Advisory Services

CGIAR

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Evaluation of **CGIAR Excellence in Breeding Platform**

Annexes

May 2022

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Acronyms and Abbreviations

BMGF	The Bill & Melinda Gates Foundation
BMS	Breeding Management System
BPAT	Breeding Program Assessment Tool
CAS	CGIAR Advisory Services
CIMMYT	International Maize and Wheat Improvement Center
CtEH	Crops to End Hunger
EBS	Enterprise Breeding System
EiB	Excellence in Breeding
ICAR	Indian Council of Agricultural Research
KII	Key Informant Interviews
NARES	National Agricultural Research and Extension Systems
SIMEC	Strategic Impact, Monitoring and Evaluation Committee

Annex 1. Evaluation Methodology

In accordance with the evaluation Terms of Reference (Annex 8 of the inception report and executive summary in Annex 11 in this document) the evaluation adopted a mixed-methods approach (qualitative and quantitative) to collect data and assess EiB Platform achievements and progress toward results (outputs and outcomes).

The evaluation design and implementation were guided by the following principles: participatory, learning-oriented, utilization-focused, and gender responsive.

- Design of the evaluation took utilization-focused and learning-oriented approach to respond to the evolving context of One CGIAR and design of the new initiatives under a new Action Area of Genetic innovation, by early involvement of the evaluand and invitation to contribute to the design of questions and provide feedback on the design. Limitations in Annex section 1.2 describe challenges of engaging the evaluand, and hence inability fully operationalize this principle.
- Attention to cross-cutting theme, including gender (see section 4.4.2) and deliberate sex-disaggregation of data on survey respondents and interviewees partially allowed to operationalize gender responsiveness of the evaluation.

The evaluation matrix (see Annex 5) formed the main analytical framework and set out how to answer evaluation questions. The evaluation matrix breaks down the main questions into sub-questions, mapping them to indicators, data collection and analysis methods and/or lines of inquiry, and sources of information. Its use helped ensure that all data collected was analyzed and triangulated, resulting in a robust, credible (reducing subjectivity in the evaluative judgment), and transparent evaluation report. The different data collection tools are described in more detail in the text below. The validation of results and quality assurance relied on triangulating data and findings from different data sources and methods—e.g., cross-checking the results of surveys with key informant interviews (KIIs). This approach allowed the evaluation team to ensure transparency, independence of judgment, and minimization of bias. Summaries of the five module assessments, and one cross cutting study (on governance, the use of human resources, and change management) are included as Annexes 3 and 4 of this document.

By request of the evaluand, particular attention was given to organizational development and the management of change both within the Platform and by partners. The following definitions and framework guided the presentation of findings and the formulation of conclusions and recommendations:

- **Organizational development (OD)** is understood as a set of interventions developed with a systematic mindset that create alignment with an organization's goals and activities in a planned and intentional way, with a view to bringing about a particular result that will improve the overall performance of the organization. OD focuses on the organization's strategy, goals, and core purpose, as well as on maximizing the value gained from the organization's resources, including:

✓ *People*: e.g., people, processes, leadership, culture, human resources policies, and organizational behavior. Driven by the behavioral sciences, typical interventions include performance management, reward and motivation, employee surveys, psychometrics, coaching, mentoring, and training.
✓ *Technology and operations*: e.g., science/R&D, operations, and physical structure. Typical interventions include Lean/Six Sigma, business process re-engineering, outsourcing, and training.
✓ *Strategy and structure*: e.g., business planning, transformation programs, corporate/central services.

- **Change management** is a collective term for all approaches to prepare, support, and help individuals, teams, and organizations to bring about organizational change. Critical within change management is the role of the individual. It therefore requires an understanding of resistance, organizational defence routines, pervading cultures, and the engagement process required to bring people along.

1.1 Data Collection Methods

The evaluation matrix in Annex 5 shows the main data sources used by the team: documents/data and statistics, Key Informant Interviews (KIIs), an on-line survey, and deep dives into three breeding programs.

Field visits to CGIAR center(s) and other partner organizations in India were also carried out i.e., face to face (F2F) interviews of scientists associated with the Bill & Melinda Gates Foundation (BMGF) funded Indian Council of Agricultural Research (ICAR) project on wheat, rice, and chickpea.

The qualitative methods included semi-structured KIIs, document analysis, and deep dives into three breeding programs. Summaries of the five module assessments and one cross-cutting study (on governance, the use of human resources, and change management) are included as Annexes 3 and 4 of this report, and interview and survey guides appear in Annexes 6 and 7.

In October 2021 a subject matter expert (SME) carried out a field visit to a partner organization in India, Indian Council of Agricultural Research (ICAR). For the focused reviews, the visit included four face-to-face interviews of scientists related to ICAR wheat, rice, and chickpea breeding activities, under the auspices of a BMGF-funded project.[1]

Together, the evaluation and validation (see annex 2)[2] teams conducted 71 interviews. Figure 1 shows the distribution of interviewees by category: 22 were with EiB staff, 17 were with CGIAR Center staff (non-EiB), 12 were with private sector representatives, 9 were with NARS, 6 were with donors, and 5 were with members of academia; 31% were women (see Annexes 7 and 8).

Figure 1: Interviewees by categories of affiliation (N=71)

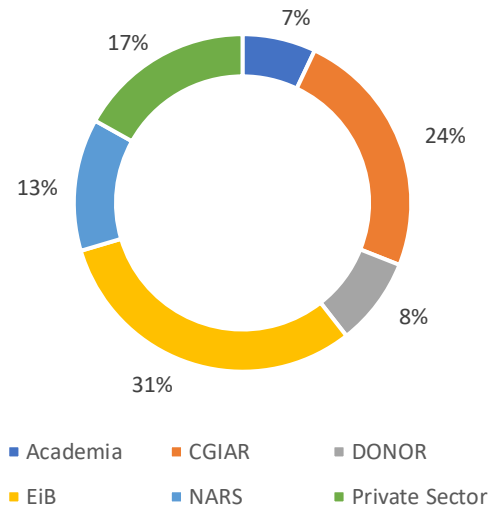
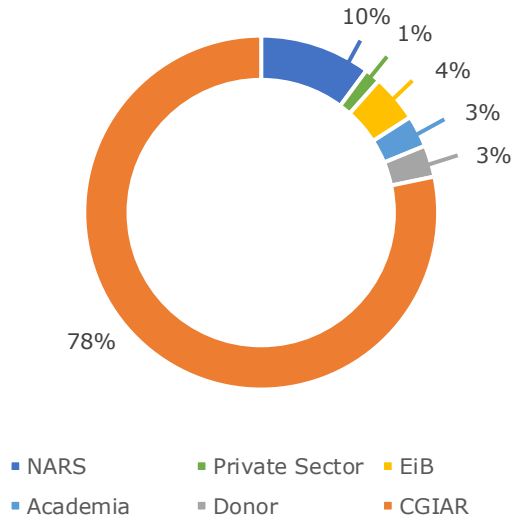


Figure 2: Survey respondents by categories or affiliation (N=68)



Among the quantitative methods used, in addition to drawing on available statistical data, the team conducted an **online survey** targeting ninety-six individuals from both EiB Platform team and external partners (see Figure 2)- response rate was at 73%. The **survey** was open between from October 6 to 21; respondents were 21% female and 79% male. Questions covered the following themes: the Platform work environment and leadership, change management, partner engagement, and insights into things that were working/not working well in the Platform (see Annex 7). EiB team members were asked about their work environment, Platform leadership, and change management. External partners were asked about the Platform's purpose, recent change efforts, and their level of satisfaction with the Platform's

[1] Owing to limited availability of documentation, focused reviews were conducted in lieu of the case studies planned in the inception report. Additional detail on the focused reviews is available by request.
[2] Fourteen interviews with 16 individuals were conducted during the validation exercise; see Annex 2 for more detail.

products and services. All survey responses were triangulated with other evidence throughout this report (see Annex 7.1 for questionnaire and 7.2 for responses).

1.2 Limitations

The EiB Platform evaluation faced several limitations, the majority of which could not be mitigated as envisioned in the Inception Report. Validation exercise (see Preamble and Annex 2) was conducted to address contested areas, some partially due to inability to mitigate limitations.

The EiB team's limited understanding of the purpose and nature of the evaluation was one of the root causes of the need for the validation step. As they are responsible for the evaluation function within CGIAR, CAS should have ensured that EiB management understood the purpose of the evaluation and the importance of their engagement prior to the launch of the evaluation[3]. Although the Platform leadership and subsequently the coordination team were engaged with early in the process and invited to participate actively in the evaluation through the review of the evaluation matrix, the inception report, data collection instruments, only limited feedback was received (e.g., no feedback was provided on the TOR and inception reports).

Another root cause contributing to the lack of engagement and other limitations was the timing of the evaluation. The evaluation followed the timeline agreed in the ToR and approved by SIMEC. However, when the deadline for submitting One CGIAR initiative proposals was shifted from June to September 30, 2021,[4] this meant that the EiB Platform leadership had limited availability in the first two months of the evaluation owing to their intense involvement in the CGIAR reform and design of initiatives. While a worthy and notable exercise, the development of ToC in response to donors' requests (August 2021) also hindered ability to engage with the evaluation team on document provision; the ToC workshops were largely forward looking. In many cases, core interlocutors such as the module leads and high-level management were not available until after 1 October, requiring extension of the evaluation timeline beyond the originally foreseen four months.

A related constraint has been the partial and incomplete nature of the information made available to the evaluation team, with some later disputed by the evaluand as incomplete or misleading. Only limited documentation was shared proactively by the EiB team prior to their onboarding in August through development of the inception report by October 1. Notwithstanding the extensive list of **documents** consulted by the evaluation and validation team (Annex 9), access to documentation, including key documents such as BPAT (Breeding Program Assessment Tools) reports, was extremely challenging. It was also difficult to locate information related to some of the activities carried out by the EiB Platform team—e.g., trainings/capacity-building events, number of participants—but more important, it proved challenging to access data that capture the outcomes of the Platform's work. For example, the evaluation team was unable to find information on the impact or effectiveness of training/capacity building. Likewise, in the case of the toolbox, feedback from internal IT and other toolbox developers and managers indicates that the value and impact of toolbox use was not formally assessed and that user feedback mechanisms were not applied. Compounded by the reduced time available for interviews of the EiB team, opportunities to cross-check information and views from different stakeholders based on evidence from the EiB team were limited and generally insufficient.

A further complication resulting from the tight deadlines faced by the evaluation team has been the impact on the planned sequencing of the evaluation. Initial plans called for the findings identified in the

[3] CAS/Evaluation note: Despite significant engagement of the evaluand by CAS at the scoping stage in development of the TOR and subsequently quality assurance, the limitation was not fully mitigated. This lack of understanding can be partially attributed to the limited involvement of the M&E professional on the evaluand's side during the development of the evaluation design matrix and, subsequently, the inception report. The EiB Platform M&E expert left in February 2021, and a new consultant started in March 2021. Her task related to the actual evaluation was limited to provision of selected documents during the scoping.

[4] Originally planned to June 2021.

various studies (modules, components, and focused study on breeding programs) to feed into the overall evaluation report, but in an attempt to respect deadlines, these had to be developed in parallel[5].

At the validation stage, all the core documents were available, but interview notes from the initial evaluation were anonymized and grouped, and largely redacted, reducing their value. The validation team was given 11–15 days to finalize validation of the evaluation. This included a rapid learning phase to understand the work of the Platform, the initial evaluation, and the details of the response by the Platform. Validation was not a repeat of the evaluation and was mainly limited to areas of contention in the initial report and to the building of a more substantial set of recommendations for use by One CGIAR (see preamble and Annex 2).

1.3 Management and Quality Assurance

The evaluation team consisted of Subject Matter Experts (SME) and a Team leader (TL). The core contribution of each SME is the relevant Module report (see Annexes 3 and 4). The team Leader was responsible for collation as a unified Evaluation Report. While working as a team each SME and team member of the evaluation team only took editorial/authorial responsibility for their expert input and content.

In line with CGIAR Evaluation Policy and standards in the Evaluation Framework, across the evaluation lifecycle a multilayered quality assurance system was followed, as outlined in the original TOR and the inception report. CAS quality assurance of evaluations includes external peer review at least at two stages in the evaluation process. CAS/Evaluation and evaluation peer reviewers checked the choice of methodology for quality, and technical soundness and reviewed the inception and draft evaluation reports; the Subject-matter expert peer reviewers reviewed the module and component study reports. Issues raised during quality assurance stages were mitigated only to a certain degree, which changed the evaluation timeline and necessitated the validation exercise (see 'Limitations' above and Preamble to thee full evaluation report).

As per agreement with the Strategic Impact, Monitoring and Evaluation Committee (SIMEC) under CGIAR System Council and the endorsed TOR, CAS/Evaluation Lead agreed to an independent external validation review of the EiB Platform evaluation pre-final report. Methodology for validation exercise and overview of findings are presented in Annex 2.

In line with the CAS Secretariat's conflict of interest (CoI) policy and the CGIAR Evaluation Policy, independence, and lack of bias of the evaluation team was assured The evaluation and validation teams followed the confidentiality clauses as outlined in standard CGIAR contracts and complied with conflict of interest (CoI) policy. They declared and CAS assessed any actual, perceived, or potential CoI for each of the selected consultants (see Annex 10). Further, potential perceived COI was mitigated through various mechanisms in the evaluation team, and by CAS, including use of external peer-reviewers (see Annex 10 for additional detail).

[5] CAS/evaluation note: CAS/evaluation engaged with the evaluation team on adjusting the timelines. The evaluation team did not communicate changes in their schedules which conflicted with the changing evaluation timeline, and hence caused quality issues. Annex 2 and Preamble provide additional background on timelines and their effect on the evaluation completion.

Annex 2. Validation Report

The EiB Platform Evaluation Terms of References (TOR) (Executive Summary in Annex 10) were vetted by the Strategic Impact, Monitoring and Evaluation Committee (SIMEC) under CGIAR System Council in May 2021, and the Inception report was developed by the commissioned evaluation team in September 2021. The EiB Platform evaluation report was supposed to be delivered to SIMEC and subsequently to the system Council in December 2021. In lieu of the delayed evaluation report, the CAS Secretariat supplied SIMEC with two confidential status notes (Dec 2021, Feb 2022) detailing updates and reasons for the delay. The 2nd status note included redacted findings and full recommendations from the draft evaluation report (Feb 2022) and highlighted selected challenges with mitigation measures and the evaluation quality assurance processes that had taken place.

