INCEPTION REPORT

July 2016

Evaluation of the CGIAR Research Program on Managing and Sustaining Crop Collections (Genebanks CRP)

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Cover image: Sunny Mbeeta Abwooli, Chairwoman of the Kyamaleera Woman's Handicraft Association. 15 varieties of seeds were introduced to farmers in Hoima, north-western Uganda, each with different properties: drought resilience; disease tolerance; high iron, with support from Uganda's National Crops Resources Research Institute (NaCRRI) and CGIAR Research Program for Climate Change and Food Security (CCAFS). Farmers are now making trade-offs, planting varieties that help cope with extreme conditions.

Cover image credit: Georgina Smith/ CIAT

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List of Acronyms

CRP	CGIAR Research Program
CIAT	International Center for Tropical Agriculture
CIMMYT	International Maize and Wheat Improvement Center
CIP	International Potato Center
CO	Consortium Office (of CGIAR)
CRP	CGIAR Research Program
FAO	Food and Agriculture Organization
FC	Fund Council (of CGIAR)
GOAL	Genebank Operations and Advanced Learning (GOAL)
ICRAF	World Agro-forestry Center
IEA	Independent Evaluation Arrangement (of CGIAR)
IITA	International Institute of Tropical Agriculture
ILRI	International Livestock Research Institute
IRRI	International Rice Research Institute
ISPC	International Science Partnership Council (of CGIAR)
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
LTG	Long Term Grants
LTS	Long Term Storage
MTS	Medium Term Storage
NARS	National Agricultural Research
ORT	Online Reporting Tool
PGRFA	Plant Genetic Resources for Food and Agriculture
QMS	Quality Management System
SLOs	System Level Outcomes
SMB	System Management Board (of CGIAR – proposed)
SRF	Strategic Results Framework
TAC	Technical Assistance Committee (of CGIAR)
ToR	Terms of Reference

1. Introduction and background

1.1 Evaluation purpose and audiences

CGIAR program for Managing and Sustaining Crop Collections is a research support program, hereafter referred to as the Genebanks CRP (CGIAR Research Program). Genebanks CRP was approved for five years (2012-2016) for the management and the sustainable funding of the crop collections held in the genebanks of 11 CGIAR Centers. The CRP is a partnership between CGIAR Consortium and the Global Crop Diversity Trust (hereafter referred to as the Crop Trust) and it represents a unique institutional arrangement for CGIAR.

The primary purpose of this evaluation is to support the improvement of the efficiency, effectiveness and sustainability of the management of CGIAR's genebanks for secure conservation and ultimately enhanced use of the collections of plant genetic resources for food and agriculture (PGRFA). The evaluation is conducted at a time when the first phase of the Genebanks CRP is ending, and a proposal for a Genebanks Platform is being assessed for the second phase of activities to start in January 2017. The evaluation will provide an assessment of the CRP's performance since its beginning and provide lessons and recommendations to strengthen the operations and management of the Platform in the next phase. The evaluation will also provide lessons on CGIAR System-level issues related to genetic resources conservation and use under arrangements that, following the reform, included the CRP structure.

The principal audiences for this evaluation are the Genebanks CRP Management, the Crop Trust Board and Management, CGIAR Center genebank managers, and Managements and Boards of Centers with genebanks, the System Council, the System Management Board, and the System Management Office. The evaluation also serves other stakeholders of the Genebanks CRP, including the Food and Agriculture Organization of the United Nations (FAO), and breeders and researchers in CGIAR Centers, and in national breeding and research programs in developing and developed countries.

1.2 Purpose and structure of the Inception Report

The purpose of the Inception Report is to provide an agreed, appropriate and clear evaluation design building on the evaluation Terms of Reference (TOR)[1], and following review of priority documents and inception meetings. The Inception Report becomes a road-map for the conduct of the evaluation for guiding the evaluation team, for informing the evaluation stakeholders, and for helping to assure the evaluation quality.

The Inception Report summarizes the relevant sections of the TOR concerning background to the evaluation (Section 1.3), expands the presentation of the Genebanks CRP (Section 2) and builds on the TOR in proving details about the evaluation approach, questions and methods (Section 3). Organization and timing of the evaluation are given in Section 4.

[1] http://iea.cgiar.org/sites/default/files/ToRs_Genebanks%20Evaluation.pdf

1.3 Context of genetic resources conservation in CGIAR

The International Treaty on Plant Genetic Resources for Food and Agriculture (hereafter, the Treaty), negotiated by the FAO Commission of Genetic Resources for Food and Agriculture, came into force in 2004. It legislates for access of agriculturally-important plant genetic resources under a Multilateral System of Access and Benefit Sharing. Article 15 of the Treaty provides the legal framework under which the *ex situ* collections of plant genetic resources for food and agriculture are held by CGIAR Centers and other international institutions.

The Treaty is aimed at guaranteeing food security through the conservation, access and sustainable use of the world's PGRFA, as well as the fair and equitable benefit sharing arising from the use of these resources. Access is provided solely for conservation and use in research, breeding, and training for food and agriculture.

The Governing Body of the Treaty provides policy guidance related to the collections maintained by CGIAR. CGIAR reports periodically to the Governing Body about its genetic resources activities.

CGIAR Centers, through formal agreements with the Treaty, have put their collections under the purview of the Treaty as part of the Multilateral System. These collections comprise mainly crops that are included among the 64 Annex 1 crops of the Treaty subject to the Multilateral System. However, crops outside Annex 1 were also included in the agreements signed by the Centers.

Eleven Centers of CGIAR hold *ex situ* collections of plant genetic resources (Annex 1), totaling more than 750,000 accessions, including more than 23,000 *in vitro* accessions and 31,000 accessions held as plants or trees in the field. These collections are made up largely of farmers' landraces and local varieties (some 59%), but they include also crop wild relatives and breeding lines, and genetic stocks. Currently, 87% of the accessions have passport or characterization data accessible online.

The Crop Trust was recognized through an agreement with the Governing Body of the Treaty as an essential element of the Treaty's funding strategy regarding *ex situ* conservation. The endowment established by the Crop Trust is intended to support the conservation of the most important crop diversity in perpetuity, and is currently supporting just the Article 15 collections with long-term grants (LTG).

Prior to CGIAR reform and implementation of the CRPs, the individual genebanks were independently managed and funded by each Center. Broad coordination was provided by the Inter-Center Working Group on Genetic Resources that currently operates as the Article 15 Group of Genebank Managers. The System-wide Genetic Resources Program operated from 1994 until 2010 as a forum for collective action among CGIAR genebanks, including development of system-wide policies. The Genetic Resources Policy Committee (1994-2010) provided CGIAR community and System governance advice and recommendations on policy issues, focusing on political, legal, and ethical issues. Since the disbandment of the Committee, CGIAR System has not had an advisory body for genetic resources policy issues, as policy aspects were not included in the Genebanks CRP.

1.4 Context of CGIAR reform

The current CGIAR reform was set in motion in 2008. The first set of 15 CRPs and the Genebanks CRP were approved in 2010-2012. For the second phase (for 2017-2022) 12 CRPs and three Platforms are being proposed, among them a Genebanks Platform and platforms on Genetic Gains and Big Data. The proposed portfolio responds to the 2015 Strategy and Results Framework (SRF). In the SRF the crop collections are considered a principal comparative advantage of CGIAR and, in addition to characterization, sharing and use of the resources, CGIAR is expected to develop and support policies for the exchange and use of genetic resources. Increasing conservation and use of genetic resources is one of the Intermediate Development Outcomes at the sub-level for CRPs to achieve. It also contributes directly to Sustainable Development Goal 2.5.

2. Genebanks CRP

2.1 Program objectives and activities

CGIAR Centers hold and safeguard some of the largest, most important, most diverse, best documented and most used collections of the crops critically important to global food security. In 1994, CGIAR Centers signed agreements with FAO in which they committed themselves to holding these resources

> *"…in trust for the benefit of the international community."*

This status was based on a formal recognition of the importance of these collections and how they came to be constituted – that they had been

> *"…donated or collected on the understanding that [they] will remain freely available and that they will be conserved and used in research on behalf of the international community, in particular the developing countries."*

Article 15 of the Treaty is devoted to the collections held by CGIAR Centers (and other international institutions). The Treaty reaffirms that these collections are held "in trust."

Through Article 15 of the Treaty, the international community recognizes the importance of the *ex situ* collections of CGIAR for the Treaty, and in turn the Centers recognize the authority of the Governing Body to provide policy guidance related to their collections, subject to the provisions of the Treaty.

The Crop Trust is an independent international organization established in 2004 by FAO and CGIAR. Described as an "essential funding mechanism" of the Treaty, the Crop Trust's main mandate is building an endowment, the income from which will be used to support the conservation of crop diversity globally. The Crop Trust advocates the establishment of an efficient and sustainable global system of *ex situ* conservation of major crops, by promoting the rescue, understanding, use, and long-term conservation of valuable plant genetic resources.

2.2 CRP objectives and main activities

Origins and background of the Program

CGIAR crop collections have long been recognized as a core comparative advantage of the System as the PGRFA underpin the Center (and CRP) breeding programs, and supply breeders, researchers, and farmers throughout the world with a broad diversity of crops and their wild relatives. Historically, the conservation and maintenance costs of the crop collections fell within the remit of "core activity" of CGIAR Centers, and were almost entirely financed through unrestricted funding.

With CGIAR reform process, "unrestricted" (referred to as W1 and W2 funds) were designed to support only research programs (CRPs), which was not in line with covering the costs for regular and routine operations of genebanks. At the same time, a core element such as a genebank could also not be defined as an overhead cost. The Crop Trust's main mandate is to provide (through an endowment funding mechanism) in perpetuity financial support for the conservation, maintenance and use of international crop collections, which would resolve the financial challenge to this issue. Until the Trust endowment was completed, an alternative funding solution needed to be identified.

In 2011, CGIAR Consortium Board commissioned a Scoping Study on Genetic Resources[2] which recommended that the "Genetic Resources Units of CGIAR Centers will be financed by a two-tier allocation process from the Consortium Board, the Global Crop Diversity Trust, and other sources" to cover routine operations of the genebanks, as well as "one-time costs" for upgrading, training etc. It furthermore recommended the development of a Genetic Resources Research and Services Platform, which, among other activities, would "retain certain ongoing activities" and "make funds available for the maintenance of the genebank quality to performance standards" established by CGIAR Global Public Goods Projects 1 and 2. While the Genetic Resources Research and Services Platform was not established then, the idea of institutionalizing the management of the genebanks was taken forward through the establishment of the CRP. Consequently, CGIAR approached the Crop Trust to take the role of overseeing such a program. The Crop Trust was subsequently defined as 'Program Manager' while Bioversity International is the legal Lead Center formalized through a tripartite agreement signed by CGIAR, Bioversity (as Lead Center) and the Crop Trust (as Program Manager).

