

Addenda: Responses to the comments from the ISPC Genebank Platform proposal

1. Greater clarification of the prioritization and risk management strategy which the Platform has for collection, conservation and management activities.

Proposal Section 2.7 (pages 27-30) is revised

2. Elaboration of the Platform's strategy to strengthen and expand partnerships, including its functional linkages with the AFS CRPs and other CGIAR Platforms

Proposal Section 2.3 (pages 24-25) is revised and Table 2 (pages 120-125) in Annex 4 provides detailed linkages and mechanisms between the Genebank Platform and the AFS CRPs, other Platforms and other users for the achievement of specific Module outputs.

3. The Platform's strategy towards the broadening of the global Plant Genetic Resources for Food and Agriculture (PGRFA) information and data management partnership, including its role in capacity development

Proposal Sections 1.0.4 (pages 14-15) and 3.1 (pages 39-40) are revised.

A process of systematically reviewing and updating the 17 published crop conservation strategies that are relevant to the CGIAR genebanks will be developed in coordination with the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) and the FAO Commission on Genetic Resources for Food and Agriculture as a means to determine (1) priority actions for PGRFA conservation and use, (2) targets for strengthening capacity of NARS, (3) specific roles of CGIAR genebanks within the global system and (4) engagement of national and regional partners in Genesys.

This process will be based upon an initial survey of expert and stakeholder communities within each crop. This will be followed by tailored approaches for each crop to develop and publish updated strategies and engage new partners in Genesys. These activities will be coordinated and cross-referenced with current efforts by the FAO to prepare the third edition of the State of the World Report on PGRFA and ongoing monitoring of the Global Plan of Action for PGRFA. Where appropriate, existing formal networks or crop user groups will be supported to sustain inputs and collaboration either through direct support from the Platform or from bilateral sources, especially the ITPGRFA.

Themes and institutes for capacity building will be prioritized based on survey results aggregated across crops. Responding to these priorities, a schedule of thematic and regional capacity building events will be developed and implemented, bringing together specific areas of expertise from across all 11 Centers and key partners, following an approach adopted currently in the GOAL workshops. Themes will include all aspects of PGRFA management, including genebank operations, policy and phytosanitary controls. In a small number of specific target countries (site integration countries) these events will be followed up with individualized programs of training or secondment.

While this approach caters to expanding and deepening partnerships with NARS, DivSeek, GRIN-Global, the Multistakeholder Policy Group and the Annual Genebank Meetings will also provide a means to convene additional partners with whom data management standards and tools, QMS, and other approaches can be shared.

4. The Platform's proposed governance and management structures

Proposal Section 1.0.5 (pages 15-17) is revised.

The proposed governance structure aims to minimize the transactional burden and follows the same principle as other CRPs. It should be noted that the Crop Trust Board membership is made up of four appointees from the Governing Body of the ITPGRFA, one from the CGIAR and one from the FAO, all with appropriate experience to guide the management of these international collections.

In order to clearly delineate the responsibilities of the Center *viz a viz* the Crop Trust, it is proposed that an MoU is developed and agreed between the Crop Trust and CGIAR System. This document will lay out the roles and responsibilities of the Centers and the Crop Trust, and their interactions with all System bodies. Further, following an approach already adopted to some extent in the CRP, it is proposed that the Executive Director of the Crop Trust reports annually the status of the genebanks against performance targets to the System Management Board, and receives System level feedback on the direction of Platform activities. As stated in the proposal, the System Management Board will review and approve the CGIAR's position on PGRFA policy.

The Independent Advisory Committee will be made up of seven members: four external experts, one representative from AFS-CRPs, the Genetic Gain Platform Leader and the Crop Trust Executive Director. The Management Team will comprise seven members: three A15 members, the Policy Module leader, GHU representative and the Platform Coordinator.

Additional ISPC comments

Targeting and conserving germplasm with climate change-relevant traits

(ISPC comment: "the Platform could be more emphatic in targeting gene pools and populations in areas defined after an integrated analysis of data on the in situ occurrence of a given taxon linked to variations in temperature and soil")

Proposal Section 3.1 (pages 32-33) is revised.

