
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<td></td>
<td>3. Methodology for the assessment of risks and resilience in the upscaling of agri-food system strategies in the Eastern Gangetic Plains (India, Bangladesh and Nepal)</td>
<td>Report, blog pieces, draft journal article</td>
<td>W1-2: $81,000  W3/Bilateral: $40,000  Total: $121,000</td>
<td>W1-2: $81,000  W3/Bilateral: $40,000  Total: $121,000</td>
<td></td>
</tr>
</tbody>
</table>
### 4.3 Establishment of operational partnerships in the WLE Groundwater Solutions Initiative for Policy and Practice (GRIPP) Initiative

**GRIPP website and publications**

**Outcome 4.3:** Increased public investments into, and adoption of WLE policy advise on measures to reduce groundwater depletion and promote its sustainable use with associated increase in agricultural incomes

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
<th>%</th>
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<tbody>
<tr>
<td>W1-2</td>
<td>$81,000</td>
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<tr>
<td>W3/Bilateral</td>
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<thead>
<tr>
<th>Source</th>
<th>Amount</th>
<th>%</th>
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<tbody>
<tr>
<td>W1-2</td>
<td>$3,339,314</td>
<td>(17%)</td>
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<tr>
<td>W3/Bilateral</td>
<td>$16,303,707</td>
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<tr>
<td>Total</td>
<td>$19,643,021</td>
<td></td>
</tr>
</tbody>
</table>

1. **CoA denotes a Cluster of Activities under a Flagship Project**

2. The W3/bilateral budget for 2017 is based on current estimates. Budgets will be developed in more detail as part of the 2017 planning process. An updated budget will be included in the 2017 POWB.

### 4.4 Information on risks and opportunities associated with groundwater use applied and taken up with key Government partners in India and promoted by GRIPP partners.

**Documentation on use of WLE generated evidence on groundwater risks and opportunities**

**Outcome 4.4:** Alignment of regional energy plans and food security initiatives with available water resources, leading to reduced production risks and increased resource use efficiency

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
<th>%</th>
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<tbody>
<tr>
<td>W1-2</td>
<td>$243,000</td>
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<tr>
<td>W3/Bilateral</td>
<td>$190,000</td>
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<td>Total</td>
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<table>
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<th>%</th>
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<tbody>
<tr>
<td>W1-2</td>
<td>$2,226,209</td>
<td>(17%)</td>
</tr>
<tr>
<td>W3/Bilateral</td>
<td>$10,869,138</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$13,095,347</td>
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</tbody>
</table>

1. **ADB pilot tests WLE developed water-energy-food nexus checklist in irrigated agricultural projects**

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
<th>%</th>
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<tbody>
<tr>
<td>W1-2</td>
<td>$162,000</td>
<td></td>
</tr>
<tr>
<td>W3/Bilateral</td>
<td>$350,000</td>
<td></td>
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<tr>
<td>Total</td>
<td>$512,000</td>
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<table>
<thead>
<tr>
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<th>Amount</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>W1-2</td>
<td>$2,226,209</td>
<td>(17%)</td>
</tr>
<tr>
<td>W3/Bilateral</td>
<td>$10,869,138</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$13,095,347</td>
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</tbody>
</table>

WLE FP5 – Enhancing Sustainability across Agricultural Systems (ESA)

A reformulation of FP5 will take place through 2017 in response to donor and ISPC comments,
## WLE Table 2: SLOs, IDOs and sub-IDOs with proposed indicators