CRP Objectives and main activities

The Genebanks CRP, approved in 2012, proposed a comprehensive 5-year program for the management, as well as the secure and sustainable funding, of the collections of plant genetic resources held by 11 CGIAR Centers. The CRP was conceived as a partnership between these 11 Centers (represented by CGIAR Consortium) and the Crop Trust. This unique arrangement of the CRP distinguished itself in two main areas by being: (1) a program established to conserve and make available materials used in research or produced by research, rather than a research program *per se*; and (2) being led by the Crop Trust (not a CGIAR Center), an independent organization which also serves as a donor to CGIAR. With the establishment of the CRP, activities related to genebank

[2] See report: https://library.cgiar.org/bitstream/handle/10947/2701/CGIAR_Consortium_Board-Commissioned_Genetic_Resources_Scoping_Study.pdf?sequence=1

operations which were included in the System-wide Genetic Resources Program were absorbed into the program.

The objective of the program is to conserve the diversity of plant genetic resources in CGIAR-held collections and to make this diversity available to breeders and researchers in a manner that meets high internationally agreed genebank standards, maximizing cost efficiency, security, reliability and sustainability over the long-term, and is supportive of and consistent with the Treaty.

The specific CRP objectives and related activities are:

Objective 1: Crop and tree diversity in international collections under Article 15 (ITPGRFA) is secured in perpetuity

i. Long-term (LTS) and medium term storage (MTS): routine maintenance of cold rooms and monitoring viable stock (for seed crops); routine maintenance of cryopreserved accessions (Bioversity, CIP & CIAT), field and *in vitro* collections.
ii. Safety duplication of viable accessions at another genebank (first level) and in Svalbard Global Seed Vault (second level).
iii. Safety duplication of cryopreserved accessions (Bioversity) and/or *in vitro*/field collections (CIAT, CIP, IITA).

Objective 2: Conserved Crop and Tree Germplasm is Clean, Available and Disseminated

iv. Regeneration and characterization: growing out and characterization of accessions from LTS that have declined in viability; regular renewal of aged tissue cultures by growing out.
v. Disease testing and cleaning (at the Center germplasm health unit): testing and, in some cases, cleaning of diseases for accessions entering and/or leaving the cold rooms or growth chambers.
vi. Introduction of new accessions: new accessions are fully integrated into the collection to fill gaps in the coverage of the genepool (through, among other activities, the Crop Wild Relatives project[3] that is not part of the Genebanks CRP).
vii. Multiplication and dissemination: provision of samples of accessions as requested. Where necessary multiplying samples to ensure appropriate levels of MTS stock are maintained.

Objective 3: Use of conserved crop and tree diversity is informed and facilitated

viii. Managing information for accessions management and use: maintaining, improving and expanding datasets for management of accession and for promoting their use (through genebank management and maintenance software GRIN-Global)
ix. Genesys: uploading and updating of data in the global portal for accession-level data.

Objective 4: Crop and tree diversity is conserved within a rationalized, cost-effective and globalized system

3 http://www.cwrdiversity.org/

x. Developing partnerships and exchange of services: partnerships built and strengthened to create a strong global system of support and role-sharing.
xi. Rationalization and optimization of collections: strategies to be prioritized and implemented relating to issues raised within all operations (e.g. improving conservation procedures, structuring collections, sharing of clear roles between same-crop collections).
xii. Establishing and updating Quality and Risk Management Systems (QMS), genebank operation manuals, and staff retention plans. [including Genebank Operations and Advance Learning (GOAL) workshops organized by the Crop Trust]

All CRPs must provide regular annual financial and technical reports to the Consortium following templates designed by the Consortium Office. Being a research support program, the Genebanks CRP adopted an alternative technical reporting template for the Annual reports. At the genebank level, progress in various areas of management and conservation of crop collections is monitored through an online reporting tool (ORT) developed by the Crop Trust reporting on key performance indicators established by the Genebank CRP. Individual genebank technical and financial reports are available online at grants.croptrust.org.

In order to get systematic and comprehensive information about the Genebanks CRP operations and achievements against Program objectives, the evaluation team requested detailed information in the form of an "Achievements Matrix" provided by the Crop Trust (see Annex 2) reporting across the area of activities and objectives mentioned above.

2.3 Budget and expenditures

The unique institutional arrangement for the CRP extended also to the financial arrangement. The overall objective upon which the CRP was built was the long term (in perpetuity) funding for CGIAR genebank collections.

As the mandate of the Crop Trust is to build an endowment to fund operation costs in perpetuity for the conservation of CGIAR genebank collections (and other international collections that meet specific criteria for support), the CRP proposed a time-defined measure to cover the financial costs for the genebanks until the time the endowment was complete. Therefore, the Genebanks CRP budget included both CGIAR funds (W1&2) as well as funds from Long-Term Grants (coming from the Crop Trust endowment), bilateral funds, and Center funds.

The proposal included routine costs for genebank operations, estimates which resulted from a study commissioned by the Crop Trust and CGIAR Alliance Office (later to become CGIAR Consortium Office) in 2010[4]. The Costing Study included costs of only core, standard activities, though it also identified additional non-routine activity areas which would need to be supported as part of genebank operations (not included in the routine costs – see Table 1.1). Similar costing for the collection at the World Agroforestry Center (ICRAF) was done following the publication of Costing Study. A separate

[4] Shands et al. 2010 (see Annex 4 of report linked below):
(https://library.cgiar.org/bitstream/handle/10947/2566/fc4_funding_proposal_CGIAR_Genebanks.pdf?sequence=1)

effort was also made to cost other "additional requirements"[5] such as gap analysis and molecular characterization, identified in the Costing Study.

To a certain degree, the CRP financial reports have followed the template provided by CGIAR Consortium for reporting across CGIAR; however mapping of bilateral and other funding to the CRP has differed from year to year. In addition, financial reports from the Crop Trust are also not immediately comparable with information provided in the aggregated financial report from the Online Reporting Tool (ORT), nor with CGIAR Consolidated Financial Reports. For the purposes of the Inception Report, all financial information has been collected and will need to be further reviewed and analyzed as part of the evaluation process.

Unlike most CRPs, where W1/W2 funding makes up less than half of total funding, W1/W2 of the Genebanks CRP budget is approximately 80% of total funding, with the rest provided by the Crop Trust. In addition, the Genebanks CRP is also the only CRP where CGIAR has funded 100% of its W1 pledge, whereas other CRPs have been affected by budget cuts over the CRP timeline.

Table 1.1: CRP Program Budget and additional costs—budget request (USD million)

CRP Activity area	2012	2013	2014	2015	2016	Total
Core requirements for genebanks (except ICRAF)	15.9	16.26	16.62	16.99	17.37	83.14
Additional requirements (including ICRAF operations)[6]	4.07	4.15	4.26	4.34	4.43	21.25
Management and Program Costs	0.81	0.83	0.85	0.87	0.89	4.25
Total	**20.78**	**21.24**	**21.73**	**22.2**	**22.69**	**108.64**

Source CRP Proposal, 2010

The Crop Trust endowment contribution (LTG) to the CRP has not matured as proposed in the CRP proposal (15% proposed versus 10% actual). However, due to limited additional funding from bilateral contributions (including those made available through the Crop Trust) and from Centers, the total amount contributed via W1 and W2 has remained, largely, the same.

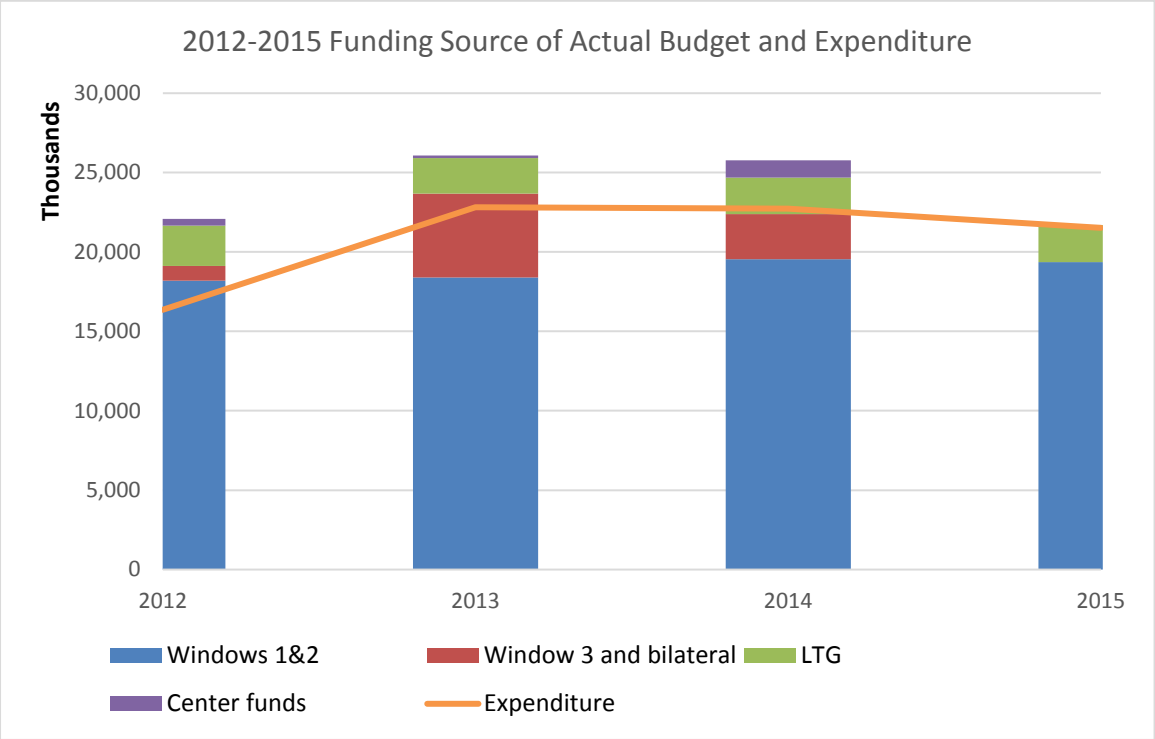
Table 1.2: Budget Received—CRP funding by source, Total Budget, and Total Expenditure (USD)

Funding Source	2012	2013	2014	2015*
Windows 1&2	18,200,000	18,400,000	19,553,000	19,357,000
Window 3		109,800	24,001	
Crop Trust (LTG)	2,522,928	2,246,535	2,291,465	2,337,289
Other bilateral	928,461	5,166,975	2,818,198	
Center funds	434,091	147,388	1,093,085	
Total Budget	**22,085,480**	**26,070,698**	**25,779,749**	**21,694,289**
Expenditure	**16,362,158**	**22,817,951**	**22,732,138**	**21,527,629**

Source: CRP financial reports 2012-2015 (2015 draft to be finalized)

[6] Additional genebank activities identified in the Costing Study but not costed as part of "routine operations" include: gap analysis and collecting, molecular characterization, evaluating germplasm for important traits, and other activities. Cost estimates for these activities were subsequently carried out by the Crop Trust.

Figure 1.1 – Budget versus Expenditure



Source: CRP financial reports 2012-2015 (2015 draft to be finalized)

As Figure 1-1 illustrates, there was an under-expenditure in the CRP in the first few years of operation. These under-expenditures have been explained by the Crop Trust to be, initially, due to the late disbursement of funds and delay in program activities (reflected in the 2012 budget and expenditures).