On February 10, 2022, SIMEC and CAS/Evaluation Lead agreed to an independent external validation review of the EiB Platform evaluation pre-final report, submitted to CAS by the commissioned external evaluation team on February 22, 2022. That draft of the report was the final output of the evaluation team after the response from the EiB Platform on an earlier draft. The purpose of the systematic validation process of the EiB Platform Evaluation report was to review the findings and conclusions, behind the original list of recommendations made.

2.1 Methodology and Process

The validation exercise followed process outlined in the TOR approved by SIMEC in March 2022. Lead of the CAS/Evaluation Function joined the external validation team comprising a Validation Team Co-Leader and two subject matter experts (Annex 10) to guide the approach, implement and facilitate access to core evaluative evidence, towards validation of the final report.

Framing of the inquiry along the objectives of the validation exercise was based on feedback from the evaluand to the Dec 2021 version of the report, with responses from the evaluation team (the Response matrix), and CAS reviews. The exercise involved a re-assessment of the core surrounding evidence and inferences made- a closer look was taken to interrogate consistency and technical integrity between what was requested from the evaluation team as per TOR (August 4, 2021) and detailed in the Inception Report of the EiB Platform Evaluation, and what was delivered in the evaluation report. Based on this, a validated EiB Platform evaluation report was finalized.

In line with the CGIAR Evaluation Policy, the CAS Evaluation Function Lead ensured transparent and open communication during the key validation phases. According to the approach in the approved TOR for the exercise, the following key steps were taken:

1. **Sharing of core documentation with the validation team**: hyperlinks, background and selected email communication, the Response matrix with 36 lines of feedback (including on the executive summary). The team was provided access to SharePoint with mapping of documented evidence sources.

2. **Induction of the validation team by CAS/evaluation (March 18)**. Guided by the Response Matrix, CAS/Evaluation explained rationale and priorities agreed to in January 2022 with the evaluand and Genetic Innovation senior management, to control the scope of the validation activity (i.e., prioritized lines of inquiry.)

3. **Validation exercise:** The validation process took, as its basis, the core EiB Platform documentation (as furnished all through the course of the evaluation, with the final round of documentation submitted after the feedback from the evaluand to the Dec 2021 version of the report) together with the evaluation teams' interview notes and draft report. The EiB feedback to the draft report and feedback from the original evaluation team highlighted the major issues that needed to be addressed and 16 new interviews with key informants provided fresh information for the team. The team did not systematically review findings of the report that were not raised in the EiB feedback but did increase the scope of the recommendations and lessons learnt as these were lacking in the original report.

a) **Grouping** of EiB Platform feedback by themes, and mapping of 36 contested areas, by four validation team members, and assigning responsibilities.

b) **Analysis** of the core evidence along the following *prioritized lines of inquiry*: scope and funding/CtEH, governance and management, individual Module specific feedback; Breeding Program Assessment Tool (BPAT); and others as they emerged.

c) **Primary data collection- Key Informant Interviews:**

Figure 3: Informant Category-Validation

Informant Category	N
EiB Platform	2
CGIAR	3
NARS	2
Donor	1
Private Sector	5
Academia	3
Total	**16**

i. **Purposeful selection** of key informants along the key categories allowed representativeness of the key categories of informants. The selection was applied in line with prioritized areas of inquiry, based on the review of selected documentation and the interview notes by the original evaluation team.

ii. **Adaptation of interview guide:** Guiding interview questions used by the original evaluation team were adapted for an abridged version of a core interview guide, to reflect the purpose of the validation exercise (Annex 6).

iii. **Interviews**: Sixteen (16) key informants were interviewed in 14 interviews (4 were re-interviews, and 2 were joint interviews with 2 informants in each). These interviews complemented interviews with 58 respondents carried out by the original evaluation team (see Annex 8 for final interviewee list).

Figure 4: Strength of Evidence Confidence Level

d) **Coding of Response matrix** - a designated column for validation team comments and their assessment of the strength of evidence supporting findings and conclusions on each of the items raised in the Response matrix by the EiB Platform management to the draft report was provided. The validation team provided targeted item-by-item explanation against feedback from the original evaluation team of the facts and steps to reconcile, where that was applicable. A scoring system was introduced to quantify results and supporting narrative, and agreement on final scores was cross-checked by all the validation team members.

Strength of Evidence Confidence Level (1- highest, 3- lowest)	**N for each** (confidence rank)	**Percentage**
1	23	**66%**
2	9	**26%**
3	3	**9%**
Total entries	**35**	

e) **Revision of the pre-final evaluation report** followed a multi-stage process, to ensure proper triangulation of evidence to substantiate the conclusions made:

i. Module/component study reports and their executive summaries were revised to assure logical flow from Module reports developed by the SMEs to feed into the main report,

ii. Recommendations and Lessons Learnt were reviewed and revised based on the team's findings and, in particular, to inform the roll-out of the new One CGIAR initiatives. Assessment was made of validated evidence in the response matrix. The Response matrix was shared with the evaluand prior to publication, together with the revised evaluation report. As a process document, it was not placed in the public domain: the original response was provided on a first draft of the evaluation report, and significant modifications were made by the original evaluation team, and by the validation team following validation.

4. **The summary of the findings and conclusions from the validation exercise** is presented next.

2.2 Findings of the validation exercise

The summary below covers core contested areas, with related revisions made in the main evaluation report, where warranted by the evidence. Formal response from the validation team was also included in the Response matrix along with feedback from the original evaluation team.

Scope and funding: The validation report has addressed three issues related to the scope of the draft report:

- The funding received by EiB from Crops to End Hunger (CtEH) is not core funding of EiB. However related CtEH-funded activities, grouped under W3 in Annual Report 2020, represent a major part of the Platform's work and are included in EiB's program of work, budget and reports. EiB was identified by donors as the appropriate unit within the system to manage the project. EiB believed that CtEH W3 should not be included in the evaluation scope, but it was clear from the evaluation planning and the inception report that it would be included as part of the overall W3 resource envelope used in EiB Platform Annual Planning and Annual Reporting. Therefore, it has not been removed in the validation process. Timely and focused review of the TOR, evaluation design matrix and the draft inception report by the EiB evaluation team could have mitigated misunderstanding of the evaluation scope.
- In the validation exercise, the assessment of Efficiency, related to financial information and results reporting, has been limited to the fiscal years 2017, 2018, 2019 and 2020. Final data were not available for 2021 nor did the scope per the TORs fully cover 2021. Findings based on qualitative information from interviews, the survey and other documentation for the first half of 2021 remain in the draft final report.
- The BPAT is managed by a partner organization (The University of Queensland). BPAT assessments are an important input for EiB Platform (and the breeding programs of CGIAR and NARES partners), but BPAT and its management were not evaluated as part of this evaluation of the EiB Platform. Any analysis and references to BPAT are made solely in relationship to EiB Platform activities, sphere of interest and relationships with partners.

Governance and management have been important issues for EiB Platform at a time when the Platform had to adapt its activities to varying external circumstances, the introduction of substantial new restricted funding from BMGF, and broader CtEH funding stream and COVID-19. The 2016 EiB Platform proposal clearly explained its proposed activities but lacked a clear, overarching goal to use as a basis for navigating the changes and adapting related measurements; the Theory of Change was not updated when major changes in direction occurred. EiB Platform has had several changes of key module leaders and the deputy Platform director was only appointed in mid-2020. The validation team largely supported the evaluation's findings on governance and management in the draft report which noted 1) the lack of an active and supportive steering committee with well-defined supervisory roles; 2) the lack of engagement of the International Maize and Wheat Improvement Center (CIMMYT) HR department in its role of supporting EiB Platform; 3) the lack of training/capacity in change management that became a key role of EiB Platform management as the Platform mandate evolved, 4) the lack of sufficient team building and inter-module communication and collaboration.

As a core input into the main evaluation report, findings on individual modules are largely supported by the validation although several needed to be more nuanced. For example: 1) while targeted Breeding Programs' Improvement Plans were poor quality at the beginning (2017) the evidence shows they have since improved, 2) while NARES relationships have not always been developed well by EiB Platform staff there have also been good examples of longer-term relationship building, 3) Platform-supported genotyping services have deficiencies but there is considerable uncertainty in the size of the market and there are many complex factors affecting decision making, 4) The decision to devote significant resources to the development of the enterprise breeding system (EBS) may be a risk, but it was made in conjunction with many CGIAR stakeholders and development of, and support for, other systems will remain in place while the need remains., and 5) While physical results have frequently been less than planned in the POWB documents, there were frequent references in interviews to the significant intangible benefits of change of mindset in breeding programs, and also that targets set were over-ambitious.

Recommendations and Management response: The factual check (feedback/response) to the draft report did not contest the initial 10 recommendations. The validation team made a deliberate effort to pull out recommendations from the module reports to further contextualize and enrich recommendations

as per request by the Genetic Innovation Global Director a.i. (February 2022). This allowed to further emphasize the value of learning and a need to build on the work of the EiB Platform, towards successful roll-out of the new One CGIAR initiatives, some under the leadership of the core EiB Platform team.

Embedded in the reporting phase described in the Inception report, a formal management response to the recommendations would be key to this independent evaluation process. CAS /evaluation function has provided guidance to coordinate the preparation of the management response in the past to the evaluand and will liaise directly with the Global Director a.i. A formal MR to the evaluation recommendations is expected upon finalization of the evaluation report in line with the CGIAR evaluation Policy. As such, given that the EiB Platform ceased to exist, the l Global Director a.i would be the formal point of contact for the MR. The management response will be published on the CAS Secretariat website together with the evaluation report and this stand-alone Annex document.

2.3 Conclusions

The validation team asserts much good work being done by a highly qualified and respected group of scientists in the EiB Platform. Their work has supported the CGIAR breeding programs in their start to modernize and, perhaps more important, it has highlighted that change in the breeding programs is needed. EiB Platform has a difficult mandate with large objectives but little control over the implementation of its outputs, and so its targets of 1.5% genetic gain and variety turnover are aspirational, and EiB Platform can only contribute to their achievement.

The validation confirmed several weaknesses in the governance and management of the Platform, that were presented in the original evaluation report: the Platform would have benefitted from stronger M&E and HR, a results framework, a clear goal, greater training and ability in change management, more inter-module communication, team building and collaboration, and a more active and supportive steering committee. Responsibility for these weaknesses is spread among many stakeholders including: the Platform steering committee for not providing sufficient oversight and support; donors, for adding new tasks to the platform midstream, some of which were outside EiB's Platform's control/mandate; and EiB Platform management, for not recognizing and finding solutions to the problems.

Annex 3. Executive Summaries of Module Studies

The main objective of EiB, as defined in the EiB original proposal (July 2016) was described as "breeding program excellence: generic tools and services to support breeding program excellence across CGIAR and NARS breeding programs". EiB was implemented through 5 modules.

Table 1: Mapping of EiB Platform Modules and their Objectives

	2016 Proposal	2021 Version[6]
	**1. Breeding program excellence** Generic tools and services to support breeding program excellence across CGIAR and NARS breeding programs, based on: (1) common metrics and standards for monitoring performance and indicators of genetic gains in researchers' and farmers' fields; and (2) advice, including from the private sector, on product and breeding program design, tool implementation, and dissemination.	**1. Product Design and Management** Performance management and metrics of success, from breeding station and laboratory to farmers' field. Support client-oriented, gender responsive product profiles. Define breeding processes, identifying gaps and investment needs.
	**2. Trait discovery and breeding tools and services** Drawing on the innovations taking place in breeding and research programs worldwide, lower the transaction costs to identify, access and adopt newly emerging tools that support trait discovery and breeding. This module also provides the web platform where user groups upload successful applications from all modules and feedback from users is captured	**2. Breeding Scheme Optimization** Defining breeding schemes & identifying where optimization can occur. Applying quantitative genetics theory and population modeling (e.g., simulation) to optimize decision making and resource investment. Match market segment investment and right-sizing breeding pipelines. Building capacity and developing tools.
	**3. Genotyping / Sequencing Tools and Services** 1) Procurement and coordination of common genotyping/sequencing services; (2) in collaboration with Module 5, customization of generic tools to support the sampling to data analysis pipeline; and (3) access to advice, including from the private sector, for the effective use of genotypic/sequencing information in breeding programs.	Support Genotyping as a value-added service alongside EiB centralized comprehensive support Assessment of appropriate genotyping applications Lowest cost services Delivery of timely quality data to breeders and partners
	**4. Operations and Phenotyping Tools and Services** (1) Common approaches, tools, accelerated learning, and advice for using cutting-edge remote sensing, high-throughput precision phenotyping, targeting, mechanization and automation approaches in breeding programs; (2) access to better value-for-cost laboratories for assessing physico-chemical composition and functional properties in plant and animal materials.	Current state assessments of agronomic practices, phenotyping, planting & harvesting, seed processing and continuous improvement culture Expert advice, manuals & training in best practices and technologies. Support networks and reduced cost services
	**5. Bioinformatics and data management tools and services** Open-access tools and services linked to core databases to support both complex and integrated data analysis and management of breeding program data, necessary for CGIAR, NARS, and SMEs to increase genetic gains and also as a prerequisite for applying genomic and high-throughput phenotypic information in cultivar/breed development.	**5. Breeding Informatics** Deliver integrated and centralized analytic capability. Deliver software (i.e., Enterprise Breeding System) and support its adoption Coordinate long term strategy on data management systems for public breeding, with EBS team, stakeholders, funders

[6] As collected from data published on the EiB Platform website, accessed May 2021

Module 1 Product Design and Management - Study Executive Summary

The main objective of Module 1, as defined in the EiB original proposal (July 2016) was described as "breeding program excellence: generic tools and services to support breeding program excellence across CGIAR and NARS breeding programs". Within that objective, Module 1 was expected to introduce key concepts and develop a better understanding of the needs of CGIAR and national agricultural research and extension system (NARES') breeding community. As mentioned in EiB's 2018 Annual Report, Module 1 was later characterized as being linked to other Modules in that it sets the overall objectives, delivery of which other Modules are tasked with supporting.

Module 1's main objective was rewritten in 2020, following the publication of six requests made by funders to CGIAR, to focus on developing prioritized pipeline investment cases, including product profiles for varieties which CGIAR centers would be held accountable for developing.