<table>
<thead>
<tr>
<th>SLO</th>
<th>IDO</th>
<th>Sub-IDO</th>
<th>Proposed draft indicators(^\text{53})</th>
<th>Flagship-Outcome(^\text{54})</th>
<th>Targets 2017</th>
<th>Targets 2022(^\text{55})</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced Poverty (SLO1)</td>
<td>Increased resilience of the poor to climate change and other shocks</td>
<td>Reduced production risk</td>
<td>Number of households which have adopted agricultural land and water management solutions in targeted Agri-Food System (AFS CRP) landscapes</td>
<td>FP2-O2.1</td>
<td>[target to be set following 2017 baseline exercise]</td>
<td>6 million households(^1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Number of regional energy plans and food security initiatives aligned to available water resources, leading to reduced production risks and increased resource use efficiency</td>
<td>FP4-4.4</td>
<td>Nexus assessment initiated in two regions — one in Africa and one in Asia</td>
<td>2 Regions</td>
</tr>
<tr>
<td>Improved Food and Nutrition Security for Health (SLO2)</td>
<td>Improved human and animal health through better agricultural practices</td>
<td>Improved water quality</td>
<td>Increased public investments and adoption (by International Financial Institutions) of WLE policy advice on fecal sludge management for ecosystem service protection</td>
<td>FP3-O3.2</td>
<td>Two of targeted five IFIs draw on WLE solutions and advice</td>
<td>5 IFI's reference WLE; 9 m households</td>
</tr>
<tr>
<td>Improved Natural Resources Systems and Ecosystems Services (SLO3)</td>
<td>Natural capital enhanced and protected, especially from climate change</td>
<td>Land, water, and forest degradation minimized and reversed</td>
<td>Number of countries where soil carbon and soil fertility integrated into national climate strategies, budgets and programmes</td>
<td>FP1-O1.2, FP4-O4.1, FP3-O3.2</td>
<td>One Country (Kenya) in 2017</td>
<td>Three countries by 2022</td>
</tr>
<tr>
<td></td>
<td></td>
<td>More productive and equitable management of natural resources</td>
<td>Number of countries in which stakeholders and policy makers implement approaches that increase water supply for agricultural production under conditions of water variability</td>
<td>FP4-O4.1</td>
<td>Initial results from pilot testing of innovative water management approaches in one country</td>
<td>3 Countries</td>
</tr>
</tbody>
</table>

\(^{53}\) The proposed indicators are pitched at the highest attributable level. Mostly, these are at research outcome level, in the relevant sub-IDO. These should, following an alignment exercise, match up to sub-IDO level indicators covered by the CG-wide Task Force on SRF targets and indicators. These indicators will be aligned to those of the Task Force once completed.

\(^{54}\) Drawn from WLE Full Proposal, noting that several WLE flagship outcomes contribute to the same sub-IDO. For this exercise, however, we have selected the outcome (indicator) that we feel best reflects the WLE investment in the sub-IDO. Note some sub-IDOs have more FP/outcomes contributing than others.