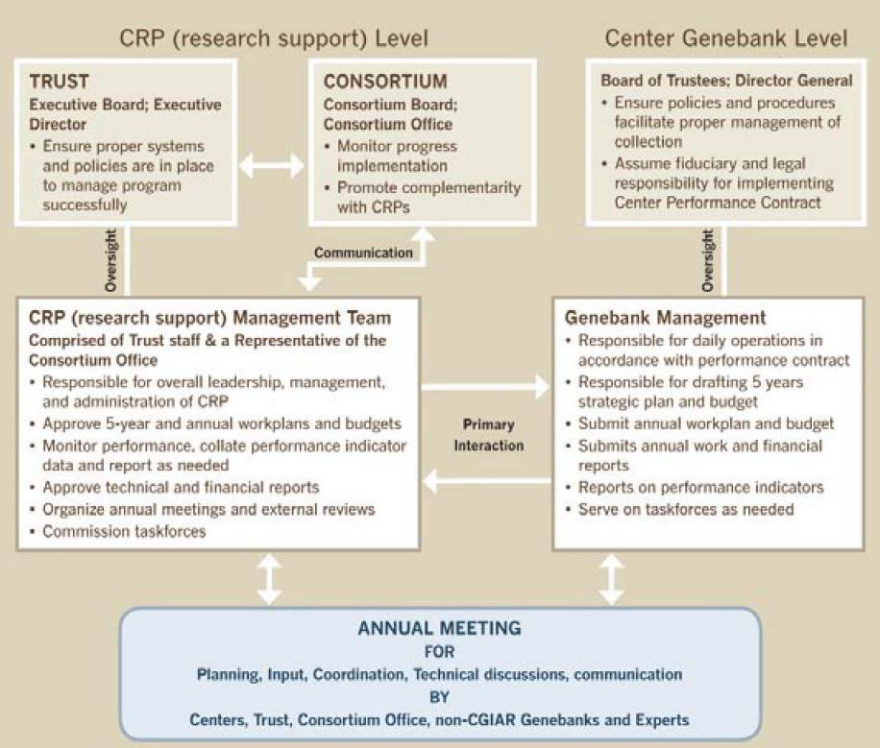
2.4 Management and governance

Due to the unique institutional and financial arrangements of this CRP, the governance and management of the CRP differs significantly from those of other CRPs. The CRP Management Team is the key management mechanism for the CRP. As per the CRP proposal (see Figure 2) it was to be overseen by two levels of governance, Crop Trust Executive Board and the Consortium Board (and the Consortium Office).

The CRP Management Team originally included Crop Trust and Consortium Office staff, but was expanded in late 2013 to include representatives from the genebank managers representing the group of 11 Center genebanks included in the CRP. The CRP Management Team meetings are held approximately every two months. Participation by the Consortium Office has been limited. Minutes of the meeting were made available to the evaluation team on request.

The CRP also organizes an Annual Genebanks Meeting with participation of all genebank managers and a limited number of key external partners. The Annual Meeting seems to have primarily a communication and coordination role, and this will be further reviewed as part of the evaluation.

Figure 2.1: Governance and Management of Genebanks CRP as per proposal



Source: CRP proposal

In terms of governance, and in accordance with the Crop Trust Constitution, the Executive Board of the Crop Trust is set to include the following members:

- Four members appointed by the Governing Body of the Plant Treaty, at least two from developing countries;
- Four members appointed by the Donors' Council of the Crop Trust;
- One non-voting member appointed by the Director General of the FAO;
- One non-voting member appointed by the Chair of CGIAR who shall operate in a technical capacity only;
- Two members appointed by the Board itself;
- and the Executive Director of the Crop Trust, *Ex officio*

Since 2013, CGIAR has not appointed a representative to the Crop Trust Executive Board. In 2015, and following the Internal Audit recommendation on this oversight, the Consortium Board has suggested that the new System Council will select a representative in July 2016, following CGIAR governance reform. In the meantime, the Chief Executive Officer of CGIAR (or designate) was asked to serve as a temporary representative to the Crop Trust Board.

3. Evaluation methodology

3.1 Scope and Approach

The evaluation scope is determined both by the specific mandate of the Genebanks CRP and the System-level needs with regard to *ex situ* genetic resources. Thus the evaluation scope is primarily to cover all activities of the Genebanks CRP since its initiation in 2012, taking into account, as far as can be determined, what the status of the collections was before the initiation of the CRP, as a baseline.

The evaluation will also assess the roles, responsibilities and relationships of the Center genebanks, Genebanks CRP Management, the Crop Trust, the Consortium Board and Office, and the Fund Council, particularly as their role relates to management, governance and the broader issues that are at the boundary of the Genebanks CRP institutional arrangement and are explained below. The evaluation will cover aspects of efficiency and effectiveness, including management and governance of the Genebanks CRP. This evaluation is not an evaluation of individual Center genebanks, nor of the Crop Trust.

In terms of the specific scope on the CRP, this evaluation will focus on:

- the development, set-up, and implementation of the CRP;
- the achievement of the Genebanks CRP towards its objectives (as defined in the original proposal);
- the objectives of the Genebanks CRP and their (continued) appropriateness and realism;
- the achievements of the Center genebanks, to the extent this can be attributed to the Genebanks CRP, to enhance the security and availability of the crop collections;
- the allocation to and use of funds by Centers to fulfill the CRP objectives;
- the management of the CRP by the Crop Trust as an external body in a unique institutional arrangement for a CRP; and in terms of the CRP funding and fund-raising issues.

To address the broader System context, the evaluation will assess the extent to which System-level issues related to the crop collections (policy, representation, communication) have been addressed under the institutional arrangement of the CRP, following the closure of the previous system-wide mechanisms that concerned *ex situ* genetic resources issues. There are also other boundary issues that are at the border line between the Genebanks CRP and other CRPs or Center activities and are important for genetic resources conservation, such as accession health and genetic resources research.

The evaluation will:

- take into account of germplasm health and use issues, as these impact the availability of the crop collections;
- take note of the new Genebanks Platform proposal regarding useful information therein for the current evaluation not available elsewhere, for a perspective on future actions;
- take note of the various aspects of conservation research necessary to enhance the safety and availability of the crop collections, and their relationship to the Genebanks CRP where these

might be addressed in other CRPs, including acquisition and pre-breeding – regarding the latter taking note of the Genetic Gains Platform proposal;
- take note of research in CRPs that is intended to add value to the crop collections and enhance their use; and
- take note of the policy dimensions of access and use of the crop collections under Article 15 of the Treaty, and genetic resources policy research conducted by Bioversity International.

The evaluation will have a major component of summative assessment to evaluate the extent to which the Genebanks CRP has made progress towards achievement of its objectives. This will be done against an Achievements Matrix prepared by the CRP management at the request of the evaluation team to be validated by them through multiple methods of evidence gathering and triangulation. The evaluation will assess progress and achievement against benchmarks reflecting operations prior to the establishment of the CRP, when possible, and through its analysis of stakeholder perceptions.

The evaluation will also have a formative, forward-looking component exploring the potential for increasing efficiency and effectiveness of central genebanks management operations in the future. The formative component will address aspects such as future financial sustainability and realization of the endowment, integration and synergy across Centers and CRPs and cost-efficiency gains to be made, including other platforms in the future, and influence of changes in CGIAR governance on the program in the future.

The evaluation will be conducted in a consultative manner, engaging, in particular, the Genebanks CRP management, the Crop Trust staff, Center genebank managers and the Consortium Office/System Management Office throughout the process.

It is not possible to visit all eleven genebanks during this evaluation. On the basis of a careful analysis of the specific nature of each of the collections, and how representative they are of genebank activities and challenges across CGIAR, five genebanks have been selected for site visits: CIP, CIAT, and CIMMYT in Latin America, ILRI in Ethiopia, and ICRAF in Kenya.

3.2 Evaluation criteria and questions

During the Inception Phase, the evaluation team has consulted with the Crop Trust staff, particularly those involved in the CRP management, staff at the Consortium Office and a representative of Genebanks CRP management team. It has also consulted with staff of the Treaty and FAO Commission (see Annex 3 for list of persons consulted). This has helped the team to elaborate further the evaluation issues and questions, and enabled it to understand the antecedents of the CRP, and how its objectives have been formulated to ensure what is ultimately the principal objective of the program – the long-term sustainability of CGIAR crop genetic resources collections.

The evaluation team is aware of the overall funding environment in which this CRP has been initiated, and the promise of long-term financial support for the maintenance of the collections in perpetuity, provided that the Center genebanks fulfill the criteria for endowment funding support through the Crop Trust. Until that has been achieved, the CRP contributes to the maintenance and sustainability of the crop collections through the various funding windows of CGIAR (see section 2.2) in addition to

support from the endowment as it currently stands. The commitment to stable and guaranteed funding for genebank operations, which has been a hallmark of this CRP places a special onus on the Genebanks CRP to deliver levels of effectiveness and efficiency across Center genebanks, as well as management and sustainability.

With these points in mind, the evaluation team has focused on four Key Questions that address the main criteria of the evaluation as in the TOR, and one Overarching Question for the evaluation of the Genebanks CRP:

- Key Question A, related to Efficiency and cost-effectiveness: Has the Genebanks CRP enhanced the management (and use) of CGIAR crop collections?
- Key Question B, related to Effectiveness: Has the Genebanks CRP enhanced the technical performance of Center genebank operations?
- Key Question C, related to Sustainability: How has the Genebanks CRP improved the security of CGIAR crop collections?
- Key Question D, related to Management and Governance: Has the Genebanks CRP been well managed and appropriately governed?
- Overarching Question: What has been the value added from the unique institutional arrangements of the Genebanks CRP?

Each of the Key Questions will be addressed through a set of second order questions that are presented below. The Overarching Question will be addressed through five specific evaluation questions in addition to evidence gathered for the Key Question. The complete set of evaluation questions, issues to be addressed under each question, evidence sources and evaluation tools to be used for addressing the questions are presented in the Evaluation Matrix in Annex 4.

A. Has the Genebanks CRP enhanced the management (and use) of CGIAR crop collections?

- To what extent has the Genebanks CRP enhanced the synergy and harmonization across CGIAR genebanks?
- Has the Genebanks CRP led to increased cost-efficiency of conservation and management of CGIAR genebank collections?
- To what extent has the Genebanks CRP enhanced genebank data management in terms of collection completeness, sharing, and service to genebank use?
- To what extent has the Genebanks CRP helped enhance CGIAR's performance regarding international obligations?

B. Has the Genebanks CRP enhanced the technical performance of Center genebank operations?

- To what extent have the genebanks' operations improved since the launch of the Genebanks CRP?
- Are the performance targets related to the Genebank CRP objectives and timeliness for their achievement clear and realistic?
- To what extent has the Genebanks CRP helped individual genebanks reach a 'steady state' in routine operations?

- To what extent has the Genebanks CRP been effective in enhancing genebank operating standards across CGIAR?
- Has the Genebanks CRP addressed all the issues within its mandate that influence the effectiveness of the conservation and use of the crop collections?
- What outstanding issues, if any, are not being addressed in the Genebanks CRP arrangement that could influence the effectiveness of the conservation and use of the crop collections?