Practically there have been two distinct phases in Module 1. In its first phase, from 2017 until early 2020, Module 1 focused on developing product profiles for all CGIAR and some NARS breeding programs, one of the many objectives of Module 1 at the time. In its second phase, since early 2020, Module 1 focused on defining and describing markets within CGIAR's crop and geographic mandate. The change in direction has been linked to a change in the module's leadership. The identified market segments were expected to lead to further product profile prioritization and refinement. More specifically, during the period 2017-2020, Module 1 has essentially promoted the concept and engaged in the development of product profiles aimed at setting realistic breeding targets to meet the needs of the market, taking into consideration nutritional, gender etc. aspects. 372 product profiles, built on the strategy of product replacement, i.e., describing the characteristics of products needed to replace one or more specific varieties, were developed and collected. These product profiles provide insights into traits and trait levels on which breeding programs should focus. However, their quality was variable in terms of providing unequivocal, quantified, and prioritized breeding targets aligned with market demands. It takes time, stakeholder engagement and several feedback loops to develop a good product profile, and obviously, different partners were at different stages of this comprehensive process.

Along with these product profiles, a Product Replacement Strategy Tool was developed in 2018 as part of EiB's toolbox. This tool provides a template for collection of information for the development of product profiles. A comparison of this template and the format of the 372 product profiles collected strongly suggests that most or all of the 372 product profiles were developed directly from data collected with the Product Replacement Strategy Tool without evidence of multiple stakeholder input for each product profile, possibly through consultation with a single individual. The fact that only very few (seven) product design teams (market specialists and breeding scientists) exist where there should be at least one hundred or so, corroborate this observation. The 372 product profiles will form the basis of future steps in developing fully informative product profiles from which breeding objectives can be derived and breeding decision can be taken.

As many as 320 market segments were identified and described across 26 crops by the end of 2020. These were developed based on consultations with CGIAR staff and publicly available information (FAO, World Bank, etc.). The extent of NARS consultation to complete this work was variable, however, found particularly strong for roots, tubers, and bananas (RTB crops)[7]. The evaluation found a lack of clarity within Module 1 or EiB as to how the new market segmentation aligns with previously defined targets.

Module 1's performance over the period 2017-2020 remains very low in view of the corresponding investment (almost $ 4 million since launch). In hindsight, rather than independently developing collections of product profiles or market segments, Module 1 and the community it serves would have benefitted much more from simultaneous improvement or development of market segment descriptions, product profiles, and pipeline investment cases for a few obvious pipelines e.g., "low-hanging fruits", that all stakeholders agree with. In addressing these obvious cases to achieve its objectives, Module 1 should have engaged in active consultation with a multi-disciplinary team consisting of relevant stakeholders such as breeders, market research specialists, agricultural economists, youth and gender experts, climate change specialists, nutritionists, and variety release/registration experts. Despite the short amount of

[7] Source: Evaluation Peer reviewer' comment on the Module 1 report.

time that the newly (2021) developed market segmentation has been in place, progress has been made. In the words of one of the NARS interviewees, EiB's interventions have been "short and sweet".

Module 1's objectives are to be continued within the One CG initiative "Market Intelligence for More Equitable and Impactful Genetic Innovation" starting in 2022.

Recommendations for future work include:

A. Provide clarity regarding the reasons for changes in direction of a Module.

B. Consult more widely, especially with NARS, when setting goals for a Module.

C. Interact more extensively with NARS about the role that a Module can play in improving their breeding programs.

D. Do not downplay the importance of individual NARS centers. They will resist any indication of patronization.

E. One-size does not fit all. Understand the nuances of geographical and market differences.

F. In future, stakeholders on the ground must be explicitly involved in finalizing product files and market segmentation information. Then, a very significant effort should be put into helping people and organizations (One CG, donors, crop breeding leads, etc.) use this information to make strategic decisions as to which markets to serve and which products (traits with target performance levels, relative priorities, and delivery confidence level) to develop. Such strategic decisions should serve as the basis for all One CG "support" Initiatives' action with respect to individual CG or NARS breeding programs: "Accelerated Breeding: Meeting Farmers' Needs with Nutritious, Climate-Resilient Crops", "Accelerated Crop Improvement through Precision Genetic Technologies", "Enabling Tools, Technology, and Services for Genetic Gains".

Module 2 Breeding Scheme Optimization - Study Executive Summary

At the time of evaluation, Module 2 focused on breeding scheme optimization, a key element to delivering long-term genetic gain, that can be achieved without compromising short-term variety release. CGIAR and NARS breeding scheme optimization was to be focused on identifying changes necessary to improve genetic gains and deliver market-driven products identified by Module 1. Module 1, however, has not provided the expected guidance, switching from product profiles to market segments and not helping with the final prioritization. Module 1 will become Market Intelligence for more Equitable and Impactful Genetic Innovation, hence can change its original focus from "Trait discovery and the toolbox" to "Optimizing breeding schemes".

Module 2 aimed to support breeders to decide on various breeding strategies such as parent selection, appropriate population size, line development strategies, line testing strategies, and how to integrate marker-assisted selection and/or genomic selection into breeding pipelines. Such optimizations are conducted mainly through simulations of breeding schemes. The extent to which breeding programs were consulted and deeply understood before launching the optimization studies was variable. As a result, the relevance of these results also varied, and subsequent breeding scheme adjustments were scarce. So far, it has been reported that optimization studies have resulted in changes being implemented in 12 breeding programs, out of a total of 45 carried out, without any specific mention of the type or magnitude of these changes. This is therefore a work in progress. It must be acknowledged that changing the mind-sets of breeders, especially those who worked long in the system, is not an easy task and requires data-based evidence as well as a very trustful relationship between the breeder and the advisor. This requires time and personal interactions, the latter suffered during the COVID-19 pandemic. Simulation work has been conducted in partnership with the Roslin Institute (UK) at significant cost.

A total of seventeen presentations, tutorials, or **tools** have been developed through Module 2. These are freely available in EiB's online Toolbox, which is therefore an excellent resource for young scientists, breeders and teaching. The technical quality and relevance of these products is heterogeneous, though

rated extremely useful by some key stakeholders (source March 2022 interview notes). Some presentations, tutorials, tools, appear to be more academic than applied, but summarize basic known principles important for increasing efficiency of programs. The recently launched breeding cost analyses seem to be especially well-received by those who have been introduced to the concept.

Recommendations *for related future work include**:***

A. Guides and tools put out by Module 2 can be improved by tailoring them to specific needs.

B. In the breeding program optimization, the weakest links in the product development and delivery process need to be identified, as they will affect the overall progress.

C. Future work should focus more on collecting evidence based on the data available on the Breeding Management System (BMS) or results of simulations studies, since plant breeders use this evidence in their decision-making.

D. Change management issues and leadership capacity should also be considered.

E. Assessment of the breeding programs before and after implementation of optimizations recommended by Module 2 is important for future commitments, especially, since the impact of some of the novel breeding tools to improve breeding efficiency are yet to be assessed.

F. While simulation studies can create a lot of value towards the improvement of breeding schemes/approaches, this will most likely not happen without very detailed understanding of each target breeding programs' way of working (balance between some theory/concepts – sometimes not enough, and a lot of operational constraints). Achieving that detailed understanding is something that EiB is in a very privileged position to do, and probably also the only organization capable of doing so (this will not be done by any external collaborator), thus the continued need for improved capabilities and capacity to conduct this type of work within CGIAR-NARS partnerships.

G. Moving forward into One CGIAR, it is crucial that the "Accelerated-Breeding-Meeting-Farmers-Needs-with-Nutritious-Climate-Resilient-Crops" initiative be the body that allows changes to take place in CGIAR and NARS breeding programs. The initiative will need to be the link/bridge between upstream disciplines (quantitative genetics, genomics, phenomics, etc.) and breeding programs, knowing both in detail. This will only be achieved if the staff involved in this initiative are sufficiently numerous and very close to breeders on the ground. It is rarely successful to lead and manage such profound changes if they are conducted from a distance (not necessarily physically but at least in terms of mindset).

Module 3 Genotyping / Sequencing Tools and Services - Study Executive Summary

One of the promising approaches for CGIAR and NARS breeding programs is genomics-based breeding which exploits molecular genetic markers to design novel breeding programs and new marker-based models for genetic evaluation. Modules 1 and 2 of the EiB Platform identify and optimize breeding programs, to make the breeding process efficient in delivering the product based on market segments. The use of molecular markers is useful to deliver products within a short period of time.

The CGIAR and NARS members received low and mid-density genotyping services through Module 3 at a rate negotiated by EiB for the whole group. Between 2017-2019, Module 3 provided genotyping services through two BMGF-funded projects: the High Throughput Genotyping project (HTPG) and the Integrated Genotyping Service and Support platform (IGSS). From 2019, a collaboration between Intertek PLC and DArT P/L. was contracted to provide both low and mid-density genotyping services at a low rate. If and when there is an increase in business volume, the Module would benefit from engaging more service providers or establishing a central genotyping platform for CGIAR and NARS.

With support from Module 3, there was an increase in the adoption of low to mid-density genotyping in CGIAR, which led to a growth in demand from $200K in 2017 to US$ 1 million in 2020. This indicated the integration of modern breeding tools in breeding programs to expedite the development of market-driven products. The major challenges of Module 3 are sampling logistics, and the low adoption of molecular

breeding approaches by NARS. Building on more than 30 face-to-face workshops and training courses conducted between 2018-2020, more effective training programs and on-site visits are required to improve the adoption of genotyping tools and provide efficient services.

Recommendations:

A. Increase the awareness of the value of molecular breeding at NARS through training and capacity building, and asking for and listening to feedback from participants, to facilitate increasing adoption of the approach, and the use of shared services.

B. Support for the development of trait-specific markers, relevant to specific breeding programs (high priority trait objectives from product profiles) to help increase the adoption of molecular breeding, for faster development of market-ready varieties.

C. Maximize efforts to increase the reliability of genotyping services, from tissue sampling all the way to data or information delivery. Consider developing a different operational/business model to address logistical and operational issues limiting the potential of shared services, resulting in sending plant material internationally.

D. Systematically engage service providers and CGIAR or NARS stakeholders in considering, reviewing and setting up regional external service centers.

E. On the financial side, the approach should be holistic, and included in the planning of service externalization in a proactive way rather than retroactively, or simply not dealing with it. Setting up external services to replace internal capabilities without properly handling these internal capabilities is an inefficient way of working. Setting up more external central services is likely to impact and potentially disrupt internal capabilities and structures.

F. Normalize consulting with several providers as externalization of services increases. Establish contracts with several providers to mitigate risky dependency on a single external provider.

Module 4 Operations and Phenotyping Tools and Services - Study Executive Summary

Crop breeding programs are largely dependent on phenotyping to select desirable traits. Therefore, contributions from Module 4 are critical for both CGIAR and NARS breeding programs. Module 4 started as a module on phenotyping tools and services. In 2019 it changed to breeding operations and phenotyping. This change was concurrent with leadership change for that Module.

There is a need to accelerate breeding activities by using mechanization, automation, and high-throughput phenotyping tools to develop demand-driven varieties. As a first step, during 2017-2018, Module 4 essentially assessed the needs of breeding programs and drafted plans relevant to phenotyping, in particular environmental characterization (target population of environments or TPEs), phenotyping automation, remote phenotyping and specialized phenotyping. Unfortunately, the Module lead was the only Module 4 employee during all of 2017 and part of 2018, which explains the lower visibility of outputs during that time.

After the change in focus in 2019, a total of 18 (CGIAR and NARS) breeding stations were assessed for infrastructure, equipment and agronomic practices, and recommendations were delivered for all of them. Gaps were identified jointly through conversations with these programs, and solutions were developed, reflecting a sound co-creation process. Half of these assessments were done at the request of breeding stations, which reflects the perceived need for their modernization. To date, about 75% of the stations have implemented at least one recommendation. Recommendations provided by Module 4 ranged from securing missing critical (small) equipment, advice on field trial operations, to links to standard operating procedures (SOP's).

Module 4 has conducted capacity building operations, for instance on quality analysis, clonal propagation, agronomic practices, costing, etc. Module 4 has also recognized a need for cultural change within CGIAR breeding programs and, as a result introduced and promoted the concepts of lean methodologies and

continuous improvement (Six Sigma). As such, its assessments and recommendations constitute some form of capacity development. The module has also uploaded several useful protocols/ guidelines, best practices on the EiB's toolbox, which are freely available and appreciated by some of respondents to the interviews and online survey.

While Module 4 delivered draft assessments and plans during its first phase, deliveries during the second phase, starting in 2019, have been much more concrete (distribution of equipment, creation of infrastructure for screening of crop traits, etc.) and of tangible value to breeding programs. This is positive given the short period of time available. Comments during interviews indicate that breeders are happy with the digital equipment they now have access to.

The efficiency of Module 4, in its second phase, may reside in the fact that it focused on a rather small number of breeding programs, particularly CIMMYT-Maize, International Institute of Tropical Agriculture (IITA), International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Africa-Rice and two NARS institutions: the Council of Scientific and Industrial Research (CSIR) and the Savanna Agricultural Research Institute (SARI) both in Ghana, rather than attempting to develop a "catalog" of gaps and necessary improvements across all target crops and geographies. Module 4's assessment-based recommendations, followed by implementation in 75% of the programs, aimed to resolve limiting factors such as irrigation design, facilities, phenotyping under biotic stresses, equipment, etc. to ensure the delivery of superior products at the end of these breeding pipelines. The ultimate impact remains to be documented in a couple of years.

Lessons Learned:

- Good leadership results in good delivery. While this appears obvious, it still deserves attention.
- Modules can benefit from less of a platform-type approach leading to a broader scope with all breeding programs.

Module 4 activities will be continued through One CGIAR initiative [**Breeding Resources**] "Enabling Tools, Technology, and Services for Genetic Gains"[8]. It is advisable that, within this initiative, emphasis should be given to enabling breeding operations throughout the entire breeding process to reduce limiting factors that hamper final product delivery despite some highly efficient stages.

Recommendations:

A. The "Enabling Tools, Technology, and Services for Genetic Gains" initiative continues Module 4's approach, that is to fully enable specific breeding programs by selecting a few crops/ traits, rather than attempting to cover all programs and eventually delivering little of value.

B. The new initiative includes CGIAR and NARS programs equally in its activities. Identifying environments where multiple traits of a crop can be assessed (under strong selection pressure for each trait) through improvements in breeding operations and phenotyping could lead to an efficient collaboration between one CGIAR and NARS.

C. For long-term benefits, such support should not be limited to identification and fixing of gaps (e.g. limiting factors such as seed counters, cold rooms, planters, etc.), but include fostering breeding programs into highly effective and efficient phenotyping for improved decision-making and higher selection gains.