Collecting of new germplasm, briefly described on page 33 in the proposal, will be targeted to address specific gaps in the collections. The aim will be to collect unique diversity that is likely to have traits relevant to addressing climate change, nutrition and other identified priorities, and that is either under-represented in collections or threatened with extinction. Priority crop genotypes and populations will be determined based on integrative approaches already developed by ICARDA and CIAT/Big Data in identifying FIGS subsets and crop wild relative collecting priorities¹, using guidance also from the crop conservation strategies where possible. Consultation with AFS CRPs and CCAFS will be key to ensuring that breeders' priorities are taken into account and appropriate traits are targeted and the best data are used. The analyses will be based on developing and incorporating key datasets:

- Agro-environmental projections of crop occurrence in different climate scenarios;

¹For more information on the previous gap analyses:

<https://www.researchgate.net/publication/299344447>

and on FIGS: <http://link.springer.com/article/10.1007/s10722-011-9775-5>

- Geographical, taxonomic and genomic analyses of global genebank holdings;
- Habitat destruction and information on varietal adoption.

Results will be validated by crop specific genetic resources specialists and partners before collecting missions commence. It is expected that the contacts will be made with national partners in the target countries as these analyses progress, and that collecting agreements that are compliant with applicable international and national laws will be in place by 2020.

Animal and microbial genetic resources

(ISPC comment: “The Platform might also consider the development of a CGIAR strategy to consider its potential role and comparative advantage in the conservation and management of animal and microbial genetic resources”)

Non-plant genetic resources collections (including livestock, pests, diseases, soil microbes) are beyond the scope of this Platform and are better handled in the respective CRPs. PGRFA have an established legal framework that does not yet exist for different non-plant resources. The priorities, needs, stakeholders, partners and applications of non-plant resources are very different from PGRFA, and the Genebank Platform would have no comparative advantage in implementing a program of work involving animal and microbial genetic resources. Nevertheless experiences and expertise within the different domains could be usefully exchanged, and the Genebank Platform would be willing to coordinate with other CRPs and Centers dealing with microbial and animal genetic resources, to develop reports concerning genetic resources-related activities across the CGIAR system for intergovernmental bodies such as the FAO Commission on Genetic Resources for Food and Agriculture.

Skills in seed pathology

(ISPC comment: In addition a critical skill gap appears to exist in seed pathology”)

Nine of the 11 CGIAR centers have in-house Germplasm Health Units, while Bioversity International and ICRAF utilize Gembloux Agro-Bio Tech (University of Liège, Belgium) and KEPHIS (Nairobi, Kenya), respectively, for GHU functions. The GHUs provide seed/germplasm health services to genebank operations, including testing germplasm for pests and diseases; production of pest and pathogen free germplasm for conservation and distribution; liaison with national and regional plant quarantine authorities for compliance to national and global phytosanitary standards. The GHUs draw together multidisciplinary expertise in pathology and plant health.

[The curriculum vitae of the GHU scientists have been added to Annex 3 \(pages 84-112\).](#)

Relationship with Big Data

(ISPC comment: “the link between the Genebank Platform and BDP should be more than just the provision of environmental and socio-economic data to Genesys. It should rather address the IT landscape between BDP and Genesys as a specific information system, as well as other related information systems”)

The Genebank Platform will be an active stakeholder in the Big Data Platform in terms of supplying and using data, feeding into shared workplans and adopting appropriate approaches and data-sharing policies. The specific standards, tools and capacity to run Genesys and GRIN-Global will be dependent on specific expertise and experience provided within the Genebank Platform (including partner institutes). While it is not possible to determine precisely at this stage how the Big Data Platform and Genebank Platforms will interlink, we are already planning meetings in 2016 to develop workplans for joint activities.