C. How has the Genebanks CRP improved the security of CGIAR crop collections?

- Is the financial sustainability of CGIAR genebanks better assured today than before the Genebanks CRP was launched?
- To what extent have the essential capital requirements for the genebanks been covered under CGIAR reform and the Genebanks CRP arrangement?
- To what extent has the Genebanks CRP enhanced the sustainability of the genebanks in terms of conservation security and non-financial risks?

D. Has the Genebanks CRP been well managed and governed?

- How has the Crop Trust performed as manager of the Genebanks CRP?
- Are the Genebank CRP leadership and staffing arrangements efficient and transparent?
- How effective are the relationships between the essential stakeholder groups concerned with the CRP?
- Has fund allocation across genebanks and crop collections been transparent and appropriate?
- Are the CRP governance mechanisms adequate and well-functioning?

E. What has been the value added from the unique institutional arrangements of the Genebanks CRP?

- Has the Genebanks CRP improved the accountability of CGIAR genebanks to the Fund Council?
- To what extent has the Genebanks CRP strengthened the linkages between conservation and use in each of the Centers?
- To what extent has the Genebanks CRP helped streamline reporting among the involved parties?
- To what extent has the Genebanks CRP enhanced partnerships between organizations and institutions?
- Are CGIAR and the Center genebanks, under the Genebanks CRP institutional arrangement, represented at international fora in a manner that ensures meeting international obligations, high reputation of CGIAR, and CGIAR's effectiveness in genetic resources conservation and use?

3.3 Methods and analysis

The evaluation will be conducted primarily through desk review with limited use of site visits. The main sources of evaluative information and data, and tools for collecting the evidence are presented below.

Document review

Documents on CRP proposal. The evaluation team has reviewed documents related to the CRP approval in 2012 for gaining understanding of the intended objectives of the program, and of issues raised in the appraisal of the program proposal. The documents reviewed during the inception phase are listed in Annex 5.

Documents from CRP management.

CRP annual reports are available for the years 2012-2015. The evaluation team has recognized the limitations of these reports for evaluating progress and effectiveness of the CRP over the five year period. In order to initiate the evaluation, therefore, the team requested the CRP management team to develop an Achievements Matrix to report against program objectives for 2012-2016, with some information for 2011 included as a baseline against which to measure progress (Annex 2). This matrix will be a key document for assessing how the CRP has met or made progress towards its objectives (as described in the original program proposal) and a basis for discussion with all stakeholders.

Evaluative documents. The Genebanks CRP has conducted several reviews of individual genebanks that provide evaluative information to the team. In addition, the audit completed in early 2016 by the Independent Audit Unit of the Consortium provides assessment that the team can synthesize and build on.

Historic documents. The evaluation team will use, to the extent feasible, past assessments to provide a benchmark for assessing change and progress. These documents include assessments of genebank functions and costing documents summarizing relevant past efforts that have had similar goals as the Genebanks CRP. The team will draw on other historic documents on the functions of System-wide bodies, particularly the Genetic Resource Policy Committee, to understand broader institutional changes that took place at the reform and the implications of those changes.

Narratives. The team will request, if necessary, brief written narratives on specific issues. In particular, these include perspectives of genebank managers on the main issues that have impacted on the success and progress of the CRP and, from other CRP Directors, perspectives on the linkages between the Genebanks CRP and other CRPs where conservation and pre-breeding research is being conducted.

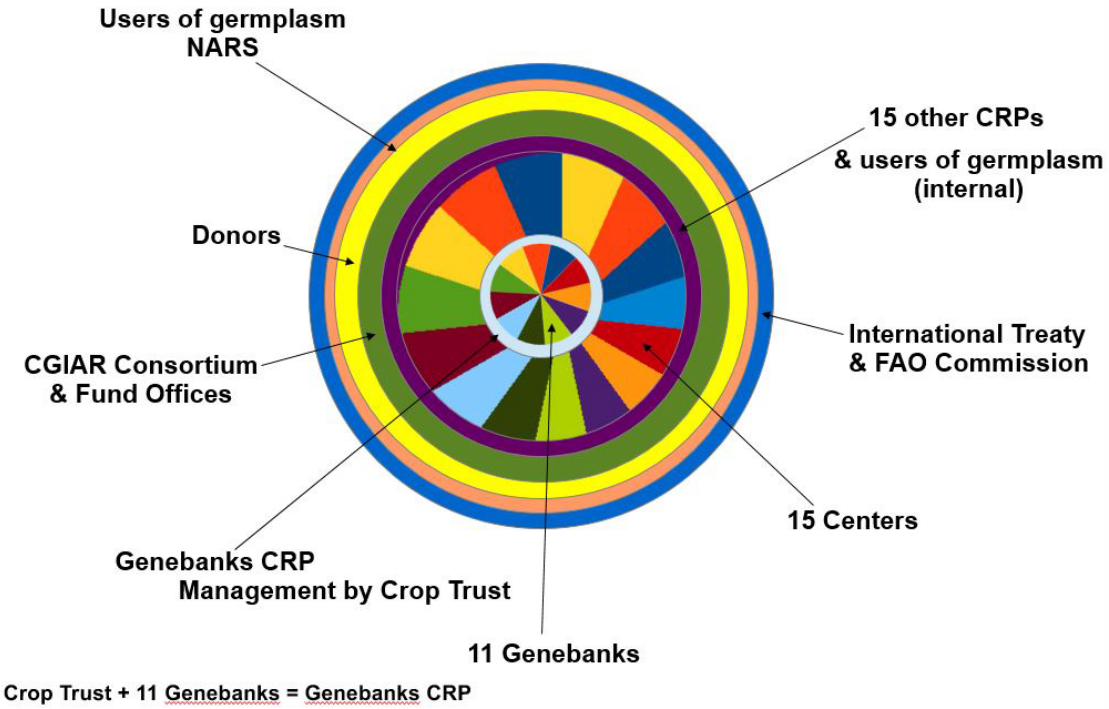
Interviews and surveys

The evaluation team will conduct interviews mostly virtually, but also face-to-face. The categories and institutions of key stakeholders are presented in Figure 3. Some categories, such as Center genebank managers, CRP Management, and the Consortium Office will be covered comprehensively. The evaluation team will interview a sample of senior management staff of CGIAR Centers that have genebanks and are involved in the CRPs that conduct crop-related research. Other key interviewees include senior officials working with the Treaty and the FAO Commission on Genetic Resources for Food and Agriculture that provide the overarching policy environment for the acquisition, conservation, and exchange and use of germplasm conserved in the 11 Center genebanks.

Donors will be interviewed only through sampling. Users of germplasm at NARS and other breeding and research institutes are not directly involved with the Genebanks CRP, and the team will take them into account through sampling for interviews.

The evaluation will not use surveys except for complementing interviews, if necessary, for collecting specific information where consistency is important. The evaluation team will use semi-structured interview templates designed specifically for each interviewee group and containing questions that relate directly to the evaluation questions shown in Annex 4. Interviews will be confidential.

Figure 3.1: The Genebanks CRP: stakeholder relationships



Crop Trust + 11 Genebanks = Genebanks CRP

Factual data

The evaluation team will analyze factual data on genetic resources routine operations and flows to assess changes and variance in operations, for example status regarding back-logs. The ORT used by the genebanks to report on activities will be used as an important source of information.

Analysis

Regarding summative assessment, the evaluation team will use the Achievements Matrix prepared by the Genebanks CRP Management as a base document and validate its information through evidence from other sources through triangulation. Evidence from stakeholders, particularly the genebank managers, and genebank team members' knowledge will be used in triangulation to establish the extent to which the Genebanks CRP has contributed to changes where clear baselines are not available and counterfactuals are lacking. It will also use the Resource Group members' (see 4.1) knowledge for triangulation of evidence, particularly regarding formative assessment of the policy and international

agreements context in which CGIAR operates. The evaluation team will ensure that the findings are informed by evidence. Perceptions, hypotheses and assertions obtained from interviews will be validated through secondary filtering, cross checking and triangulation.

While each team member has specific assignments (see Table 3), the evaluation team will work in pairs during evidence gathering through travel and interviews. At early report drafting stage, the evaluation team will attend a writing workshop for further analysis, drawing of conclusions, and recommendations.

3.4 Main limitations of the evaluation

While the evaluation is not about the individual genebanks *per se*, it is essential that the findings (through what is primarily a desk review) are validated through close engagement with the genebank managers and Center management. The evaluation resources allow only limited travel and the team's selection of genebanks to visit therefore needs to be representative.

Assessment of the Genebanks CRP achievements to-date may be limited by the difficulties of attributing changes directly or indirectly to the CRP in the absence of clear benchmarking in CGIAR prior the launch of the program, and consequently only limited availability of baseline data. The evaluation team will have to consider the counterfactual to assess whether changes in genebank operations that have led to increased security of the crop collections would have taken place (or at what pace) had the CRP not been implemented and guaranteed funding support provided. Such a counterfactual will ultimately be based on team judgment of perceptions and other evidence.

The Genebanks CRP is not necessarily known outside CGIAR among stakeholders who are users and partners of the Center genebanks. Thus, the extent to which perceptions of non-CGIAR stakeholders can be used as evidence of the performance of the CRP is limited.

4. Organization

4.1 Evaluation team responsibilities

The evaluation will be conducted by a team of three independent external experts. The biodata of the evaluation team are given in Annex 6. The Team Leader has final responsibility for the evaluation report and all findings and recommendations, subject to adherence to CGIAR Evaluation Standards. The team responsibilities are shown in Table 3.

Table 4-1: Team composition and primary responsibilities

Team Member	Primary responsibility for	Sites to be visited (2016)
Michael Jackson	Evaluation Team Leader Genebank operations and standards, incl. seed conservation CRP management and governance	Crop Trust, Bonn, April Consortium Office, Montpellier, May FAO, Rome, June CIP, CIAT, CIMMYT, July-August ICRAF, ILRI, October
Marisé Borja	*In vitro* conservation / cryopreservation Finance	Crop Trust, Bonn, April FAO, Rome, June CIP, CIAT, CIMMYT, July-August
Brian Ford-Lloyd	Documentation and information systems Conservation research opportunities and boundary issues	Crop Trust, Bonn, April Consortium Office, Montpellier, May ICRAF, ILRI, October

The IEA will engage a Resource Group that will bring to the evaluation additional perspectives of genetic resources conservation, use and policy at national and international levels, as well as broader aspects of program governance. The Resource Group members will provide feed-back to the evaluation team on the Inception Report and draft report. Given the institutional and geographic background of the group members (see Annex 7), their inputs are particularly expected in areas of governance and policy, and in relation to the effects of the current institutional arrangements and perceptions of them outside CGIAR.

4.2 Evaluation governance

The IEA is responsible for managing the evaluation, which includes planning and contribution to the design of the evaluation. The IEA is also responsible for quality assurance of the evaluation process and outputs, and for the dissemination of the results. During the preparatory phase of the evaluation the IEA collects background data and information. An Evaluation Manager (Sirkka Immonen), supported by an Evaluation Analyst (Jenin Assaf) will provide support to the team throughout the evaluation. The Resource Group has no governance oversight role for this evaluation.

Genebanks CRP Management plays a key role in helping provide for the evaluation team's informational needs. It provides documentation and data, information on all CRP activities and access to staff at the Crop Trust for engagement with the evaluators. It is also responsible for giving factual feedback on the Draft Report and for preparing the management response to the Final Report. It assists in dissemination of the report and its findings and lessons and it acts on the accepted recommendations.