D. The new One CGIAR initiative should, resume work on environmental characterization in view of global climate challenges. Generating multi-location phenotypic data on prioritized traits, under best practices, should become routine in breeding programs. Remote phenotyping hubs may be a solution to collect data on multi-environment trials efficiently. Similarly, target populations of environments need to be developed for key market segments and corresponding crops. For example, future-climate equivalent sites and hotspots of diseases/pests need to be identified and established as testing sites. Such models will help efficient coordination between one CGIAR and NARS for phenotyping and data generation without any duplications.

[8] Network 4 Enabling Tools, Technologies, and Shared Services (full proposal) September 28, 2021

Module 5 Breeding Informatics - Study Executive Summary

The evolution of the EiB Platform is marked by two phases: phase 1 from 2017 to 2020, and phase 2 from 2020 to date. This is evidenced by a change in the Module objectives and the creation of two new work streams related to NARES Engagement and Adoption & Outreach (not yet officially recognized as modules).

Phase 1 of Module 5 originally focused on the two initial objectives of adoption of breeding informatic and data management tools and interoperability, but then shifted to a stronger emphasis on the integration of all applications: GOBi, BMS and Fieldbook, with the development of Breeding ARP (BrAPI)[9] to facilitate interoperability.

Phase 2 brought about another change in focus with Module 5 objectives/activities both reduced, mainly due to the removal of "Adoption & Outreach" activities which became a self-standing workstream, and extended, to include activities related to the development of the EBS.

At the time of this evaluation, the [current] objectives/activities of the Module are identified as:

- To deliver integrated and centralized analytic capability.
- To deliver software (i.e., the EBS) and support its adoption.
- To coordinate the long-term strategy on data management systems for public breeding, with the EBS team, stakeholders and funders.

Module 5's collaboration with other modules has been active, specifically, in translating Module 2, 3 and 4's needs and requests into user-friendly and flexible digital tools. The "Adoption & Outreach" activities ensured to some extent that delivered digital tools responded to partner countries' working environments and breeders' preferences. In addition, Module 5's internal, operational procedure allowed Modules 2, 3 and 4's needs and preferences to be translated into digital technologies that will ultimately lead to more accuracy in breeding cycles, improved genetic gains and higher yields. Feedback from these modules allowed Module 5's processes to be refined. These processes would be further improved if the responsible teams adopted specific software development methods (such as SCRUM based AGILE), combined with continuous monitoring.

In the case of EBS development (which aims, among other things, to overcome some limitations with BMS, such as handling of data from very large breeding programs), the strategy is less clear, in particular with regard to the respective roles/positioning of EBS, BMS, B4R and Breedbase for the management of breeding activities and data across CG Centers, and NARES in particular. In the case of the latter, BMS has been adopted rather broadly by NARES in Africa as well as by some CG Centers while Breedbase is the most common platform for root and tuber crops. EBS on the other hand, is still in development, and communication about EBS precedes reality; recent claims about the release of Version 3 contrast with the fact that the tool is not yet in production[10], a milestone with no clear due date with concerns and doubts being raised by individuals close to the project Future investments into EBS development should therefore have clearer milestones and timelines.

On one hand, it is not clear how pushing EBS onto all CG Centers creates value compared to a landscape of a number of tools with linkages/bridges among them, and to the outside world. On the other hand, the fact that different data management systems do currently coexist, means that funding from the same source (i.e., mainly BMGF) goes to different organizations for different systems (e.g., to EiB for EBS, to IBP for BMS, to IRRI for Bred for Rice (B4R), and to Boyce Thompson Institute at Cornell University for Breedbase). Since EBS is expected to be fully ready by 2026, the other systems are, and will continue, to be used during the transition to EBS, leading to the double or triple funding of quite similar systems. From this point of view, instead of operating several digital breeding platforms simultaneously, a decision

[9] BrAPI Project is an effort to create a RESTful specification to enable interoperability among plant breeding databases.
[10] A key interviewee in April 2022 stated that EBS is now being adopted in its "minimum functionality version".

on which one to maintain would greatly contribute to streamlining resources (funds, human resources, time, expertise etc.).

There is consensus around the fact that data management for CGIAR Centers and NARES has not been handled in the most efficient way during the past ten years with numerous initiatives being launched and supported, then opposed and defunded[11]. It is also clear that the lessons learnt from this experience are not being applied, at least not yet.

As regards coordinating longer term data management systems, it is worth highlighting that change management remains challenging for the EiB (and CGIAR as a whole) and this is likely to impact Module 5 as adopting data-driven technologies and systems implies a significant change in the working methods of most breeder leads and their teams. The fact that BMS has been broadly adopted, for example, may suggest more openness to new ways of working than expected, though this might also mean that openness to new ways of working in the data management space has been exhausted, and could result in resistance to the somewhat disruptive adoption of yet another system.

In future, the N4ETTSS initiative (Network 4 Enabling Tools, Technologies, and Shared Services) being developed within the context of One CGIAR will assure parts of Module 5, especially regarding integrated, centralized analytical capability.

Recommendations:

A. Decide whether EBS will replace all existing platforms or not. This is a decisive step towards a radical improvement of resource allocation efficiency.

B. Address skills gaps with training (e.g., in the use of digital breeding tools, change management, etc.) and by matching breeding experts in various locations (e.g. Africa and Asia) and field support teams' needs (BMS support teams).

C. Reduce the administrative burden.

D. Develop clear and strong objectives and strategies, validated by an independent steering panel. Such objectives and strategies, with the proper governance model in place, should be able to withstand any isolated attempts to significantly change them, thereby avoiding radical and unproductive changes in direction and maximizing the chance of delivery of value to end-users.

[11] KII during evaluation and validation

Annex 4. Component study on cross cutting themes: Governance, the use of people as a valuable resource, and change management - Executive Summary

Following a specific request by the EiB Platform, the evaluation team included a specialist in Organizational Effectiveness to provide perspective, insights and recommendations relating to the 'human' aspects of organizational performance development.

The focus of this Component study is on the use of people as a resource (in 3.3 Efficiency), governance, and change management (both under 3.5 Contributing and/or limiting factor). In some cases, we have findings that are more relevant to other headings which are recorded accordingly.

The methodology sub-study used a dedicated on-line survey, 25 interviews, the review of relevant documents, and the EiB team members' feedback on the initial findings, and subsequently—the response to the final draft report.

4.1 Main findings and conclusions

People working at EiB are generally happy with their immediate work environment and team. The underlying vision of the EiB is well supported. Other positives include the development and sharing of 'best practices', something appreciated by the partners, and new professional appointments to the team. Improvement Plans are being developed, and the acquisition of substantial 'fund management' activities is a positive indicator of the belief in the potential created. All these are important.

Areas of concern include that staff have a general sense of working in silos. They would like better co-operation with other teams, clearer direction and communication.

The evaluation team has not been able to confirm that there is a clear and effective hierarchy linking specific, measurable, achievable, relevant, and timebound (SMART) goals at individual level to those for the teams and the overall Platform. Without this alignment, coupled with a culture of accountability, the EiB team members are not able to make an effective and efficient contribution.

Of the EiB staff that manage people, more than half said they would like training in people management skills.

In the survey, CG's and NARES respondents are generally not all that positive about the engagement with the EiB. They appreciate the technical expertise, but only 49% of the respondents in the survey say they are 'happy' with how the products fit their needs and the (support for) the Improvement Plans. The survey indicates that communication with partners (CG's, NARES, funders and academics) is less effective than with EiB staff.

Change management capability is quoted as a mission critical skill that is currently lacking within EiB. There is no specific EiB change management best practice, but hopefully recently recruited expertise will help enable this. Change management is hampered, by a lack of an agreed methodology, of understanding and ability to address people related aspects, and of clarity on the responsibility of the different stakeholders. Comments have also been received on the EiB following a 'one-size-fits-all' approach. In the cycle of assessment, planning and execution of change in the CG's and NARES the assessment stage (through the BPAT and EiB's own assessment tool) is the strongest link, but in the overall process many improvements will be required before it functions well.

The EiB governance oversight function is unclear and therefore poor. The independence of the Platform Steering Committee is questioned (being a 'giver' and 'receiver' at the same time creates a conflict of interest) and evidence of the PSC holding the leadership to account has not been found. The evaluation team noted that a discussion on the role and functioning of the PSC had taken place in the PSC of April 2021, but the team was not able to find any specific conclusions and changes following that date. The role of the CtEH committee in the decision-making process is not clear and a ToR for this committee does not seem to exist.

To achieve its desired impact, the EiB can't only rely on the scientific knowledge and capabilities of its breeding experts, especially since the EiB involvement with the 'CtEH funders six requests'. This has created an additional, equally essential capability - effective strategies for developing, and practically applying interpersonal, structural leadership and change management skills, as well as adapted metrics, structure, and processes. This transition has not yet been completed, with significant steps still to be taken. Tangible results in line with the new objectives have been hard to identify.

In summary, for the EiB to deliver effectively and efficiently on its promise, the People Skills of its staff as well as its Change Management capability need to be significantly improved.

Whilst there is an early realization of this need, and some steps have been taken, further and structural ongoing progress in building these capabilities is crucial. A major concern is the lack of clarity on how these learnings and recommendations will be taken forward into the One CGIAR.

4.2 Study Recommendations

The recommendations are based on the evaluation of the EiB Platform. Now that the EiB Platform has merged into One CGIAR, the recommendations can be used as a detailed checklist for the ongoing design and management by the relevant One CGIAR teams.

A. Governance/management

1. Ensure an effective Steering Committee is in place, made up of fully independent members that between them have recognized expertise in all critical elements of the EiB Platform
2. Ensure that groups of relevant individuals with an oversight or important decision-making responsibility (e.g., Steering Committee, CtEH Committee, management team) have clear and relevant Terms of Reference

B. Focus on people as a valuable resource

1. Confirm a clear 'Hierarchy of Objectives' for performance management, with high level targets clearly drilled down and aligned to team and individual objectives. Ensure the targets are SMART and holistic / balanced to not only consider science but all relevant aspects of the operations (e.g., Mckinsey's 6 S model, and the Balanced Score Card approach)
2. Complement this with effective feedback and impact measurement processes, e.g., from stakeholders, or 'customers'
3. Ensure you have in place a professional strategic and well-resourced HR function, working well beyond the traditional (hiring/firing, salary management) activities, to e.g. include active involvement in the optimal management and development of people as a resource. Consider developing career streams that separately identify science- and management roles, competencies, and skill levels
4. Construct an EiB (and wider CGIAR) specific Competency Framework (encompassing technical AND Behavioral Skills as well as Attitude) to underpin the Learning and Development agenda, the job specs, hiring strategy, course development etc. Do not leave the critical skills to outsiders but invest in building them within the organization. This could include hiring people with specific skills (such as change management). Also consider the merit of developing career streams, separately identifying science and management roles, competencies, and skill levels

5. Underpin the People Skills agenda with an organization-wide awareness program around 'understanding personal needs and styles', 'leveraging differences and diversity for performance', using e.g., the Myers-Briggs Type Indicator (MBTI) and the Fundamental Interpersonal Relations Orientation – Behavior (FIROB)
6. Develop and provide an EiB (and wider CGIAR) specific Learning and Development Program, including 'performance management', 'managing teams, 'leadership', 'giving feedback', 'effective recruitment and induction', 'coaching and mentoring etc.
7. Develop an induction program for new staff members and track employee satisfaction and needs on an ongoing basis to ensure employee effectiveness and retention
8. Consider mechanisms for bringing teams / individuals together. Break down the silos through e.g., ongoing sharing updates on projects, connecting to creatively share and collaborate more effectively.

C. Change management

1. Develop a suitable, best practice Change Management Approach (with 'people and change' forming a critical, but not the only, element). Organize basic training for all, with deep immersion for all those directly involved in designing and managing change
2. Consider the merits of a separate Program Management team with specialists in change and program management, focusing on the delivery of larger scale projects, 'owning' the EiB Platform's approach to change management, and supporting those working on smaller scale projects
3. Develop specific training in Relationship Management, to include 'influencing with and without power', 'building equitable partnerships', and 'communication styles'
4. Further develop understanding of what BP's need, and how current services are perceived as meeting those needs (the survey forming part of this module provides an overall indication of perceived value, however confirmation and more detailed insights would be a very useful next step)
5. Develop an EiB-wide (and wider CGIAR) approach to 'Situational Intervention' (approaches and tools to work effectively with partners that have different capabilities and possibilities) – a basic common approach rather than a 'one-size-fits all' to rigid solution
6. Assess current effectiveness and improve where possible communication with Partners
7. Focus the drive for improvements in the total assessment-planning-execution cycle for the CG's and NARES on the planning and implementation stages. Continue with the BPATs as the flagship assessment tool and ensure availability over the planning period to achieve a common base across time and breeding programs
8. In the Improvement plans consider all aspects that drive breeding performance, not only the science. Consider Mckinsey's 6 S model and the Balance Score Card approach

D. Sustainability - A comment on handover and implementation

1. Organize hand-over meetings where the relevant members of the evaluation team meet and discuss with the appropriate EiB leader or team to effectively hand-over information, insights, and ideas. In this way this EiB Assessment contributes to the continuous improvement the Platform is seeking
2. The recommendations in the report are specifically related to the EiB Platform, however, they could be equally applicable to its direct successor(s) as well as the wider CGIAR.

This recommended change program will require significant investment in time, money, and resources, but building People Skills and 'Change-ability' need to become an integral and sustained approach within EiB and its successor(s). They are mission critical.

The evaluation found a widespread recognition of the need for change and learning which was positive and should help implement an ongoing improvement program.