Supporting data curation

(ISPC comment: “..data curation at the genebank level is not well supported by information systems, and continues to rely heavily on the personal initiative and knowledge of the leading personnel of the genebanks”)

Strengthening quality management systems (QMS), including documenting, reviewing and validating standard operative procedures (SOPs) and implementing comprehensive barcoding and “mobile” genebanking, are all important means for supporting high standards of data curation. Data curation is thus not wholly dependent on personal initiative.

However, data management systems could and should be more supportive of workflows, following an approach that has already been adopted in IRRRI’s accession management system. This is already considered as a potential area for development in GRIN-Global.

Data management target

(ISPC comment: “..an ambition of data availability of all accessions (100%) should be pursued”)

Detailed passport data should be available for 100% of the accessions that were documented upon acquisition in the genebank. However, a proportion of accessions exists in all collections where provenance was originally poorly documented and cannot be improved. All incoming materials should be fully documented unless exceptional circumstances justify otherwise. Passport Data Completeness Index will be used to indicate the level to which accessions are documented within a collection but it will not be used as a target (because improvement is improbable).

Other forms of data (e.g. genotypic data) are becoming increasingly valuable, especially in the absence of passport data. The minimum characterization descriptors and the target for data availability will be defined for individual crops or crop groups in agreement among the genebank managers responsible for these collections. These targets will be discussed and agreed at AGM2017.

[Additional milestones and achievement dates are provided in Tables 3 \(pages 34-37\), 5 \(page 51\) and 6 \(pages 60-61\) and for each individual genebank in Annex 1 \(pages 67-81\).](#)

Structure of the Platform

(ISPC comment: “..it may be worth considering whether the proposal could sell itself better if structure according to the second call Guidance document”)

The four modules in the Call document were proposed in isolation of discussions and feedback provided by the Consortium Board Scientific Committee, Fund Council as well as other parties to build up a stronger, dynamic interface for the genebanks on use of diversity. At the time of the publication of the Call, arguments were presented to the CO by the Crop Trust that structuring the Platform in this way was inappropriate. In particular the gap analysis and collecting represents 1% of the budget and “implementation of a germplasm health unit” is misleading since GHUs already exist and are functioning under a cost recovery basis. The Platform proposes only to introduce and strengthen QMS, and improve the capacity of the existing GHUs. It does not propose to set up new GHUs or oversee the technical operation of the GHUs. The CO supported verbally the 3-module structure that is currently proposed, although the Call text was not changed.

The proposed modules – Conservation, Use and Policy – strongly convey the research support functions and infrastructure of the Genebank Platform. The Use Module orientates much of the Platform’s data resources development activities towards the outputs and needs of the other Platforms, CRPs and external users (see Annex 4 Table 2), and allows the genebanks to be more coordinated, interactive and responsive to users. The Conservation Module’s activities and indicators will allow monitoring of both the GHU activities and the gap analysis and collecting activities.

Advocacy and communication

(ISPC comment: “The business case could be further strengthened, however, by adding advocacy and communication”)

Linkages and communication with users are important in all Platform activities. A Platform web site will be developed by the end of 2016 and operational in 2017, and will provide news, updates and dialogue on genebank and GHU developments and significant events, new acquisitions in individual collections, and policies to the whole community of genebank users and partners. A better-defined approach to update the crop strategies and consult breeders on collecting priorities will provide means to increase the flow of information between genebanks and users, and create a community for dialogue and exchange.

Clarification of the budget

(ISPC comment: “...the accession/staff ratio requires further clarification”)

The budgets are based on an assessment of costs for carefully defined activities. The accession/staff ratio is influenced by a multitude of factors including crop type, collection size and Center location. We are confident that no genebank is performing at inappropriate levels or incurring extraordinary costs in their routine operations; a point that has been endorsed by genebank reviews and will be further explored through the validation of QMS. We do not attempt to assess the comparative value of conserving and making available different CGIAR mandate crops, largely because the Centers have already made a legal commitment to conserve these specific collections in the long term.