Center genebank managers also play an important role in the evaluation. They are the focal persons at Centers to this evaluation and are given the opportunity to provide feedback on the TOR, Inception Report and Draft Final Report. Concerning Center genebanks to be visited, the genebank managers facilitate arrangement of these site visits.

4.3 Stakeholder consultation

Given the nature and scope of this research support CRP, without its own specific research agenda (not even for research in support of conservation *per se*), the evaluation team has a relatively small number of stakeholder groups with which to interact and consult. The stakeholders are shown in Figure 3.

The key evaluation stakeholders at the Crop Trust, Centers and the Consortium Office (to become the System Management Office) will be involved in the evaluation through interviews and consulted during the evaluation. The Resource Group represents stakeholders outside CGIAR who will be consulted at specific stages of the evaluation.

In-depth interviews with selected representatives of both CGIAR and non-CGIAR stakeholder groups will be conducted as part of this evaluation. Stakeholders representing specific groups and interests will be systematically identified through team contacts, the Resource Group and other means for the interviews and feed-back.

The evaluation findings will be shared with all stakeholders through Internet, and an Evaluation Brief to be prepared by the IEA on the results and recommendations of the evaluation will be shared personally with individual stakeholders contacted.

4.4 Quality assurance

In order to ensure evaluation rigor, the following quality assurance will be implemented during the evaluation exercise.

The IEA, as manager of the evaluation, will play a crucial role in assuring its quality. The IEA will work closely with the evaluation team throughout the evaluation, and will ensure that the tools and methodologies, as well as the process followed, are in line with CGIAR Evaluation Policy and Standards as well as with those used in other CRP evaluations.

4.5 Timing, outputs and reporting

The evaluation is divided into three main phases:

- A preparatory and inception phase that will end with the finalization of this Inception Report, after circulating it for feedback;
- An inquiry phase until October 2016 during which the evaluation team will draw emerging preliminary findings for sharing with key stakeholders; and
- A reporting phase until end of December 2016 that involves finalization of the evaluation report after collection and incorporation of feedback.

In 2017, a fourth phase will follow, during which the findings and the report are presented and distributed and during which management responses are produced. The evaluation will broadly follow the timeline laid out in the TOR.

Table 4-2 Evaluation schedule and main deliverables

Phase	Period	Main outputs	Responsibility
Preparatory Phase	Jan-April 2016	Final TOR Evaluation team recruited	IEA
Inception Phase	April-June	**Inception Report**	Evaluation team
Inquiry phase	June-October	Analysis products as defined in inception report	Evaluation team
	August 2016	Preliminary findings	Evaluation team
Reporting phase	Sep–Nov	**Draft Evaluation Report**	Evaluation team
	Nov	Drafting workshop	Evaluation team, IEA
	Dec 2016	**Final Evaluation Report**	Evaluation Team Leader
Dissemination phase	Jan 2017		IEA

The **Evaluation Report** will be the main deliverable of the evaluation. The outline of the final report will be agreed between the team and IEA at the start of the inquiry phase. All team members will contribute to the analysis and text. The Team Leader will co-ordinate the report writing with guidance from IEA and according to standard requirements for evaluation reports.

The recommended maximum length of the final Report is 80 pages, excluding the executive summary and annexes. The Report will describe findings, conclusions, and recommendations, based on the evidence collected in the framework of the evaluation questions defined in the Inception Report. The recommendations will be prioritized, focused and actionable, indicating the specific stakeholders that are responsible for their implementation. An executive summary will present the main findings and recommendations.

The Genebanks CRP Management will prepare a management response to the evaluation. It will contain both an overall response to the evaluation, as well individual responses for each recommendation in the order presented in the evaluation report. The final evaluation report and the management response will be considered by System Management Board that will prepare a commentary, which together with the Evaluation Report and Management Response is submitted to the System Council for consideration and endorsement.

The IEA will be mainly responsible for dissemination of the Evaluation Report to stakeholders. This includes preparing an Evaluation Brief on the findings and recommendations of the evaluation. Dissemination events may be organized involving the evaluation Team Leader.

Annex 1: Detail on crop collections in CGIAR genebanks

Center/Genebank	In the costed collection	Legally and physically available	Safety duplicated at 2 levels	Cryo-preserved in 2 places	Passport & characterization data available
AfricaRice	19,954	16,371	8,046	0	19,621
Bioversity	1,518	938	0	801	472
CIAT	67,770	42,472	43,832	0	36,770
CIMMYT	181,151	148,989	99,437	0	134,513
CIP	16,050	2,658	2,369	0	9,139
ICARDA	152,220	92,190	77,386	0	145,970
ICRAF	8,945	5,684	1,387	0	1,532
ICRISAT	123,921	107,272	18,633	0	123,921
IITA	32,870	13,172	11,874	113	22,351
ILRI	18,634	9,182	3,515	0	0
IRRI	127,577	120,131	116,294	0	109,113
Total	**750,610**	**559,059**	**382,773**	**914**	**603,402**

Source: Crop Trust online reporting for 2015 (grants.croptrust.org)

Annex 2. Achievements Matrix

GENEBANKS CRP OBJECTIVES	2011	2012	2013	2014	2015	2016	Comments, etc.
Objective 1: Crop and Tree Diversity in International Collections under Article 15 (ITPGRFA) is Secured in Perpetuity							
a. Long term and medium term storage (LTS & MTS)	Total number of accessions 692,121	Total number of accessions: 722,387 692,405 seed acc. reported	Total number of accessions: 726,166 697,354 seed acc. reported	Total number of accessions: 737,220 706,998 seed acc. reported	Total number of accessions:749,656 717,205 seed acc. reported	To be reported in February 2017	Collection size increased rate of 0.5-1.5% year representing acquisitions from other organizations, breeders collections and collecting missions as well as introductions from backlogs. Increase in size does not necessarily correspond with numbers of phytosanary acquisitions in any one year because of time lags as certain new introductions go through and regeneration processes before official acquisition.
	Partial data (CIP did not submit a baseline because no genebank manager in place)	2788 acc in cryo	2865 acc in cryo	2402 acc in cryo	2846 acc in cryo	To be reported in February 2017	Actual progress is hidden by the work of CIP to rationalize existing cryo collection (approx 400 acc were eliminated (this figure should be verified) due to their not reaching standards of viability and 1028 acc have been cryopreserved at CIP.
	Partial data (CIP did not submit a baseline because no genebank manager in place)	24,326 acc held in vitro	22,050 acc held in vitro	23,279 acc held in vitro	23,529 acc held in vitro	To be reported in February 2017	In vitro protocols for certain collections (e.g. yam, Andean root & tuber (ARTC) spp) still suboptimal. Some losses of acc still occur, which are replaced by acc from the field. Some rationalization also occurring at CIP.
	Partial data (CIP did not submit a baseline because no genebank manager in place)	28,479 acc held as live plants	25,345 acc held as live plants	27,763 acc held as live plants	30,991 acc held as live plants	To be reported in February 2017	ARTC, banana, cassava, potato, sweet potato, yam, groundnut, *Tripsacum*, trees. Some rationalization occurring at CIP.
	No data	48,548 acc tested for viability	67,219 acc tested for viability	99,341 acc tested for viability	82,430 acc tested for viability	To be reported in February 2017	Increase across years should be an indication of general increase in rate of operation. Ultimately it

							should decrease quite substantially.
	LTS (seed): 597,250 MTS (seed): 585,593	LTS (seed): 614,067 MTS (seed): 599,736	LTS (seed): 632,966 MTS (seed): 617,871	LTS (seed): 638,536 MTS (seed): 631,597	LTS (seed): 646,418 MTS (seed): 639,470	To be reported in February 2017	Emphasis from reviews has been to get seed into LTS as soon as possible in order to increase seed longevity. Various issues are being addressed in Africa Rice, CIAT, CIMMYT maize, ICARDA & ILRI to deal with backlogs to achieve this. ICRISAT are increasing their LTS & MTS capacity to improve storage in 2016.
b. Safety duplication	412,743 seed acc in safety dup	381,334 seed acc in safety dup	391,987 seed acc in safety dup	412,731 seed acc in safety dup	382,545 seed acc in safety dup	To be reported in February 2017	Decrease in 2012 because of data validation. Decrease in 2015 because of withdrawal of seed from Svalbard by ICARDA.
	6,680 clonal acc in safety dup (partial data because CIP did not submit a baseline)	16,444 clonal acc in safety dup	16,942 clonal acc in safety dup	16,355 clonal acc in safety dup	20,510 clonal acc in safety dup	To be reported in February 2017	Except for Bioversity (which duplicates its cryo collection), safety duplication in these collections involve annual exchange of in vitro germplasm which is fraught with difficulties and delays, or the same institute maintaining a duplicate collection in another location. Cryo is being pursued as a better alternative
	No data	12,320 acc transferred into safety duplication	10,996 acc transferred into safety duplication	4,230 acc transferred into safety duplication	7,095 acc transferred into safety duplication	To be reported in February 2017	Centers have been saving up seed to safety duplicate in one batch and an amazing 79,982 seed accessions are planned to be duplicated (according to submitted workplans) at first level or at SGSV in 2016.
Objective 2: Conserved Crop and Tree Germplasm is Clean, Available and Disseminated							
a. Regeneration and characterization	No data	15,815 seed acc regenerated	12,670 seed acc regenerated	16,674 seed acc regenerated	13,104 seed acc regenerated	To be reported in February 2017	Regeneration of accessions with low viability.
	No data	57,533 acc characterized	37,024 acc characterized	35,300 acc characterized	46,552 acc characterized	To be reported in February 2017	Within the Costing Study there is little funding available for in depth characterization. This activity is therefore generally restricted to validation of type and minimum characterization, although reported activity is also likely to relate to characterization/evaluation activities carried out in partnership with breeders and researchers outside of the CRP.

b. Disease testing and cleaning	No data	57,577 acc health tested	44,848 acc health tested	38,898 acc health tested	52,339 acc health tested	To be reported in February 2017	Dependent on capacity of germplasm health units. At IITA, the RAP helped increase GHU capacity significantly in 2015. IRRI and CIMMYT reported that they had run out of budget part way through the year to pay for the services of their GHUs.
	No data	14,943 disease cleaned	12,500 disease cleaned	12,102 disease cleaned	10,928 disease cleaned	To be reported in February 2017	
c. Acquisition	No data	30,266 reported increase in accessions from previous year	16,548 reported increase in seed collections from previous year	11,879 reported increase in seed collections from previous year	18,248 reported increase in seed collections from previous year	To be reported in February 2017	This figure only describes the overall increase in accession numbers and does not take into account any decreases occurring at the same time
	No data	13,745 acc received from collecting missions and other organizations	12,297 acc received from collecting missions and other organizations	7,984 acc received from collecting missions and other organizations	11,868acc received from collecting missions and other organizations	To be reported in February 2017	These include materials received from national genebanks through the BMGF-funded regeneration work.
	n/a	Collecting proposals submitted at AGM and 7 selected	6 collecting workplans under way. Permission for Bioversity to collect in Myanmar not forthcoming	6 collecting workplans under way.	6 collecting workplans under way. 2544 acc collected in Bangladesh, Benin, Cameroon, DR Congo, Greece, Nepal and Nigeria)	To be reported in February 2017	
d. Multiplication and dissemination	No data	54,178 seed and clonal acc multiplied	45,450 seed and clonal acc multiplied	56,819 seed and clonal acc multiplied	60,546 seed and clonal acc multiplied	To be reported in February 2017	RAPS for some Centers in 2014 and 2015 should have supported an increase in regeneration and multiplication. This has been apparent in Africa Rice and IITA but less so in CIAT and CIMMYT, where other constraints are affecting rate of regeneration
	No data	116,766 total samples distributed	148,421 total samples distributed	123,126 total samples distributed	91,506 total samples distributed	To be reported in February 2017	