Annex 5. Evaluation Matrix

Key Evaluation Questions	Sub-Questions	Indicators /Evidence	Data collection methods
Relevance			
1. To what extent are the EiB Platform's[12] objectives relevant to the needs of its internal[13] and external partners and stakeholders, including end-users?	1.1 Were the Platform design and approaches aligned with Centers', partners' and end users' priorities and capacities?	- Internal and external stakeholders' opinions about the extent to which Platform objectives and approaches were aligned with the priorities and capacities of target partners and end-users, by type. - Level of engagement/participation of end users (farmers) in setting the breeding agenda (definition of product profiles) - Documentary evidence that the needs of partners and other key stakeholders have been expressed clearly (or requested by EiB)	- Online survey (of a range of stakeholders including CoP members) - Key Informant Interviews (KII) and Focus Group Discussions (FGDs) - (Partners & Platform G&M team) - Document analysis/ Synthesis of Evaluative Evidence
	1.2 To what extent have cross-cutting themes (Gender, Diversity and Inclusion -GDI, Youth, Climate Change and Capacity Development, been incorporated into Platform design?	- Guidance or training made available to Platform staff on how to integrate cross cutting themes into programming. - Extent to which POWBs specifically incorporate cross cutting themes - Number (and evolution over the years) of specialized partners engaged by the Platform to strengthen the relevance and effectiveness of cross cutting themes across program cycle: design, implementation, monitoring and evaluation.	- Document analysis - KIIs/FGDs - Assessed as part of case studies (selected Breeding Programs - BPs) - Publications relating to these themes, enabled by the Platform
	1.3 How have the Platform design and mechanisms evolved over time to adapt to emerging developments and constraints, including the COVID-19 Pandemic?	- Stakeholders' opinions on ability of the Platform to adapt to developments/changes e.g., whether implemented technologies are flexible enough to allow upgrading and evolution in line with new technologies, new desired features, and new concepts. - Has there been a mechanism in place to ensure that, as the needs of partners became clearer (through BPAT evals among others), Platform's objectives would be revised and adjusted if necessary? - Extent to which Platform design has changed over time to respond to a changing context. Extent to which decisions were taken and implemented in a timely fashion to respond to the e evolving context, needs, including the COVID-19 Pandemic (examination of the timeline of decision-making process and its implementation).	- KIIs/FGDs - Online Survey - Document Analysis - Assessed as part of case studies (selected Breeding Programs - BPs)
Coherence			
	A- Internal 2.1 To what extent has the Platform sought and managed to create synergies with other CGIAR platforms and CRPs?	- Internal stakeholders' opinions on the extent to which the Platform complements the role of other CGIAR platforms and CRPs.	- Evidence from 2021 synthesis - Document analysis - KIIs

[12] Hereafter referred to as the Platform

[13] Where internal partners are other CGIAR platforms and CRPs

Key Evaluation Questions	Sub-Questions	Indicators /Evidence	Data collection methods
2 How synergetic is the EiB Platform with other platforms and CRPs in CGIAR and comparable public and private sector programs/ initiatives?		- Documented evidence indicating that the design was appropriate to allow for synergies with other CGIAR platforms and CRPs	
	2.2 How aligned is the design and implementation of the Platform with core CGIAR programmatic guidance and the CGIAR Strategy and Results Framework 2016-2030?	- Extent to which there is alignment between the results and targets of the Platform and the SRF - Extent to which the Platform monitoring and reporting system tracks progress towards SRF targets.	- Document analysis - MARLO - KIIs
	2.3 To what extent is the Platform coherent internally, in terms of the mandate of the lead center (CIMMYT), and in terms of the interlinkages/coherence between its respective result areas (Modules) and initiatives (BOND, BrIN, CtEH, HiRice)?	- Degree of consistency between the mandate of the CIMMYT and the objectives of the Platform - Extent to which the different Platform Modules interact with and complement each other. - Extent to which the various Initiatives of the Platform work together (BOND, BrIN, CtEH, HiRice)	- Document analysis - KIIs
	B- External 2.4 To what extent and in what ways is the Platform coherent externally: with priorities of key funders (CGIAR Trust Fund, Crops to End Hunger Donors, and Bill & Melinda Gates Foundation) and other contributors?	- Funders' opinion on the degree of coherence between their priorities and Platform interventions - Platform Steering Committee's opinion on the degree of coherence between their priorities and Platform interventions	- KIIs (donors, PSC members)
	2.5 What is the added value of the Platform interventions to NARS and the work of similar breeding programs and platforms in the public and private sector in developed countries. Is there any duplication of efforts, e.g., with the private sector?	- Evidence of the added value of Platform interventions with regard to NARS (including assessment of any duplication of efforts) - Evidence of the added value of Platform interventions with regard to similar breeding programs and platforms in the public or private sector e.g., multinational, multi-crop companies (including assessment of any duplication of efforts)	- KIIs - FGDs - Case studies
Efficiency			
3.Have resources (funds, human resources, time, expertise etc.) been allocated strategically and timely to achieve	3.1 How adequate has the high-level technical, institutional, and administrative support from the Platform's internal partners (CRPs and other Platforms) been?	- Platform management's opinion about the support provided by internal partners (strengths and weaknesses). - Internal partners' opinions on the Platform's capacity to manage resources and partners (agile management).	- KIIs/FGDs (Partners & Platform G&M team) - Online survey - Document analysis - 2020 CRP reviews- 2021 synthesis
	3.2 How was priority setting done and were funds allocated accordingly?	- Mechanisms in place to decide on priorities and fund allocations	- Document analysis - KII

Key Evaluation Questions	Sub-Questions	Indicators /Evidence	Data collection methods
Platform outputs and outcomes?	3.3 How appropriate and efficient was/is implementation: use of human and financial resources, within agreed timelines.	- Adequacy of staffing levels - Staff rotation and retention - Staff motivation - Competency frameworks, Job specs (aligned with goals of the organization etc?) - Learning and development programmes and participation - Gender, diversity, inclusion - Communication - Use of 360 feedback - Adequacy of funding levels - Efficiency of funding decision making process - Allocation of funding from different sources (donor) - Timeliness of output achievement (extent of delays) - Quality of reporting	- Document analysis - Analysis of stats - KIIs/FGDs (Platform G&M)
	3.4 How efficient was the provision and/or brokerage of materials, services and sites by the Platform?	- Adequacy of the procurement process (materials, services)	- Document analysis (Budget & Workplans) - KIIs
	3.5 How efficient was the grant awarding process?	- Efficiency of the grant awarding process as judged by Platform staff - Efficiency of the grant awarding process as judged by recipients	- Document analysis - KIIs
Effectiveness			
4. To what extent did the Platform achieve progress towards planned results?	4.1 To what extent did the Platform achieve the **planned outputs** noted in the proposal? 4.2 To what extent did the Platform achieve the **planned outcomes** noted in the proposal? 4.3 How variable was achievement of results: by modules, centers, crops? 4.4 How effectively did the Platform react to the need to change/adapt objectives/plans?	- (%) of planned output achievement across modules - Rates of use of Platform's tools (e.g., number of users of the Enterprise Breeding System) - Identification of still unaddressed key needs of partners/stakeholders - Stakeholders' feedback about the quality of outputs in relation to the objectives and targets of each module. - Stakeholders' satisfaction with their level of participation in delivery of planned outputs, by module/center. - Evidence on extent to which outputs have led, or are leading, to planned changes/outcomes. - Stakeholders' opinion on the rate of progress towards achievement of planned outcomes - Variance in the achievement of planned results by modules, centers and crops - Stakeholders' opinion on ability of Platform to perceive changes and adapt its objectives or processes to deliver to these new needs (and stop delivering to obsolete ones) - Extent to which cross-cutting themes are evident in results e.g., impact of product profiles on gender-responsive breeding approaches, - Evidence relating to data and intellectual assets	- Document analysis - Online Survey (Partners, CoP members + CGIAR) - KIIs/FGDs - MARLO

Key Evaluation Questions	Sub-Questions	Indicators /Evidence	Data collection methods
	4.5 To what extent was progress made wrt key cross cutting themes (GDI, Youth, Climate Change)? 4.6 To what extent have open data and intellectual assets been addressed? 4.7 What has been the uptake by partners of the Platform's capacity development and technical support? 4.8 How effective has the capacity building effort been?	- Number of partners that have availed of Platform's capacity development interventions - Number of partners that have availed of Platform's technical support - Opinion of partners on the quality & relevance of Platform's capacity development initiatives - Opinion of partners on the quality & relevance of Platform's technical support - Extent to which the results of capacity development and technical support are assessed	
	4.8 How effective was the Platform in supporting its network of partners (CGIAR centers, NARS, local private breeding sector) in developing new cultivars/breeds and conserving genetic resources within eight Agri-food Systems CGIAR Research Programs (AFS CRPs) and the Genebanks Platform?	- Extent to which the Platform has supported its network of partners (CGIAR centers, NARS, local private breeding sector) in developing new cultivars/breeds and conserving genetic resources within the eight Agri-food Systems CGIAR Research Programs (AFS CRPs) and the Genebanks Platform?	- Document analysis - Online survey of partners - KIIs/FGDs
	4.9 To what extent has the Platform made progress towards its overall objective (to become the one-stop place to go for advice, tested resources and best practices for any breeding program targeting the developing world)	- Evidence of uptake by breeding programs of the Platform's capdev and technical offering (based on improvement plans from BPATs, learning events) - Opinion of partners on whether Platform offers technically sound and feasible capdev and technical support - Evidence on delivery mechanisms from breeding programs to farmers that worked best	- Improvement plans - KII - Synthesis evidence from 2020 CRP reviews - Analysis of Learning series
	4.10 To what extent has the awarding of grants by the Platform contributed to the overall results, in terms of effectiveness and transparency	- Mapping and analysis of grants to modules, trends - Effectiveness of the awarded grants as judged by Platform staff - Effectiveness of the awarded grants as judged by recipients	- Document review of sub-sample of grants - KII's (PSC)
5. Which internal and external mechanisms and factors, including inputs, contributed to, or inhibited, achievement of outputs and outcomes,	**A- Management and Governance** 5.1 To what extent have the Platform's governance and institutional mechanisms helped/inhibited achievement of results?	- Org charts with delineation of roles and responsibilities for all key results - Documented processes in place describing how staff was expected to meet their responsibilities and report to management - Decision-making hierarchy is clear, documented and widely known by staff - Individuals in management positions have been trained adequately for management duties (including effective performance management, feedback, situational leadership, relationship management, difficult conversations)	• KIIs • Document review • Online survey could address some issues possibly

Key Evaluation Questions	Sub-Questions	Indicators /Evidence	Data collection methods
intended and unintended?		- Opinion of staff members regarding management and institutional processes	
	5.2 How effectively was change managed internally and with partnering breeding programs?	- Leadership and staff opinion of change management process during program reframe. - Documented change management strategy and evidence of intentional planning during program reframe. - Training and/or support to staff members to manage changes in their roles and responsibilities. - Evidence of collaborative processes internally during reframe to garner support. - Evidence of interventions and response to address internal sources of resistance to change. - Opinions of breeding program partners of how well EiB supported them to enact EiB recommended and/or facilitated change.	• KIIs • Document review • Breeding partner FGD (and/or survey)
	5.3 How effective has Platform engagement with the leadership of selected breeding programs/CRPs/CGIAR centers been with a view to meeting Platform objectives?	- Opinion from breeding program/CRPs/CGIAR centers leadership on how effective EiB's engagement has been with them in helping the platform meet its objectives that relate to their organizations. - Opinion from EiB on how effective breeding program/CRPs/CGIAR centers leadership engagement has been in helping the platform meet its objectives	• KIIs • Document Analysis (MoU, Agreements, Protocols, etc.)
	B- Partnerships 5.4. How effectively has the Platform engaged with internal and external partners in support of its objectives? Is there a variance in results and ownership by type of partnership?	- Number and types of new partnerships initiated by the Platform. Among them (%) that are specialized in cross cutting themes. - Internal and external partners' opinions about the quality of their partnership with the Platform - Platform staff opinion on how different partnerships have contributed to achievement of Platform objectives - Levels of success of different partnerships (most successful)	- Document Analysis/ Synthesis of Evaluative Evidence. - KIIs/FGDs - Online survey
	5.5 What has been the role of partnerships in addressing cross-cutting issues (at the Platform Level)?	- Internal and external partners' opinions about how they have helped the Platform to address cross-cutting issues - Platform staff opinion on how different partnerships have helped the Platform to address cross-cutting issues - Extent to which Platform interacted and coordinated with the GENDER Platform	- Platform analytics - KII/FGD - Document analysis - Online survey
	5.6 To what extent have partnerships with NARS been effective?	- NARS opinion on the effectiveness of their partnerships with the Platform - Degree of uptake of Platform outputs and services by NARS - Level of appreciation of the relevance of Platform outputs to needs of NARS	- KII/FGD - Document analysis

Key Evaluation Questions	Sub-Questions	Indicators /Evidence	Data collection methods
	5.7 How strategic and complementary has the role of the private sector been (e.g., Bayer, Syngenta, Corteva, etc.)?	- The level and type of involvement of the private sector in Platform interventions - Assessment of the importance of buy-in from the private sector (Bayer, Corteva, etc.)? - Extent to which private sector involvement has improved performance of Platform - Extent to which private sector involvement will contribute to sustainability of Platform services	- Platform analytics - KIIs - FGDs
	5.10 What role have CoPs played in the achievement of the Platform's goals?	- Number of CoPs created - Number of people included in CoPs - Opinion of CoP members on their contribution to achievement of Platform's goals - Opinion of Platform staff on the contribution CoPs have made to achievement of Platform's goals	- Platform analytics - KIIs - FGDs
	C- MEL, Knowledge Management and Communication 5.11 How has the CGIAR Monitoring, Evaluation and Learning (MEL) and CIMMYT system facilitated or inhibited achievement of results?	- Degree of compatibility between CIMMYT MEL system and CG MEL system - Extent to which MEL system is used by Platform staff - Opinion of Platform staff on the usefulness of the MEL system - Opinion of CIMMYT on the usefulness of the MEL system	- Document analysis - KIIs
	5.12 What mechanisms have best facilitated effective learning within the Platform, with other platforms, CRPs and external partners (CoP, etc)?	- Evidence of uptake of learning within the Platform, with other platforms, CRPs and external partners - Opinion of Platform staff on most effective learning mechanisms within the Platform - Opinion of Platform partners on most effective learning mechanisms developed by Platform	- Document analysis - Survey - KIIs
Sustainability			
6. What mechanisms have been put in place to ensure that EiB Platform assets, products and mechanisms are positioned to respond to donor requests (CtEH)	6.1 What is the level of progress with regard to the CtEH Funders' 6 requests?	- Extent to which the Platform modules or 4 main initiatives (BOND, BrIn, CtEH, HiRice) are addressing the 6 requests? - Level of prioritization of the 6 requests (addressed with the same intensity) - Aspects of the Platform that have enabled or inhibited the Platform to effectively respond to the 6 requests from CtEH Funders (2020)	- KIIs - Desk Review/Document analysis