In the review of finances and financial reports carried out by the Crop Trust, we have noted a considerable divergence in the attribution of institutional charges to the genebanks. During the CRP, assessments were also carried out of staff time allocations to defined genebank operations, inventories of serviceable equipment and infrastructure and institutional costs and charges. We are fully aware that Centers implement Financial Guidelines differently. For costs to be more comparable, a more harmonized implementation of financial practices would be necessary. However, this requires action at a System level. A Task Force of Center Finance Directors has been set up to review the implementation of Financial Guidelines 5 and we await their recommendations. We plan an in-depth costing re-assessment to be conducted before 2020 (marking a ten-year interval from the previous Costing Study), which will result in the revision of individual Center budgets for routine operations. In the meantime, the Crop Trust will continue to monitor expenditures closely and provide observations to the System Management Office and auditors.

Core activities under Option 2

(ISPC comment: “A priority list of core activities under Option 2 would help the adjustments to be made on the genebank operations according to a funding reality check”)

It is important to emphasize that no activities have been added to the Genebank Platform from those described in Option 2 of the Genebank Options paper presented to FC13. All activities described in the proposal are core activities. The proposal puts considerably more

thought and detail into the data resources management in the form of the Use Module, which aims to provide the chief interface with Platforms and CRPs. We would argue strongly that without this interface, the genebanks will lose relevance, which is essential to their adequate functioning and sustainability. The Platform, therefore, represents a *skeletal* program of activities. This also explains why capacity development and genotyping are proposed for uplift funding.

Summary budget

(ISPC comment: “..presenting the budget proposed by the Genetic Platform in a summarized and consolidated table would also help.”)

	2017	2018	2019	2020	2021	Subtotal	2022	Total
Conservation Module (includes 1.1.1, 1.1.2, 1.2.1 part, 1.2.5 part)								
AfricaRice	0.55	0.63	0.66	0.40	0.40	2.64	0.40	3.04
Biodiversity	1.12	1.12	1.12	1.12	1.12	5.61	1.12	6.73
CIAT	3.51	3.25	3.01	2.75	2.75	15.27	2.75	18.02
CIMMYT	1.60	1.60	1.60	1.60	1.60	8.00	1.60	9.60
CIP	4.68	4.09	4.01	4.04	3.86	20.69	3.72	24.41
ICARDA	2.25	2.68	2.68	2.25	2.25	12.11	1.80	13.91
ICRAF	1.17	1.17	1.17	1.17	1.17	5.86	1.11	6.97
ICRISAT	2.16	2.16	2.16	2.06	2.06	10.60	2.06	12.66
IITA	2.38	1.51	2.03	1.51	1.34	8.76	1.31	10.07
ILRI	1.24	1.24	1.24	1.24	1.24	6.20	1.15	7.35
IRRI	1.98	1.79	1.60	1.60	1.60	8.57	1.60	10.17
ICRISAT regional	0.78	0.78	0.78	0.78	0.78	3.90	0.78	4.68
GRIN-Global (1.2.1)	0.53	0.35	0.15	0.00	0.00	1.03	0.00	1.03
GHUs (1.2.1 part, 1.2.5 part)	1.90	1.94	1.98	2.02	2.06	9.90	2.00	11.90
Conservation methods (1.2.2, 1.2.5 part)	1.12	1.12	1.12	1.12	1.12	5.58	1.12	6.70
Collecting (1.2.4, 1.2.5 part)	0.77	0.77	0.97	1.00	1.00	4.51	0.50	5.01
Platform meetings and coordination	1.08	1.07	1.08	1.09	1.09	5.40	1.14	6.54
Subtotal Conservation	28.80	27.27	27.36	25.75	25.44	134.62	24.16	158.78
Use Module								
Data integration (2.1.1)	0.80	0.80	0.85	0.80	0.72	3.97	0.73	4.70
User tools (2.1.2)	0.30	0.30	0.30	0.30	0.30	1.50	0.30	1.80
Focal subsets (2.1.3)	0.24	0.28	0.30	0.30	0.30	1.42	0.20	1.62
Subtotal Use	1.34	1.38	1.45	1.40	1.32	6.89	1.22	8.12
Policy Module								
Subtotal Policy	0.78	0.78	0.78	0.78	0.78	3.90	0.78	4.66
Management and support costs	0.69	0.69	0.69	0.69	0.69	3.46	0.69	4.16
Total Direct Costs	31.61	30.12	30.28	28.62	28.24	148.88	26.86	175.72
Contribution from endowment	6.75	9.06	11.53	13.35	15.03	55.72	15.03	70.75
Funds required from CGIAR Fund	24.86	21.06	18.75	15.27	13.21	93.16	11.83	104.97