Objective 3: Use of Conserved Crop and Tree Diversity is Informed and Facilitated							
a. Managing information for accessions management and use	GRIN-Global under development by USDA with support from Crop Trust		GRIN-Global Pilot project initiated with CIAT & CIP.	GRIN-Global "Front runner", Juan Carlos Alarcon, employed at CIMMYT. (through CWR Funding) GRIN-Global Workshop for CIAT	GOAL Workshop in Cali GRIN-Global Workshop in Prague GRIN-Global implemented for wheat and maize collections at CIMMYT CIP, CIAT, ICRISAT, IITA, ILRI decide to adopt GRIN-Global (Africa Rice & Bioversity undecided; ICARDA and IRRI will keep existing systems)	GOAL Workshop in Ibadan GRIN-Global workshop at CIAT	Improvement of data management was recommended in almost every review and RAP. In most cases, systems were functioning on platforms that were either outdated, inadequate or soon to become inaccessible (e.g. Oracle). Six, possibly 7, genebanks are now adopting or opting to adopt GRIN-Global.
		Efficiencies reported through use of mobile devices in day-to-day operations: CIMMYT (DataCapture), Bioversity, CIAT, ICARDA (Collecting forms)	Expansion in use of mobile devices and bar-coding. CIAT reported use of QR codes. ILRI introduced Bar-code systems in 2013 (using German funds)	Comprehensive bar-coding (from field to store) promoted and supported through QMS and RAPs	Comprehensive bar-coding (from field to store) promoted and supported through QMS and RAPs	Bar-coding workshop planned to take place in May with all genebank data managers in Berlin with a visit to IPK	Reports from Centers are very positive about the efficiencies brought about by bar-coding. In 2016 we plan to have a final push to enable all genebanks to be able to fully integrate and implement bar-coding in all genebank operations. It would be interesting to explore in more depth labelling error before and after.
b. Genesys	SINGER and Genesys are used to publish accession passport data. Both are operated and hosted by Bioversity International, who also host and manage the EURISCO database.	Few genebanks are updating accession-level data on Genesys. SINGER and Genesys co-exist	Genesys 1 moves from Bioversity to the Crop Trust. Matija Obreza hired as "Genesys Project Manager", work on phase 2 of Genesys begins. Bioversity engaged to	Genesys 2 published in March SINGER discontinued. First fully automated mechanism for uploading data to Genesys implemented at IRRI.	Genesys software developed and website updated Linking of GRIN-Global and Genesys implemented and tested on CIMMYT databases. Passport data in Genesys up-to-date for most genebanks.	Development of Genesys is focus of Platform proposal Use Module	

			provide support in development. Programming work outsourced to private sector.	ICRAF, ICRISAT data updated.			
			Genesys Oversight Committee established.			Genesys Advisory Committee established.	
			New Data Provider Agreement developed and signed between the Crop Trust and 10/11 genebanks.	Minor updates to the wording of DPA based on feedback from partners.		CIAT still to sign DPA	
Objective 4: Crop and Tree Diversity is conserved within a rationalized, cost-effective and Globalized System							
a. Developing partnerships and exchange of services	Crop Germplasm Knowledge Base (CGKB) developed in GPG2	Support for CGKB continued through CRP	Genebank managers review the continued use of CGKB.	Consultancy to review development of CGKB	CGKB archived	Developing website at Genebanks.org which will give access to QMS documents, CGKB documents, Genesys, ORT, etc.	
	n/a		Half-day workshop on crop user groups presented by USDA staff at AGM	Discussion & planning to develop crop advisory groups. Plan is to exploit opportunities rather than initiate groups across the board	Wheat Germplasm Conservation and Use Expert Working Group set up within the International Wheat Initiative	Wheat EWG meets in Rabat Maize advisory group meets in Mexico City	
				CRP contributes to DivSeek development through participation in meetings and discussions.	CRP contributes to DivSeek development through participation in meetings and discussions.	Genotyping workshop for 50 participants planned to share case studies on the application of genotyping data for genebank management. All CGIAR	

						genebanks planning to attend at CIMMYT in November	
	n/a	AGM in Rome with SPC, IPK, CGN, FAO participating	AGM in Ames, USA, with large USDA participation, plus representatives from national genebanks in Brazil and Mexico	AGM in Arusha, Tanzania with participation of national genebanks of Tanzania, Zambia, Uganda, Kenya. Also had a focus on policy and phytosanitary issues with ITPGRFA and IPPO representatives leading sessions	AGM in Izmir, Turkey, in conjunction with Crop Wild Relative Project with 41 country representatives.	AGM to take place in Melbourne & Horsham in Australia	The AGMs have been vibrant meetings with a lot of useful discussion and interaction both from inside and outside the genebanks and CGIAR. These meetings bring important cohesion and collaboration and very much motor and direct the CRP forwards.
b. Rationalization and optimization of collections	n/a	IRRI & ILRI genebank reviews (reviewers from CGN, MSB, Bioversity, USDA)	CIAT, Bioversity & CIMMYT genebank reviews (reviewers from CGN, EMBRAPA, MSB, CIP, IPK, INIA-Uruguay, USDA)	Africa Rice, IITA & ICRISAT genebank reviews (reviewers from CGN, FAO, Independent experts, MSB, USDA)	CIP & ICRAF reviews (reviewers from MSB, Independent experts)	ICARDA genebank review	The reviews have been influential in the development of the targets, QMS, data management, etc. across the whole program. All reviews have been highly supportive of the genebanks, their activities and their roles.
	n/a	Provided optimization funds to ILRI (characterization & health testing) & IITA (adopting CIAT protocol for cassava in vitro)	Optimization work requested by Centers (ICRAF, ILRI)	CIAT & CIMMYT "Recommendation Action Plans" (RAPs) agreed and initiated IRRI commissions SeQso to manufacture rice seed phenotype sorting machine	CIAT & CIMMYT RAPs ongoing; RAPs agreed and initiated for Africa Rice, Bioversity, CIAT (2nd), CIP, IITA, ILRI, IRRI, ICARDA. Seed phenotype sorter under manufacture	Previous RAPS still under way. RAP for ICRISAT initiated. Seed phenotype sorter shipped to and installed at IRRI	RAPs were developed to address specific recommendations from the genebank reviews. Most have objectives to strengthen QMS and data management systems. Other objectives cover a range of activities to optimize operations, increase rates of regeneration, improve capacity to remove bottlenecks in health testing, improve seed viability, etc.

	n/a			Axel Schmidt hired to bring forage community together, carry out survey and develop strategy	Bruce Pengelly takes over from Axel Schmidt to develop tropical forages strategy. Priorities developed at strategy meeting held in Bonn.	Bruce Pengelly & Birgitte Maas implement first phase of Tropical forage strategy.	More challenging than it sounds, this strategy is about trying to identify priorities in forage conservation and use from the thousands of taxa that have been conserved over the decades (following trends that have been and gone for specific traits, species or collections!!br0ken!! This group of taxa are the most expensive seed crops to conserve and for over a decade there has been a question about how to rationalize the collections and expense. This initiative is trying to address this question and bring about an agreement between the Centers involved (CIAT, ILRI, ICRAF, ICARDA, ICRISAT and IITA).
	n/a		ILRI decides to invest funds in reconstructing the genebank in response to genebank review. CIAT launches campaign to build new state-of-the-art genebank facility	Applied for funding for ICARDA genebanks in Lebanon and Morocco. Funding approved.	ICARDA built facilities at Terbol, Lebanon, and Rabat, Morocco. IRRI built facilities to house seed processing	ICARDA equipping and completing genebank development Crop Trust hire consultants to advise Africa Rice on plans to move genebank and build facilities in Cote D'Ivoire. Kate Gold visits Cotonou and Bouaké. Thanks to our intervention Africa Rice is now building a purpose-built building and installing new cold rooms.	Although several of these initiatives are not funded by the CRP, we think it is significant that they began after specific recommendations from individual genebank reviews to improve facilities. It is very positive that the Centers have responded with such strong actions to these reviews and the CRP in general.

	n/a		Genebank review (at CIMMYT) recommends CGIAR play more of a role in research on seed longevity Studies by Fiona Hay under way at IRRI funded by GRiSP		Initial data sampling of CGIAR genebanks viability data and presentation at IPK-organized conference in Germany Initiate agreement with IRRI to spearhead review of historic viability data and seed processing procedures across CGIAR genebanks. IRRI has difficulty hiring expertise. Fiona Hay presents some initial findings on seed longevity from IRRI at AGM	Fiona Hay and Katherine Whitehouse visit Africa Rice, ICRAF, IITA, ICARDA, CIAT and CIMMYT to review historic viability data and procedures.	Recognising the importance of every step in seed collecting/production/processing in influencing seed longevity, as well as re-examining storage conditions, has been an important milestone in the CRP. The involvement of the genebank's national staff in events like the GOAL workshops is essential for this kind of capacity building. We have only really started on this initiative with IRRI expertise taking a lead. Some Centers are obviously benefiting more than others. Nevertheless the complexity of seed longevity means there are surprises in there for everyone. Developing this work is a key part of the Platform proposal, not just to ensure that CGIAR are keeping high standards but to build in some genuine cost-efficiencies.
	n/a	Cryobanking strategies under development	Cryobanking strategy for CIP approved and initiated	Cryobanking strategy for Bioversity & CIP under way.	Cryobanking strategy for Bioversity, CIP & IITA under way. IITA and CIP both install liquid nitrogen generating plants. Major achievements in improving workflow and increasing rate of successfully cryopreserving potato accessions at CIP	Cryobank projects continue	Inter-Center learning in large-scale cryobanking is crucial here. Much of the above is relevant here too.
c. Establishing and updating QMS, operation manuals and staff retention plan	Institute QMS at various stages of development and relevance to genebanks	Data gathered on QMS from individual Center genebanks in ORT	Erica Benson & Keith Harding hired. They visit IITA, CIAT, Bioversity & CIP to review QMS status and needs	Janny van Beem hired (August).	Janny visited IRRI, CIAT, AfricaRice and ICRISAT	Janny visited IITA, ICARDA, CIAT and plans to visit ICRAF	QMS is core to the program. Much has already been said.