Key Evaluation Questions	Sub-Questions	Indicators /Evidence	Data collection methods
7. Which elements of the EiB Platform assets are likely to sustain and contribute towards One CGIAR?	7.1 To what extent is the sustainability of the Platform assured vis-à-vis other Platforms (GENDER) or initiatives (e.g., Genebanks)	- Extent to which the added value of the Platform vis-à-vis other platforms or initiatives is likely to continue going forward	- KIIs
	7.2 What are the mechanisms and products, through which the Platform-generated insights, products, and communities have contributed to the One CGIAR reform/ reorganization? What are the key factors in management and governance structures to ensure success and sustainability of the Platform?	- Extent to which Platform-generated policies, products, communities, and approaches have been integrated into One CGIAR - The extent to which sustainability considerations are reflected in the 2021 POWB work plan and implementation	- Document analysis - KIIs
	7.3 What are the lessons learned to facilitate the translation of the Platform's outputs and outcomes to CGIAR's Action Areas, Impact areas and the 7 ways of working?	- Lessons learned identified to facilitate the translation of the Platform's outputs and outcomes to CGIAR's way of working - Lessons drawn from the experiences with Platform for One CGIAR and the various GI initiatives	- Document analysis - KIIs
	7.4 What are the key lessons learnt for sub-grant projects continuing past 2021, and for the future design of similar initiatives?	- Platform staff's opinion on the key lessons learnt for sub grant projects post 2021 - Grant recipients' opinion on the key lessons learnt for sub grant projects post 2021	- Online survey - KIIs

Annex 6. Guiding Interview Questions

Guiding Questions for Technical Stakeholders

- What has been your relationship with EiB? Which Modules are you mostly working with?
- In what ways has EiB allowed you to make your breeding program(s) more efficient?
- Have you frequently/regularly/occasionally sought technical/scientific/management advice from EiB? If so, how easy and swift has it been to access EiB's expertise in these areas?
- How much has your understanding of your "markets", of the products needed in those markets, and of how to breed to deliver such products, changed through EiB's actions (outputs, interactions, trainings)
- Have you requested an assessment of your breeding program(s)'s efficiency? If such an assessment was conducted, how relevant and helpful were the conclusions to identify and implement improvements?
- What has been EiB's impact on your ability to access technologies (shared services) in the areas of:
  - breeding methodology
  - genotyping
  - phenotyping
  - data management
- How much has your network (breeding organizations/technology providers, public organizations/private organizations, G centers/NARES, different crops) grown through EiB? What has been the value of that growth on your breeding program(s)'s efficiency or your ability to move products to markets faster ("quick wins")?
- Have you received any training material from, or been engaged in any training through EiB?
- What has been EiB's main impact on people within or outside of your program(s)?
- What is the one thing you still need most (from EiB)?
- Is your breeding program gender-responsive?

Guiding Questions for System Council Members

- How long have you been a member of the SC for the EiB Platform?
- What do you consider the main role of the SC to be?
- What is the added value of the Platform as compared to the work carried out by similar breeding programs and platforms in the public and private sector in developed countries?
- How strategic and complementary has the role of the private sector in the Platform been (e.g., Bayer, Syngenta, Corteva, etc.)?
- Would you agree with the statement that the Platform is more donor driven than BP driven?
- Do you think the evolution of the Platform over time (to adapt to emerging developments and constraints, including the COVID-19 Pandemic) has been adequate?
- What is your assessment of the performance of the Platform to date?
- In your opinion, what is the overall goal of the Platform?
- What do you consider to be its main achievements?
- What do you consider to be its main weaknesses/concerns?
- Are you satisfied with the reporting on results achieved?
- Do you consider that the feedback received from SC members is adequately addressed by the Platform?
- Are you satisfied with the level of progress with regard to the CtEH Funders' 6 requests?
- What is your assessment of the Platform's management/governance structure?
- What is your opinion on the sub-grant scheme managed by the Platform?
- Do you think that the work being done with NARES is adequate?
- Do you think that cross-cutting themes (Gender, Diversity and Inclusion -GDI, Youth, Climate Change and Capacity Development) are adequately addressed by the Platform?
- What do you think the main implications of "One" CGIAR are for the Platform?

- What do you consider to be the most important potential/priority areas for future work for the Platform?
- In your opinion, what are the issues of greatest concern facing the Platform as we look to the future?
- Is there anything you think the Platform should have done differently (with the benefit of hindsight)?

Guiding Questions for Funders/Donors

- How long have you supported the EiB Platform?
- Why did you become involved in supporting the Platform?
- What is the level of your support (funding)?
- How do you prioritize your funding across the various activities carried out by the Platform?
- Can you please comment on the functioning of CtEH versus other funding mechanisms (added value of this mechanism)?
- Would you agree with the statement that the Platform is more donors driven than BP driven?
- To what extent do you consider the Platform to be coherent with your organization's priorities?
- What is the added value of the Platform as compared to the work carried out by similar breeding programs and platforms in the public and private sector in developed countries?
- Do you think the evolution of the Platform over time (to adapt to emerging developments and constraints, including the COVID-19 Pandemic) has been adequate?
- What is your assessment of the performance of the Platform to date?
- In your opinion, what is the overall goal of the Platform?
- What do you consider to be its main achievements?
- What do you consider to be its main weaknesses/concerns?
- Are you satisfied with the reporting on results achieved?
- Are you satisfied with the level of progress with regard to the CtEH Funders' 6 requests?
- What is your assessment of the Platform's management/governance structure?
- What is your opinion on the sub-grant scheme managed by the Platform?
- Do you think that the work being done with NARES is adequate?
- Do you think that cross-cutting themes (Gender, Diversity, and Inclusion -GDI, Youth, Climate Change and Capacity Development) are adequately addressed by the Platform?
- How strategic and complementary has the role of the private sector in the Platform been (e.g., Bayer, Syngenta, Corteva, etc.)?
- What do you think the main implications of "One" CGIAR are for the Platform?
- What do you consider to be the most important potential/priority areas for future work for the Platform?
- In your opinion, what are the issues of greatest concern facing the Platform as we look to the future?
- Is there anything you think the Platform should have done differently (with the benefit of hindsight)?

Annex 7. Online Survey

7.1: Survey Questions

INTRODUCTION - CAS EIB platform EVALUATION

The survey is part of the independent evaluation of the EiB Platform. The purpose of this survey is to gather information from EiB team members and their partners to learn what is going well and where there might be opportunities to improve. There are no 'right' or 'wrong' answers. Your honest responses will help EiB, CGIAR and others grow and improve.

Question	Question Type	Answers	Audience
1. Gender	Multiple choice	a) Female b) Male c) Non-binary d) Rather not say/Not sure	ALL
2. Age	Multiple choice	a) Less than 18 b) 18-24 c) 25-34 d) 35-44 e) 45-54 f) 55-64 g) 65+	ALL
3. Nationality	Drop down list	Include all nationalities	ALL
4. What's your role in your place of work?	Multiple choice	a) Leadership, member of a governance body b) Management and Administrative Staff c) Scientists /Researcher d) ITC Staff/Data scientist/Data management e) Consultant f) Other _____	ALL
5. What is the highest level of education you have completed?	Multiple choice	a) Post-secondary school qualifications (non-tertiary) b) Bachelors or equivalent c) Master's/Graduate d) PhD/Doctorate	ALL
6. How would you most closely identify your role with respect to the EiB Platform? *Select all that apply*	Checkboxes	a) CGIAR Center - *Select if you are/have been a staff member of one of CGIAR Centers* b) CGIAR Research Program (CRP) or Platform - *Select if you are/have been a researcher or staff of one of the CRPs/Platform* c) External NARES partner – *Select if you are a partner of the EiB Platform* d) External Recipient of funding/grant – *Select if you are a partner of the EiB Platform* e) None of the above	ALL If 'a' go to 7 If 'b' go to 8 If 'c' go to 9 If 'd' go to 10 If 'e' go to 10
7. In which CGIAR Center/Alliance/Organisation do you work?	Multiple choice	a) AfricaRice b) CIFOR c) ICARDA d) ICRISAT e) IFPRI f) IITA g) ILRI h) CIMMYT i) CIP	If Q6 contains 'a'

		j) IRRI k) IWMI l) Alliance of Bioversity International and CIAT m) ICRAF n) WorldFish o) CGIAR System Organisation	
8. In which CGIAR Research Programs (CRP) or Platforms do you work? *Select all that apply*	checkboxes	a) A4NH b) GLDC c) WHEAT d) CCAFS e) Livestock f) PIM g) FISH h) MAIZE i) RBT j) FTA k) RICE l) WLE m) Genebanks Platform n) Excellence in Breeding (EiB) Platform o) GENDER Platform p) Big Data Platform	If Q6 contains 'b'
9. In which NARES organization do you work?	Multiple choice	a) NARO b) TARI c) ICAR d) NARO e) Other_____	If Q6 contains 'c'
10. In which organization do you work?	Open		If Q6 contains 'd' or 'e'
11. Are you or have you been an EiB team member?	Multiple choice	a) Yes b) No	If no – skip to Q31

SECTION 0: Tell us about yourself

SECTION 1: EiB Work Environment (Audience: only if Q11 was YES)

In this first section we are particularly interested in how EiB team members feel about their work and work environment.

12. Approximately, what percentage of your time is allocated to EiB platform work?
    a. 100%
    b. 75%
    c. 50%
    d. 25% or less
13. Are your roles and responsibilities within the EiB platform clear to you?
    a. Yes, I clearly understand what is expected of me for EiB work.
    b. I wish my roles and responsibilities were clearer for EiB work.
    c. No, it is not clear what is expected of me in my role with EiB.
14. Do you have enough time to do your EiB work?
    a. Yes, I have enough time.
    b. I can complete most of my EiB work in the time I have, but the results could be better with more time.
    c. No, I do not have enough time and work extra hours to complete EiB work.
    d. No, I need substantially more time to complete my EiB work.

15. Do you and your manager (the EiB person you report to) have regular conversations regarding your goals and performance *for your EiB work*? When appropriate, do you discuss opportunities for learning?
    a. Yes, my manager and I have regular conversations regarding my goals, performance, and opportunities for learning.
    b. My manager and I have had some conversations about goals, performance, and learning, but I would benefit from more regular discussions or a more formal process.
    c. My manager and I do not discuss my EiB work.
16. Is giving and receiving useful feedback a part of your interactions with other EiB team members?
    a. Yes, I regularly receive feedback from my manager and other members of EiB and feel comfortable giving feedback to others.
    b. I sometimes give and receive motivating and useful feedback but wish this was more frequent.
    c. I give and receive feedback, but I wish this was more motivating and useful.
    d. No, exchanging feedback is not a part of my work environment.
17. Is there a culture of respect in your interactions with other EiB team members?
    a. Yes, I have never felt rejected for being different and unique skills and talents are valued and utilized by EiB team members and leadership.
    b. I do not feel rejected for being different, but I do not feel like unique skills and talents are always valued and utilized by EiB team members and leadership.
    c. No, respect and inclusion are not emphasized in my workplace or by EiB leadership.

18. Please provide an example or clarification to help us better understand your responses for this section. OPEN QUESTION BOX

SECTION 2: EiB Platform Leadership (Audience: only if Q11 was YES)

In this section we are interested in learning how EiB team members feel about EiB platform leadership, organization and how their center's policies affect their EiB work.

19. In relation to performance management, does your manager in the work you do for EiB platform motivate you, hold you accountable, have 'difficult conversations' (news you might not like to hear) with you and support you to enable effective performance on your EiB work?
    a. Yes, my manager does all of this effectively.
    b. My manager is somewhat effective in these areas, but I wish they were more effective.
    c. No, my manager does not do this effectively.
20. If you manage people yourself, have you been trained in effective performance management, giving feedback, having 'difficult conversations', relationship management, conflict resolution and situational leadership?
    a. Yes, I have received training and feel confident in all these areas.
    b. I have received some training in these areas but would like to have additional support or training.
    c. No, I have not been trained in these areas but feel confident in my own abilities.
    d. No, I have not been trained and do not feel confident in these areas.
    e. I am not in an EiB leadership position.
21. As EiB team member, do you experience conflicts in prioritization and way of working relating to the work you do for EiB versus those of the Center you are officially contracted to?
    a. I do not experience a conflict
    b. I experience such a conflict so now and then
    c. I experience such conflicts on an ongoing basis
22. Do you feel sufficiently included in the EiB platform decision-making?
    a. Yes, my perspectives are heard and valued by EiB leadership. I can see my perspectives reflected in the decisions that get made.
    b. I share my perspectives, but they are not valued and incorporated into final decisions.
    c. No, I am not included in decision-making.
23. Please provide an example or clarification to help us better understand your responses for this section. OPEN QUESTION BOX

SECTION 3: Change Management (Audience: only if Q11 was YES)

At the inception of the EiB platform in 2016, specific priorities were set, including those of the CGIAR Trust Fund. In 2020 the Crops to End Hunger donors formulated their 6 requests for EiB platform, and the EiB is now attempting to evolve in response to these requests. The following questions are about the approach to and impact of change for EiB team members

24. Has EiB made progress in becoming a driver of systematic change since its initial design?
    a. Yes, EiB has made progress.
    b. I am not sure if EiB has made progress.
    c. No, EiB is not making progress.
    d. I don't know.
25. Do you understand why EiB has been asked to change by the donors?
    a. Yes, I understand.
    b. I somewhat understand.
    c. No, I do not understand.
    d. I am unaware of changes to EiB.
26. Has the plan for this change been clearly communicated to you?
    a. Yes the plan for change has been clearly communicated to me
    b. No, that is not the case
    c. I don't know
27. Do you agree with the changes being made to the EiB platform?
    a. Yes, I agree with the changes.
    b. I agree with some of the changes but not all.
    c. No, I do not agree with most or all of the changes.
    d. I am unaware of changes to EiB.
28. Have you worked collaboratively with EiB leadership and your manager to update your role and responsibilities to achieve this change?
    a. Yes, I have collaboratively updated my role and responsibilities with management.
    b. I am unsure if my role and responsibilities will change.
    c. No, my roles and responsibilities were changed but I was not consulted.
    d. No, my roles and responsibilities are not changing.
29. If your roles and responsibilities are changing, do you have the knowledge and skills necessary to enable these changes?
    a. Yes, I have the knowledge and skills to change in the way expected of me.
    b. I am not sure if I have the knowledge and skills to change in the way expected of me.
    c. No, I do not have the required knowledge and skills to change in the way expected of me.
    d. No, my roles and responsibilities are not changing.
30. When you do not agree with decisions made by EiB leadership or have concerns with how decisions affect your work, do you share these concerns and feel heard?
    a. Yes, when I have disagreements or concerns it is easy to share them and I feel like I am heard.
    b. I have concerns regarding decisions, but I don't know how to share them or don't feel comfortable to share them with leadership.
    c. No, I do not have disagreements or concerns regarding decisions made by leadership.
31. Please provide an example or clarification to help us better understand your responses for this section. OPEN QUESTION BOX

32. Use the box below to:
    - Share one thing that you feel is working really well in the EiB platform, and
    - Share one thing that you would really like to change about the EiB platform.