Open access and Intellectual assets policy

Annexes 5a and 5b (pages 126-128) are revised in response to comments from the Consortium Office.

Management and support costs

The management and support costs for the Genebank Platform were determined after discussions between the Finance Directors of the Crop Trust and the Consortium Office (now System Management Office) prior to the proposal submission in March 2016. All scientific and technical coordination costs are included in the budget as direct costs (under the Conservation Module). The management and support funds refer to the financial and administrative costs incurred by the Crop Trust in the management of the Platform.

COST COMPONENT		AMOUNT BUDGETED						
		2017	2018	2019	2020	2021	2022	6-year Total
A. Basic components as were given in the guidance document	SubTotal:	692,966	692,966	692,966	692,966	692,966	692,966	4,157,795
A.1 Management fee charged by the Lead Center to handle CRP Finance and Administrative matters (Finance, accounting, reporting, contracts management, legal, HR, IT, communication-if handled by Lead Center)	Amount:	235,516	235,516	235,516	235,516	235,516	235,516	1,538,095
A.2 Combines three of the basic components to protect confidentiality of staff salaries – the sum total of these three component should be reported as a single amount: <ul style="list-style-type: none"> • CRP director including related cost – benefits and on-cost if customary (computer, vehicle lease and office space) based on percentage time allocation • Infrastructure and general and administrative charges if CRP leader is not located at the Lead Center • Financial and administrative support based on time allocation 	Amount:	457,450	457,450	457,450	457,450	457,450	457,450	2,619,700
A.3 Flagship leader and regional coordinators only if a	Amount:	0	0	0	0	0	0	0

significant percentage time (>50%) is dedicated to managerial activities.								
A.4 CRP Management Committee and related costs	Amount:	0	0	0	0	0	0	0
A.5 Independent Steering Committee (or Science Committee) and related costs	Amount:	0	0	0	0	0	0	0
A.6 Communication activity related specifically to CRP communication and webpage (not if handled by Lead Center)	Amount:	0	0	0	0	0	0	0
A.7 CRP internal audit by the CGIAR Internal Audit Unit, or its future equivalent in the new System governance structure	Amount:	0	0	0	0	0	0	0
A.8 CRP internal and external reviews (e.g. CCEEs and other evaluations and reviews), as well as impact assessments	Amount:	0	0	0	0	0	0	0
B. CRP-level cross-cutting components not mentioned in the guidance document	SubTotal:	0	0	0	0	0	0	0
B.1 CRP special events (e.g. CRP-wide program meetings)	Amount:	0	0	0	0	0	0	0
B.2 CRP leadership meetings (e.g. country coordinators, flagship leaders, cross-cutting coordinators)	Amount:	0	0	0	0	0	0	0
B.3 CRP M&E coordination and systems (not including external evaluations and impact assessments)	Amount:	0	0	0	0	0	0	0
B.4 CRP communications, open access, IP assets, KMIS (including Lead Centre staff budgeted as direct costs not allowed under A.8 above)	Amount:							
B.5 CRP capdev coordination	Amount:	0	0	0	0	0	0	0
B.6 CRP gender and youth coordination	Amount:	0	0	0	0	0	0	0
B.7 CRP site integration support	Amount:	0	0	0	0	0	0	0
B.8 Other: (specify)	Amount:	0	0	0	0	0	0	0