			Roadmap developed for QMS focussed on cryobanking	3 briefs written on labelling, job descriptions, succession planning and capacity building Overall QMS strategy developed and presented at AGM. SOP templates created for ACQ, CONS, REG, SAF DUP, DIST	GOAL workshop at CIAT with 35 participants from CIP, CIMMYT, CIAT, IRRI, CORPOICA, INIA-Peru, INIA-Ecuador and USDA QM templates were created for Safety Equipment, Succession and Capacity Building, Risk Management, Training Record and Characterization (CHA)	GOAL workshop at IITA with 45 participants from AfricaRice, Bioversity, KULueven, ICARDA, IITA, NACGRAB, NRCRI, and Egypt Genebank GOAL workshop in ICRAF planned for September 2016	
						QMS framework document for CGIAR/Crop Trust under development	
Performance Targets							
1. Availability		66%	68%	72%	57% seed	To be reported in February 2017	
2. Safety duplication		57% seed; 56% clonal	57% seed; 62% clonal	59% seed; 52% clonal	53% seed; 71% clonal	To be reported in February 2017	
3. Data availability		57%	61%	73%	87%	To be reported in February 2017	This indicator needs more work. If passport data is lacking for historical accessions, it will never be forthcoming and minimum standard descriptors for characterisation data are not particularly well established. PDCI works better as a general indication of the documentation of the collections. Whether we can increase the index towards a target (we considered a PDCI target of 6) is difficult to judge. It may be more interesting having a target only for new accessions but that will involve move complicated reporting demands. Coming up with a

							relevant index for characterisation data has proven challenging.
Passport Data Completeness Index					Average 5.42	To be reported in February 2017	See above
4. QMS	CIP accredited ISO 17025 accreditation	CIMMYT attained ISO 9001 certification	Decision to pursue "homegrown" genebank QMS and define minimum elements for acceptable QMS	Genebanks benchmarked with respect to minimum QMS 5 minimum QMS goals defined (SOPs, Risk management, Succession planning, Security and bar-coding)	17 SOPs completed at IRRI, CIAT, AfricaRice and ICRISAT	20 further SOPs expected to be completed and minimum elements put in place by genebanks exc CIP & CIMMYT.	
5. Use: diversity		105 Countries receive germplasm 2,331 requests from outside CGIAR 46,589 acc distributed within CGIAR 28,421 acc distributed outside CGIAR	122 Countries receive germplasm 1,721 requests from outside CGIAR 61,325 acc distributed within CGIAR 31,022 acc distributed outside CGIAR	112 Countries receive germplasm 2,054 requests from outside CGIAR 34,769 acc distributed within CGIAR 32,556 acc distributed outside CGIAR	114 Countries receive germplasm 2,366 requests from outside CGIAR 20,010 acc distributed within CGIAR 32,850 acc distributed outside CGIAR		This is an indicator without targets. We do not necessarily want to incentivize more distribution. We do want to know that the genebanks are, however, supplying the strategic needs of primary users. This is something we would like to follow up on with more impact study type work.
6. Use: quantity		116,766 samples distributed in total	148,421 samples distributed in total	123,126 samples distributed in total	91,506 samples distributed in total		

Genebanks CRP Management							
Financial		Expenditures for routine operations USD 12,394,084	Expenditures for routine operations USD 14,467,250	Expenditures for routine operations USD 14,966,581	Expenditures for routine operations USD 14,942,884		
	Costing study published in 2010	Costing study used as a basis for the CRP budget. Routine costs are provided as in the proposal as a maximum budget. Carryover is allowed. "Additional requirements" are identified through reviews, AGM and MT meetings, etc., and funded as independent projects.	Finance and Administration Committee (FAC) set up and technical and finance staff work together to set up principles and procedures, and make administrative decisions.		Work on parity with Simon Linington as a consultant. Recollected data on staff time allocations, equipment age and estimated replacement date, rate of operation. Presented at AGM and used as the basis for the Platform proposal budget. FAC also conducted a survey of Centers to ask what costs are attributed to genebanks and how they are allocated	Establishment of a task force of Corporate Services Directors to look at implementation of Financial Guidelines 5 in response. They used Crop Trust survey results as a basis for their own survey of FG5 implementation.	We will revisit staff time allocation in the following years. We also aim to conduct a Costing Study based on a steady state of operation.
			After a letter from Marie Haga to the Consortium Board Chair, agreement by CB and Center DGs in form of letter from that states CRP funds will be provided in full.		Fund Council, Consortium Board and DGs agree not to cut Genebanks budget	All funding is accounted for. Janet, Amanda and Charlotte have had calls with nearly all Center Finance Directors and Genebank Managers to confirm the budgets and that nothing will hold back the expenditure of remaining funds. We will monitor this again in July.	

Project Management	LTG managed by Crop Trust	PMIs revised to introduce quantitative indicators Online Reporting Tool developed	Indicators presented to Consortium Office & CRP leaders in Montpellier in June PMIs and 90% targets for availability, safety duplication, documentation and QMS presented and agreed at AGM	Genebanks status with respect to targets presented at DGs & Consortium Board Chairs meeting in Tanzania. Report to CO provided as summary status report (after CGIAR portfolio report included genebanks only as a footnote)	Consultative effort between genebanks, CO and Crop Trust to develop Genebank Options paper. Paper is presented to FC13 in Bogor in April. FC select "Option 2" and agree to provide USD 93.1 million.	Crop Trust coordinated submission of pre-proposal and development of full proposal	
		Management Team of Crop Trust and Consortium Office staff set up. Two meetings held	Nine MT meetings held, of which two were open calls to the whole group of genebank managers (not including the AGM)	Management Team incorporate Executive Members of A15 Group. Six MT meetings held, of which one was an open call to the whole group (not including the AGM).	Seven MT meetings held (not including the AGM), of which three were open calls to the whole group.	Three MT meetings held so far.	
					Crop Trust carry out survey of 126 Center DGs, DDGs, genebank managers, finance managers, reviewers and AGM participants for their feedback on the performance of the Crop Trust as Project Manager. Strongly positive response with 44% return rate and 91% responding that they were satisfied with Crop Trust performance (none dissatisfied).		

		Genebank CRP proposal approved in March. Tripartite PIA signed between CO, Bioversity and Crop Trust in November. Shortly followed by PPAs between Crop Trust and 11 Centers			CO-commissioned audit takes place. A large number of recommendations; all but 3 directed at CO. A number of good practices identified.		

Annex 3. List of people consulted during planning and inception phase

Name	Organization
Marie Haga	Executive Director, Global Crop Diversity Trust
Janet Muir	Director of Finance, Global Crop Diversity Trust
Charlotte Lusty	Genebanks Program, Coordinator, Global Crop Diversity Trust
Paula Bramel	Scientific Advisor, Global Crop Diversity Trust
Matija Obreza	Information Systems Manager, Global Crop Diversity Trust
Luigi Guarino	Director of Science and Programs, Global Crop Diversity Trust
Stefan Thyen	Contracts and Grants Manager, Global Crop Diversity Trust
Amanda Dobson	Finance Officer, Global Crop Diversity Trust
Janny Van Beem	Genebank Quality Management, Global Crop Diversity Trust
Dan Leskien	Senior Liaison Officer, Commission on Genetic Resources for Food and Agriculture, FAO
Michael Halewood	Head of Policy Unit , Bioversity International
Mario Marino	Treaty Technical Officer, Secretariat of the Treaty Commission on Genetic Resources, FAO
Alvaro Toledo	Treaty Technical Officer, Secretariat of the Treaty Commission on Genetic Resources, FAO
Samy Gaiji	Head, FAO, Agriculture Research and Extension
Stefano Diulgheroff	Coordinator, FAO of the Global Plan of Action for PGRFA
Rachid Serraj	Senior Agriculture Research Officer, Independent Science and Partnership Council (ISPC) of CGIAR
Preetmoninder Lidder	Agriculture Research Officer, Independent Science and Partnership Council (ISPC) of CGIAR
Irene Hoffmann	Secretary, Commission on Genetic Resources for Food and Agriculture, FAO
Chikelu Mba	Team Leader, Seeds and Plant Genetic Resources, FAO
Wayne Powell	Chief Science Officer, Consortium Office, CGIAR
Peter Gardiner	Director of Science, Consortium Office, CGIAR
Philippe Ellul	Science Officer, Consortium Office, CGIAR
Albin Hubscher	Director of Finance and Corporate Services, Consortium Office, CGIAR
Elise Perset	General Counsel, Consortium Office, CGIAR
Selim Louafi	Marie Curie Research Fellow, CIRAD
Asmund Asda	Coordinator of Operation and Management, Svalbard Global Seed Vault
Marlene Diekmann	GIZ, Germany
Jonathan Wasdworth	Executive Secretary of CGIAR Fund Council and Head, Fund Office, CGIAR

Annex 4. Evaluation matrix

There are four key evaluation questions, each addressing a specific evaluation criterion; and a fifth, overarching question about the CRP value added.

A. EFFICIENCY AND COST-EFFECTIVENESS—Key Question: Has the Genebanks CRP enhanced the management (and use) of CGIAR crop collections?

B. EFFECTIVENESS—Key Question: Has the Genebanks CRP enhanced the technical performance of Center genebank operations?

C. SUSTAINABILITY—Key Question: How has the Genebanks CRP improved the security of CGIAR crop collections?

D. MANAGEMENT AND GOVERNANCE—Key Question: Has the Genebanks CRP been well managed and appropriately governed?

E. OVERARCHING QUESTION: What has been the value added from the unique institutional arrangements of the Genebanks CRP?

EVALUATION QUESTION		INFORMATION SOURCES	
A. EFFICIENCY AND COST-EFFECTIVENESS **Has the Genebanks CRP enhanced the management (and use) of CGIAR crop collections?**			
1.	**To what extent has the Genebanks CRP enhanced the synergy and harmonization across CGIAR genebanks?**	Primary documents/data	CRP annual reports AGM meetings minutes Achievement matrix QMS documentation
		Interviews	CRP Management GB managers and staff
2.	Has the Genebanks CRP led to increased cost-efficiency of conservation and management of CGIAR genebank collections? • Have opportunities been used for cost-sharing, equipment sharing, and reducing duplications?	Primary documents/data	CRP Annual reports Achievement matrix External GB reviews Online Reporting Tool (GB reports)
		Interviews	Genebank managers CRP management Center senior management
3.	To what extent has the Genebanks CRP enhanced genebank data management in terms of collection completeness, sharing, and service to genebank use?	Primary documents/data	CRP annual reports Achievement matrix Genesys data
		Interviews	Genebank managers and staff (data managers) Crop Trust staff working on data management Selected users of germplasm (external, internal)
4.	To what extent has the Genebanks CRP helped enhance CGIAR's performance regarding international obligations? • Has the effectiveness of Center genebanks been enhanced in meeting their obligations regarding the Treaty?	Primary documents/data	Reporting to Commission Crop Trust Board meeting minutes
		Interviews	Secretariat of the Treaty Commission on Genetic Resources (FAO)