    OPEN QUESTION BOX

SECTION 4: Partner Engagement (Audience: only if Q11 was NO)

At the inception of the EiB platform in 2016, specific priorities were set, including those of the CGIAR Trust Fund. In 2020 the Crops to End Hunger donors formulated their 6 requests for the EiB platform, and the platform is now attempting to evolve in response to these requests. The following questions are about how the EiB's partners feel about the quality of their engagement with the platform and clarity of EiB's changing goals and objectives.

33. To the best of your knowledge, what is the main purpose of the EiB Platform?

OPEN QUESTION

34. Have the EiB Platform's services, analytical tools and/or activities you engaged in added value to your work?
    a. Yes, engagement with the EiB Platform has added substantial value to my work.
    b. Engagement with the EiB Platform has added modest value to my work.
    c. No, engagement with the EiB Platform has not added value to my work.
    d. I don't know.
35. Do the EiB Platform's products and activities address your new and evolving needs?
    a. Yes, EiB Platform's products and activities meet all or most of my new and evolving needs.
    b. The EiB Platform's products and activities meet some of my new and evolving needs.
    c. No, EiB Platform's products and activities do not meet my new and evolving needs.
    d. I don't know.
36. To the best of your knowledge, was your breeding program (if you have one) subject to the Breeding Program Assessment Tool or an EiB assessment?
    a) Yes
    b) No—**IF NO, skip to Q44**
    c) I don't know—**IF NO, skip to Q44**
37. Has your breeding program become more effective as a result of EiB recommendations, training, and support?
    a. Yes, EiB recommendations, training, and support have made my breeding program more effective.
    b. No, EiB recommendations, training, and support have not made my breeding program more effective.
    c. I don't know.
38. If an improvement plan was developed, was the plan development process efficient in terms of time lapsed, money and people involved?
    a. Yes, EiB made the process of developing an improvement plan for my breeding program as efficient as possible.
    b. EiB could have worked harder to make the improvement plan development process more efficient.
    c. No, the improvement plan development process was not efficient at all.
    d. I don't know.
39. Did you feel included and respected in the improvement plan development process?
    a. Yes, EiB staff listened to and respected my opinions, and they were incorporated into the improvement plan.
    b. I was included in the process but did not feel respected or valued.
    c. No, I should have been included in the process but was not.
    d. No, I should not have been included in the process.
40. Are the recommendations and improvement plan developed by or with EiB reasonable given your organization's current situation and resources?
    a. Yes, the recommendations are reasonable given the resources we have.
    b. The recommendations are somewhat reasonable given our resources, but it will be (or is) difficult to find the people or money to follow the plan.
    c. No, the recommendations are not reasonable given our resources.
    d. I don't know.
41. Are the recommendations and improvement plan developed by or with EiB technically sound and in the best interest of your breeding program?
    a. Yes, the recommendations are technically sound and in our best interest.
    b. The recommendations are somewhat technically sound and in our best interest.
    c. No, the recommendations are not technically sound and in our best interest.
    d. I don't know.
42. Have you received enough support from EiB to act on recommendations to improve your breeding program?
    a. Yes, EiB provides enough support to follow its recommendations.
    b. EiB provides some support to follow its recommendations, but it is not enough.
    c. No, EiB did not provide support to follow its recommendations.
43. Have you received enough support from your own organization to improve your breeding program?
    a. Yes, my organization provides the support I need to improve my breeding program.
    b. My organization provides some support to improve, but it is not enough.
    c. No, my organization does not provide support to improve my breeding program.
44. Has EiB made progress in becoming a driver of systematic change since its initial design?
    a. Yes, EiB has made progress.
    b. I am not sure if EiB has made progress.

c. No, EiB is not making progress.
d. I don't know.

45. Do you understand why EiB has been asked to change by the donors?
    a. Yes, I understand.
    b. I somewhat understand.
    c. No, I do not understand.
    d. I am unaware of changes to EiB.
46. Has the plan for this change been clearly communicated to you?
    a. Yes the plan for change has been clearly communicated to me
    b. No, that is not the case
    c. I don't know
47. Do you agree with the changes being made to the EiB platform?
    a. Yes, I agree with the changes.
    b. I some of the changes but not all.
    c. No, I do not agree with most or all of the changes.
    d. I am unaware of changes to EiB.

48. Please provide an example or clarification to help us better understand your responses for this section. OPEN QUESTION BOX

49. Use the box below to:
    - Share one thing that you feel is working really well in the EiB platform, and
    - Share one thing that you would really like to change about the EiB platform.

    OPEN QUESTION BO

End of the Survey

If you would like an individual interview (remote), or if you are willing to be contacted for follow-up, please leave your E-mail address (optional)	Open question	ALL
Is there anyone whom you think would have insights on EiB that we should also send the survey to?	Open question	ALL

7.2: Online Survey results

Figure A5: Responders' Demographics (N=70)

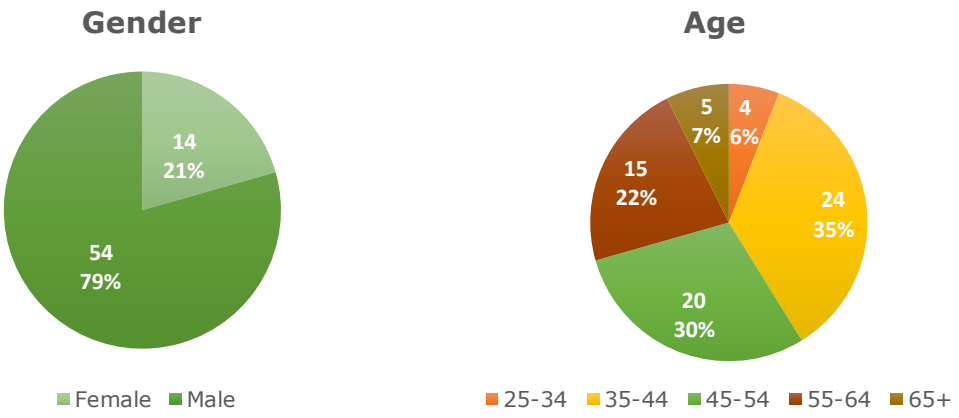


Figure A6: Respondents Education, N= 69

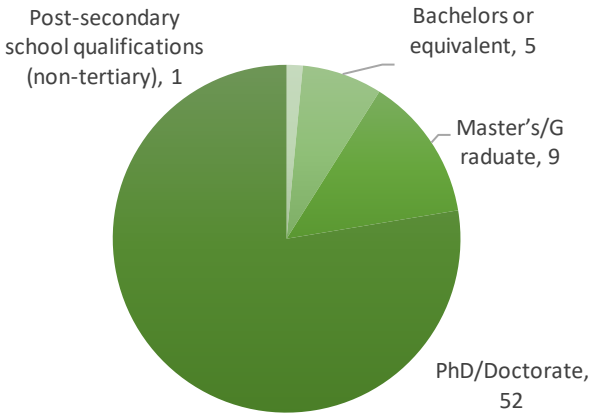


Figure A7: Respondents' Nationality, N=61

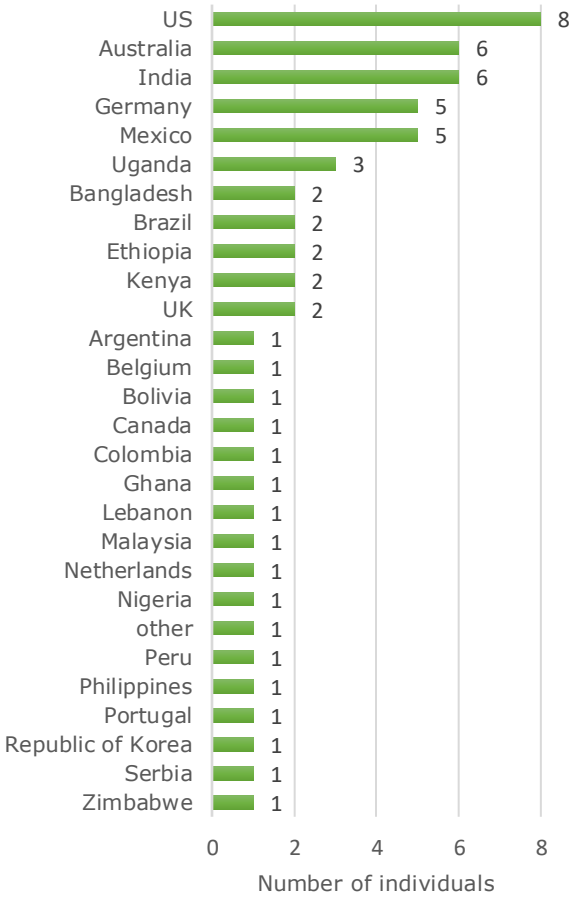


Figure A8: Responders' role in the workplace (N=68)

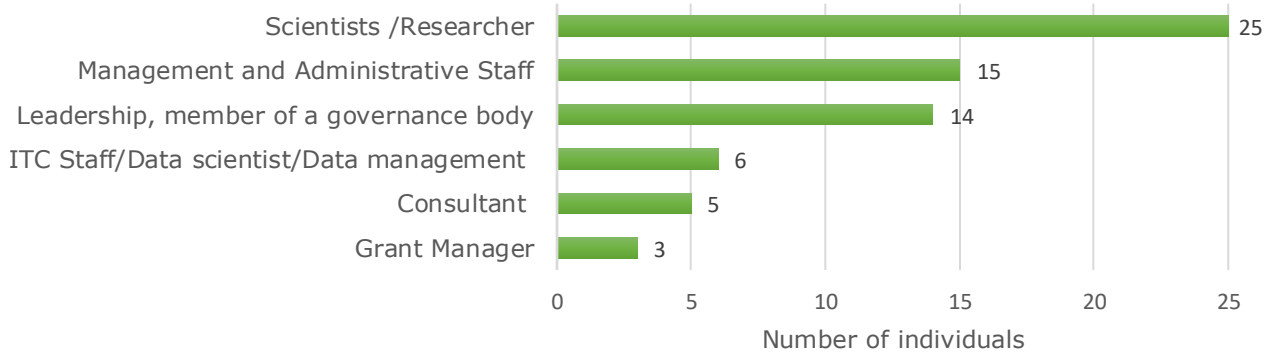


Figure A9: Respondents' Affiliation to CGIAR Centers/ Alliance/ Organization (N=50)

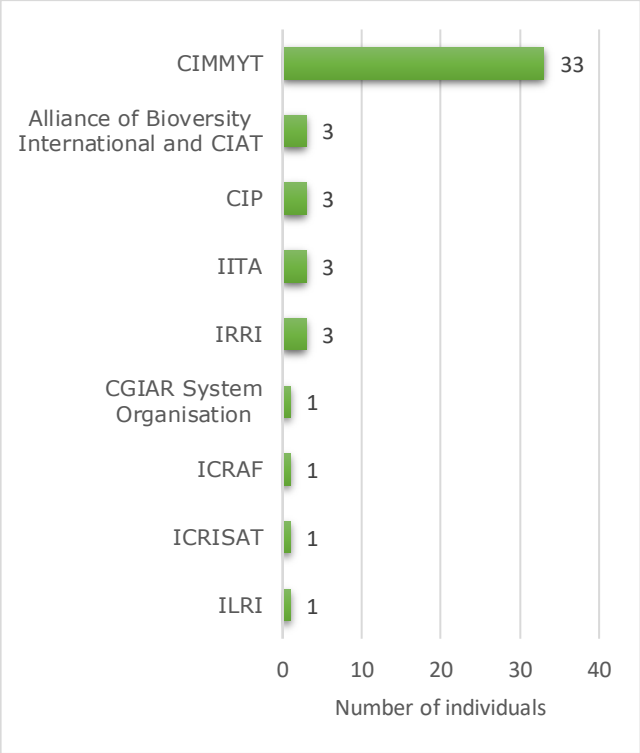


Figure A10: Respondents' Affiliation to CGIAR Research Programs or Platforms (N=54)

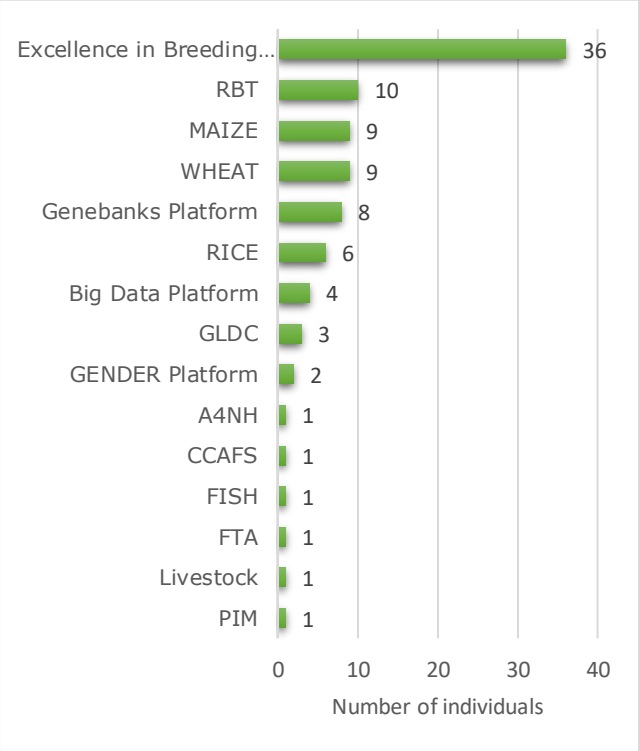


Figure A11: Respondents Which Have Been (or Not) EiB Team Members (N=61)

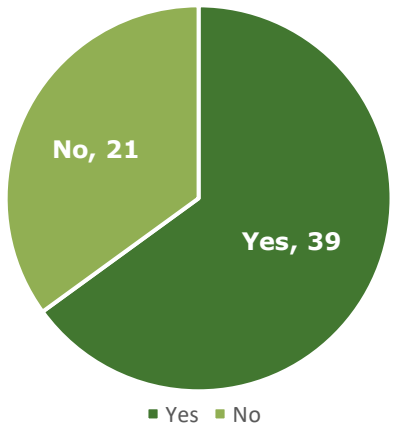


Figure A12: Estimated Time Allocation to EiB Work (N=37)