\(^{55}\) 2022 targets drawn from the PIM tables. Annualization will be reviewed as appropriate depending on the impact pathway (when change will occur) and data availability. In some cases, targets for 2017 and outer years will be set following a 2017 baselining exercise. Endnotes provide the calculations, projections and evidence of the justification for the targets.
<table>
<thead>
<tr>
<th>SLO</th>
<th>IDO</th>
<th>Sub-IDO</th>
<th>Proposed draft indicators</th>
<th>Flagship-Outcome</th>
<th>Targets 2017</th>
<th>Targets 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Level of public investment into policies that reduce groundwater depletion and promote its sustainable use with associated increase in agricultural incomes</td>
<td>FP4-04.3</td>
<td>Information on risks and opportunities of groundwater use applied by key Government partners in India via Groundwater Solutions for Policy and Practice Initiative</td>
<td>8 countries invest in USD 10m sustainable groundwater management</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Agricultural systems diversified and intensified in ways that protect soils and water</td>
<td>FP2-O2.2</td>
<td>[Target to be set following 2017 baseline exercise]</td>
<td>Three million HA with improved water efficiency by 2022</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>Increase in land area demonstrating improved water-use efficiency practices</td>
<td>FP3-O3.2</td>
<td></td>
<td>10 countries</td>
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<tr>
<td></td>
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<td></td>
<td>Countries increase nutrient use efficiency by recovering 10% of applied NPK from consumed food</td>
<td></td>
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<td></td>
<td></td>
<td>More sustainably managed agro-ecosystems</td>
<td>Increased resilience of agro-ecosystems and communities, especially those involving smallholders</td>
<td>FP1-O1.1</td>
<td>Identification of relevant research to underpin strategies in two countries</td>
<td>Three countries by 2022</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Number of countries in which governments, agencies and local stakeholders invest in research based strategies and programs targeting adoption of restorative and preventative practices against land degradation.</td>
<td>FP1-O1.1</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Number of countries where climate financing, national strategies and programs invest in research based practices to build soil fertility and soil carbon, providing food security, adaptation and mitigation benefits</td>
<td>FP3-O3.2</td>
<td>One country in 2017 adopting WLE initiated CO2 offset measures</td>
<td>Three countries by 2022; 2m ton CO2-e per year</td>
</tr>
<tr>
<td>Climate change (CC SLO)</td>
<td></td>
<td></td>
<td>Reduced net greenhouse gas emissions from agriculture, forests and other forms of land use</td>
<td>FP2-O2.1&amp;2.2</td>
<td></td>
<td>2 MDBs</td>
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<tr>
<td></td>
<td>Mitigation and adaptation achieved</td>
<td>Enhanced capacity to deal with climate risks and extremes</td>
<td>Number of countries with demonstrable investment by donors, MDBs and Governments in landscape-based solutions to manage increased water variability</td>
<td>FP2-O2.1&amp;2.2</td>
<td></td>
<td>Three target countries by 2022</td>
</tr>
<tr>
<td>Gender and Youth (CC SLO)</td>
<td></td>
<td></td>
<td>Gender and equitable control of productive assets and resources</td>
<td>FP4-04.1 and 4.2</td>
<td></td>
<td>2 MDBs</td>
</tr>
<tr>
<td></td>
<td>Equity and inclusion achieved</td>
<td>Gender and equitable control of productive assets and resources</td>
<td>Number of public and private investors implementing irrigation system performance tools that remove gender barriers to accessing productive resources</td>
<td>FP1-O1.1</td>
<td>[target to be set following 2017 baseline exercise]</td>
<td>Target to be determined</td>
</tr>
<tr>
<td>Policies and Institutions (CC SLO)</td>
<td></td>
<td></td>
<td>Conducive agricultural policy environment</td>
<td>FP1-O1.1</td>
<td></td>
<td>8 cities in 5 countries</td>
</tr>
<tr>
<td></td>
<td>Enabling environment improved</td>
<td>Conducive agricultural policy environment</td>
<td>Number of cities with increased capacity and evidence for stakeholders and policy makers to implement urban and peri-urban agriculture related policies and farming system innovations</td>
<td>FP3-O3.1</td>
<td></td>
<td>25 additional towns and cities have implemented urban food policies or strategies by 2022</td>
</tr>
<tr>
<td>SLO</td>
<td>IDO</td>
<td>Sub-IDO</td>
<td>Proposed draft indicators</td>
<td>Flagship-Outcome</td>
<td>Targets 2017</td>
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<tr>
<td>Capacity Development (CC SLO)</td>
<td>National partners and beneficiaries enabled</td>
<td>Enhanced institutional capacity in partner research organizations</td>
<td>Number of countries where the capacity of national partners is enhanced leading to national, district, and regional agencies adopting recommended monitoring and verification frameworks for soil organic carbon</td>
<td>FP1-O1.3</td>
<td>Trainees identified and design of programmes initiated</td>
<td>100 trained professionals in 6 countries by 2022</td>
</tr>
<tr>
<td>Increased capacity for innovation in partner development organizations and in poor and vulnerable communities</td>
<td></td>
<td>Increased business capacities in nutrient, water and energy recovery from domestic and agro-industrial waste for intensified (peri)urban food production</td>
<td>FP3-O3.2</td>
<td>One business school in 2017 Table 1 One public (global) Massive Online Open Course (MOOC)</td>
<td>6 major business schools have courses including renewable resource recovery</td>
<td></td>
</tr>
<tr>
<td>Increased capacity of partner organizations, as evidenced by rate of investments in agricultural research</td>
<td></td>
<td>Number of professionals trained in land restoration methods, risk assessment, and monitoring and evaluation techniques</td>
<td>FP1-O1.3</td>
<td>Design of capacity building programmes initiated</td>
<td>6 countries by 2022</td>
<td></td>
</tr>
</tbody>
</table>

1 For details of regional/country modelling see: http://awm-solutions.iwmi.org/regional-mapping.aspx; http://awm-solutions.iwmi.org/country-mapping.aspx. For example, WLE research facilitated policy changes in West Bengal, India, enabling expanded farmer access to annually recharged groundwater aquifers resulting in over 140,000 new electric connections for tubewells, which improved irrigation on 250,000 ha for approximately 1.3 million water buyers (mostly smallholders) and led to greater net returns due to reduced production costs, improved water quality and higher value output. The estimated RoI for this research is $6/dollar including promotion of the uptake of recommended AWLM solutions.