	• Is CGIAR addressing its international obligations effectively?		Crop Trust Board Consortium Board Chair CEO A15 group
B. EFFECTIVENESS **Has the Genebanks CRP enhanced the technical performance of Center genebank operations?**			
5.	To what extent have the genebanks' operations improved since the launch of the Genebanks CRP? • What have been the most significant changes (improvements or setbacks) in genebank operations that have been effected through the Genebanks CRP? • What challenges, if any, do the genebanks face in achieving CRP objectives related to genebank operations?	Primary documents/data	CRP Annual reports Achievements matrix Accession flow data Online Reporting Tool (GB reports) Genebank review reports
		Interview	Genebank managers Center senior management CRP Management
		Site visits	Selected genebanks (5)
6.	Are the performance targets related to the Genebank CRP objectives and timeliness for their achievement clear and realistic? • What are the constraints in meeting performance targets? • Has the CRP helped address these constraints?	Primary documents/data	CRP Annual reports Genebank CRP proposal Genebank review reports Online Reporting Tool (GB reports)
		Interviews	CRP Management Genebank managers and staff Genebank peers (including AGM participants) FAO selected experts
7.	To what extent has the Genebanks CRP helped individual genebanks reach a 'steady state' in routine operations? • Has the Genebanks CRP set a clear and realistic timeline for reaching a 'steady state'? • Has the CRP set incentives or helped address threats for reaching a 'steady state'?	Primary documents/data	Genebank CRP proposal Genebank Platform proposal (2016) QMS documentation
		Interviews	Genebank managers Genebank review reports CRP management
8.	To what extent has the Genebanks CRP been effective in enhancing genebank operating standards across CGIAR?	Primary documents/data	QMS documentation
		Interviews	Genebank managers CRP Management
9.	Has the Genebanks CRP addressed all the issues within its mandate that influence the effectiveness of the conservation and use of the crop collections? • Implementation of state of the art conservation techniques? • Access to and distribution and exchange of germplasm?	Primary documents/data	CRP Annual reports Genebank review reports QMS documentation Online Reporting Tool (GB reports)
		Interviews	Genebank managers and staff

			Selected users of germplasm (internal and external) Center directors of research Genebank peers (including AGM participants)
10.	What outstanding issues, if any, are not being addressed in the Genebanks CRP arrangement that could influence the effectiveness of the conservation and use of the crop collections?	Primary documents/data	Genebank Platform proposal (2016)
		Interviews	Secretariat of the Treaty Commission on Genetic Resources (FAO) Donors Selected users of germplasm Center senior management
C. SUSTAINABILITY **How has the Genebanks CRP improved the security of CGIAR crop collections?**			
11.	Is the financial sustainability of CGIAR genebanks better assured today than before the Genebanks CRP was launched? • To what extent is the Crop Trust fulfilling its obligation to provide endowment funding for the longer-term sustainability and security of the germplasm collections in CGIAR? • Do the genebanks now have financial resources to fulfill their mandates? If not, what are the primary financial constraints still affecting genebank operations?	Primary documents/data	Crop Trust annual reports Crop Trust Board meeting minutes Fund Council Genebank CRP funding options report
		Interviews	Genebank managers Center senior management Crop Trust senior management
12.	To what extent have the essential capital requirements for the genebanks been covered under CGIAR reform and the Genebanks CRP arrangement?	Interviews	Genebank managers Center senior management CRP Management Fund Office
13.	To what extent has the Genebanks CRP enhanced the sustainability of the genebanks in terms of conservation security and non-financial risks? • To what extent has the Genebank CRP been able to influence human resource issues that affect genebank performance and sustainability?	Primary documents/data	QMS documentation IAU audit
		Interviews	Genebank managers Center senior management CRP management
D. Management and Governance **Has the Genebanks CRP been well managed and governed?**			
14.	How has the Crop Trust performed as manager of the Genebanks CRP? • Is there adequate accountability to CGIAR • Has the CRP set up effective oversight of the genebank operations and reporting • Is communication about CGIAR CRP and genebanks adequate?	Primary documents/data	CRP Management meeting minutes CRP annual reports Online Reporting Tool (GB reports) Crop Trust reports
		Interviews	Genebank managers

	• To what extent has there been a need for the Crop Trust to adjust its role since the inception of the program?		Crop Trust senior management CRP Management Consortium Office
15.	Are the Genebank CRP leadership and staffing arrangements efficient and transparent?	Primary documents/data	CRP staff organogram and TORs
		Interviews	Center senior management Consortium Office Genebank managers
16.	How effective are the relationships between the essential stakeholder groups concerned with the CRP? • How effective is the relationship between the Crop Trust and Center managements? • How effective is the relationship between the Crop Trust and the Consortium Office? • How effective is the relationship between Center genebank managers and the Genebanks CRP management?	Primary documents/data	IAU audit CRP reporting and CO comments Consortium Board meeting minutes CRP management meeting minutes
		Interviews	Crop Trust senior management Center DGs and senior management CRP management Consortium Board and Office
17.	Has fund allocation across genebanks and crop collections been transparent and appropriate?	Primary documents/data	Budget statements Costing study
		Interviews	Genebank managers Center senior management Consortium Office CRP management
18.	Are the CRP governance mechanisms adequate and well-functioning? • Is the funding structure of the Genebanks CRP sufficiently reflected in the CRP governance and oversight functions and responsibilities of CGIAR and the Trust?	Interviews	CGIAR Consortium Office Consortium Board Center Directors Crop Trust Board
E. OVERARCHING QUESTION **What has been the value added from the unique institutional arrangements of the Genebanks CRP?**			
19.	Has the Genebanks CRP improved accountability of CGIAR genebanks to the Fund Council?	Primary documents/data	CRP financial reports Costing study
		Interviews	Fund Office FC donors Consortium Office CRP management
20.		Primary documents/data	Genebank and Center data and reports

	To what extent has the Genebanks CRP strengthened the linkages between conservation and use in each of the Centers?	Interviews	Genebank managers Center germplasm users
		Survey	Center germplasm users
		Site visits	Selected genebanks (5)
21.	To what extent has the Genebanks CRP improved reporting (technical and financial) among the involved parties? • Is reporting of genebank operations informative and consistent • Does reporting of genebank operations serve all parties' information needs?	Interviews	Genebank managers Consortium Board Consortium Office Center senior management Fund Office Crop Trust CRP Management
22.	To what extent has the Genebanks CRP enhanced partnerships between organizations and institutions?	Primary documents/data	AGM meeting minutes Achievement matrix
		Survey	NARS leaders National genebanks AGM participants Genebank managers
		Interviews	CRP Directors
23.	Are CGIAR and the Center genebanks, under the Genebanks CRP institutional arrangement, represented at international fora in a manner that ensures meeting international obligations, high reputation of CGIAR, and CGIAR's effectiveness in genetic resources conservation and use? • Is reporting on CGIAR *ex situ* crop collections adequate? • Is CGIAR adequately represented?	Primary documents/data	Article 15 agreements International fora reports
		Interviews	Secretariat of the Treaty Commission on Genetic Resources(FAO) Article 15 group

Annex 5 List of document reviewed

Topic Area/ Level	Document
CRP	
CRP Proposal and feedback and review	Genebanks CRPProposal (2011)
	ISPC commentary on proposal (2012)
	Internal audit report on the Phase I review of Genebanks (2016)
CRP Annual Reports	2014 annual report – CRP version & summary
	2013 annual report CRP version & summary
	2012 annual report
CRP Financial Reports	2012-2014 and 2015 draft
	ORT financial reports
	Crop Trust financial report and annual report (2015)
Crop Trust self-evaluation	Self-evaluation conducted by Trust in 2015
Genebank Platform	Proposal submitted 31 March 2016
Crop Trust	
	Summary document on collections (Jan 2015)
	Constitution
	Fundraising strategy 2014-2018
	Crop Trust Fund Disbursement Strategy
Treaty	
	International Treaty on Plant Genetic Resources
	Plant Treaty -Trust relationship agreement (2006)
CGIAR	
	Costing Study - 2010/2011
	Scoping Study - 2011
	ISPC comments on Scoping and costing study - 2011
	Genebank Options Paper - April 2015
	CGIAR Financial reports
	Consortium Board minutes

Annex 6. Evaluation team member biodata

Team Leader

Michael (Mike) Jackson began his career in genetic resources in the 1970s during eight years at the International Potato Center (CIP), Peru followed by a decade on the faculty of The University of Birmingham, UK. In 1991, he joined the International Rice Research Institute (IRRI) in the Philippines to manage the world's largest genebank for rice as program leader for genetic resources and first head of the Genetic Resources Center. From 2001 until his retirement in 2010, he served as IRRI's Director for Program Planning and Communications. He has over 40 years research experience, with more than 125 scientific papers and book chapters on genetic resources conservation, evaluation and use, and biosystematics, as well as pre-breeding, agronomy, and plant pathology. He is author/co-editor of four books on genetic resources, the most recent (in 2014) about genetic resources and climate change. He has a BSc Honours (botany and geography, 1970) from the University of Southampton, and MSc (1971, genetic resources) and PhD (1975, potato biosystematics) degrees from The University of Birmingham.

Team members

Marisé Borja is Chief Technical Officer at Plant Response Biotech S.L. and associate professor at the Universidad Complutense de Madrid. She has over 30 years' experience in R&D in the Ag-Biotech sector in both US and Europe. She is an expert for the EU Commission in committees related to biotechnology, agriculture and environment for more than 20 years. She has been leading evaluator for the EU funded Genetic Resources programs. She has managed a private company germplasm collection for 15 years. She has been a Principal Investigator in more than 30 international Industry-Academia collaborative projects and has published more than 50 research papers. She has wide experience in bringing results from basic research science to the market and in IPR issues for which she was the ISF (International Seed Federation) ornamental representative at the UPOV. She has also been a Fleuroselect Board member. She has a BSc (molecular biology, 1987) and PhD (1991, genetic resources) degrees from the Universidad Complutense and an MSc (1997, bioethics) degree from the University of Comillas.

Brian Ford-Lloyd began his career in plant genetic resources under the guidance of Jack Hawkes and Trevor Williams at The University of Birmingham in the early 1970s. His career continued in Birmingham becoming Director of the MSc course in *Conservation and Utilization of Plant Genetic Resources*. At the same time his research continued on aspects of genetic resources conservation and use involving a range of crops such as sugar beet and rice. He has co-authored ten books on different aspects of plant genetic resources, 34 book chapters, and has published over 110 research papers covering molecular genetic diversity on the one hand and plant tissue culture on the other. While continuing in research Brian was awarded a Chair and moved into administration acting as Head of Biosciences at the University of Birmingham and then Director of the University Graduate School, joining the University senior management team. He received an Honours degree in botany (1970) and a PhD (1973, biosystematics of the genus *Beta*) from The University of Birmingham. He recently became Emeritus Professor.

Annex 7. Resource Group members

Name	**Affiliation**
Andreas Graner	Managing Director and Head of Genebank Department, Leibniz Institute of Plant Genetics and Crop Plant Research (IPK), Germany
Dan Leskien	Senior Liaison Officer, Commission for Genetic Resources for Food and Agriculture, FAO
Maria Jose Amstalden Sampaio	Global Policies Coordinator, Secretariat of International Affairs, EMBRAPA, Brazil
Lim Eng Siang	Previously with Ministry of Agriculture and Agro-Based Industry, Malaysia
Carl-Gustaf Thornström	Guest researcher, Department of Plant Biology and Forest Genetics, Swedish University of Agricultural Sciences, Sweden
Maureen Robinson	Independent Consultant, expert on governance and management.