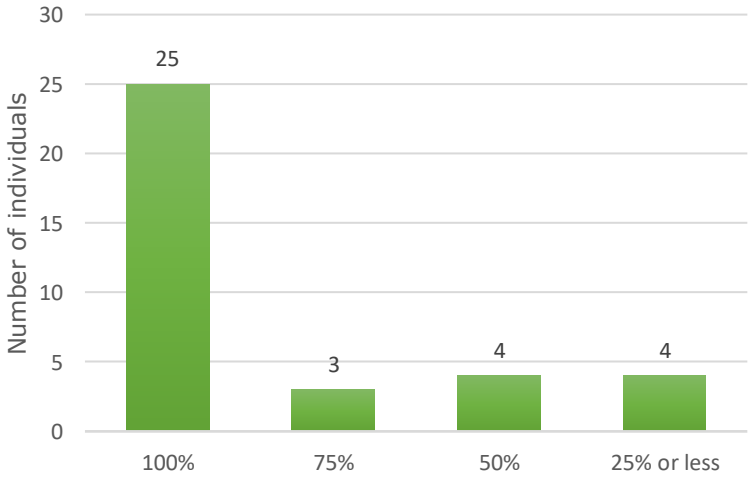


Figure A13: Clarity of Roles and Responsibilities for EiB Team (N=37)

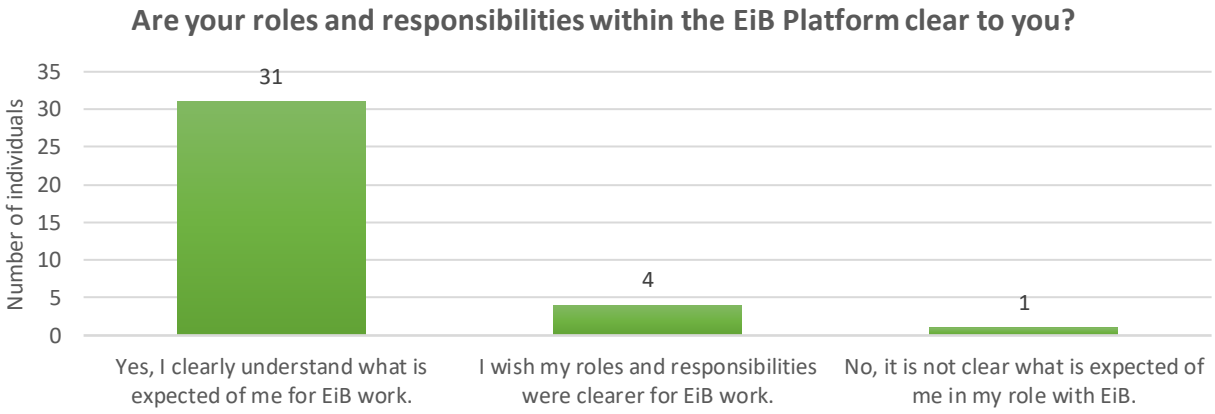


Figure A14: Perception of Time for EiB Work (N=36)

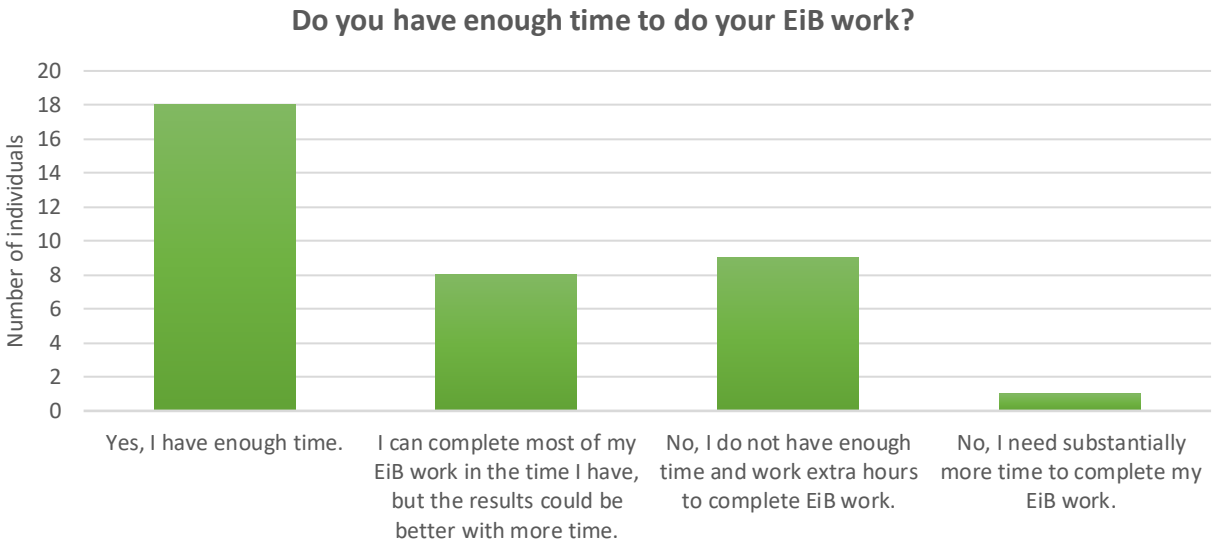


Figure A15: Performance Management Conversation (N=35)

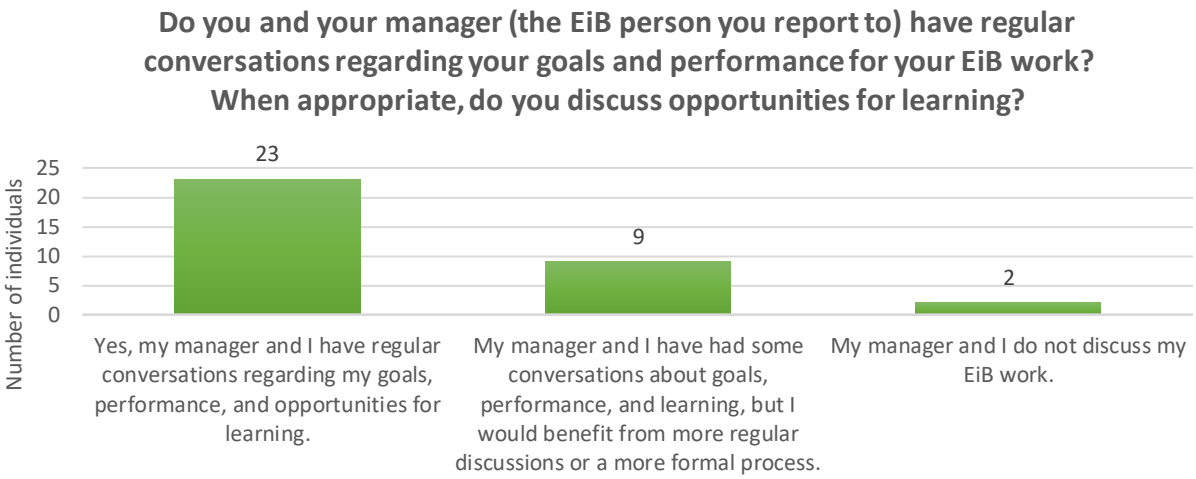


Figure A16: Feedback Among Team Members (N=37)

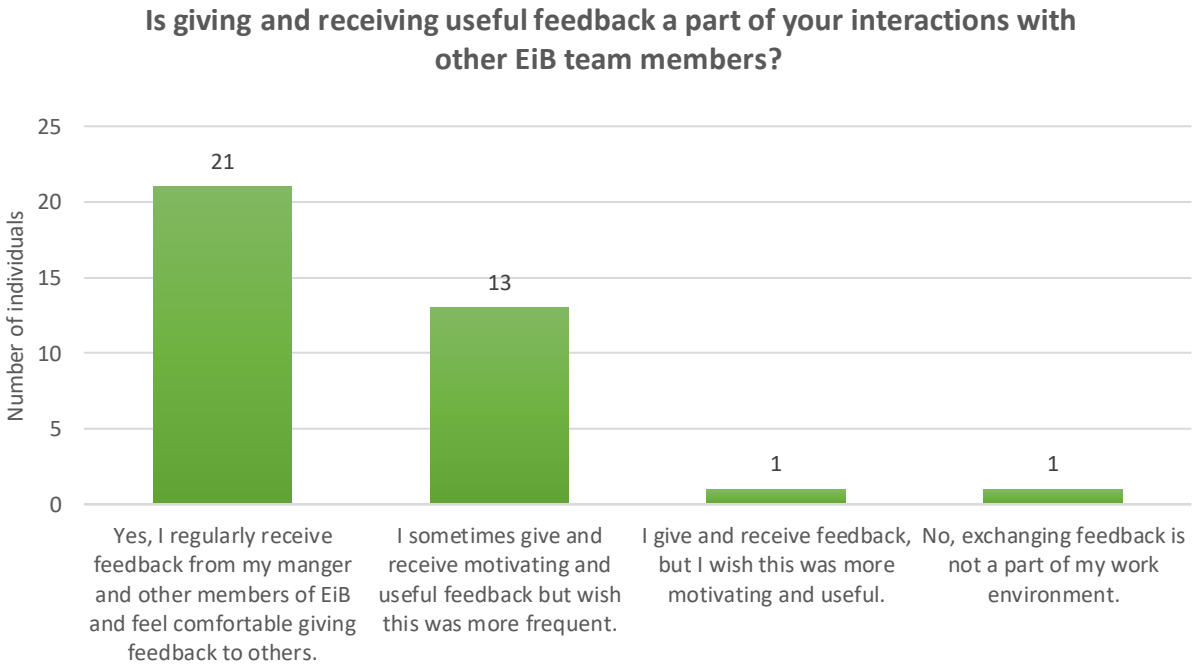


Figure A17: Perception of Respect and Inclusion (N=36)

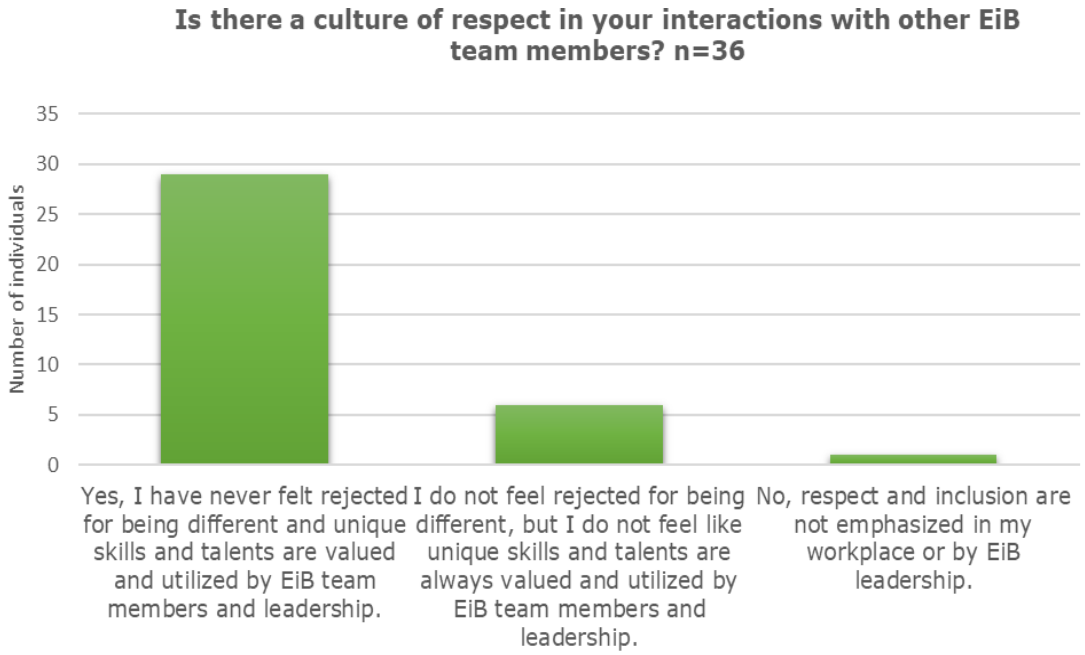


Figure A18: Effective Performance Management (N=35)

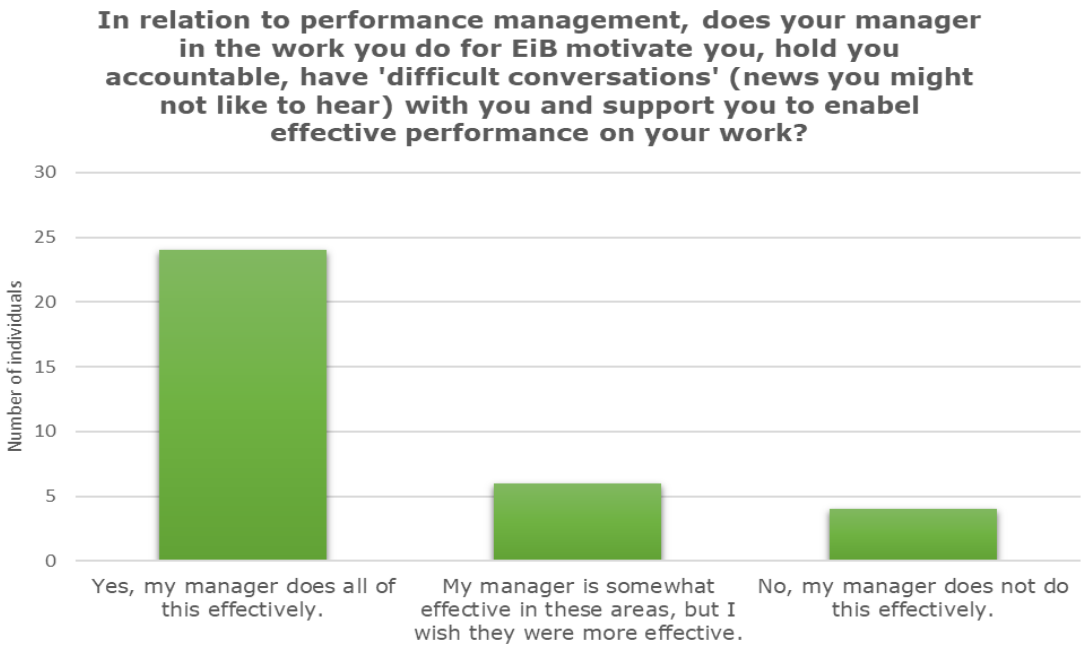


Figure A19: Performance Management Confidence and Training (N=34)

Figure A20: Conflict between EiB and other work

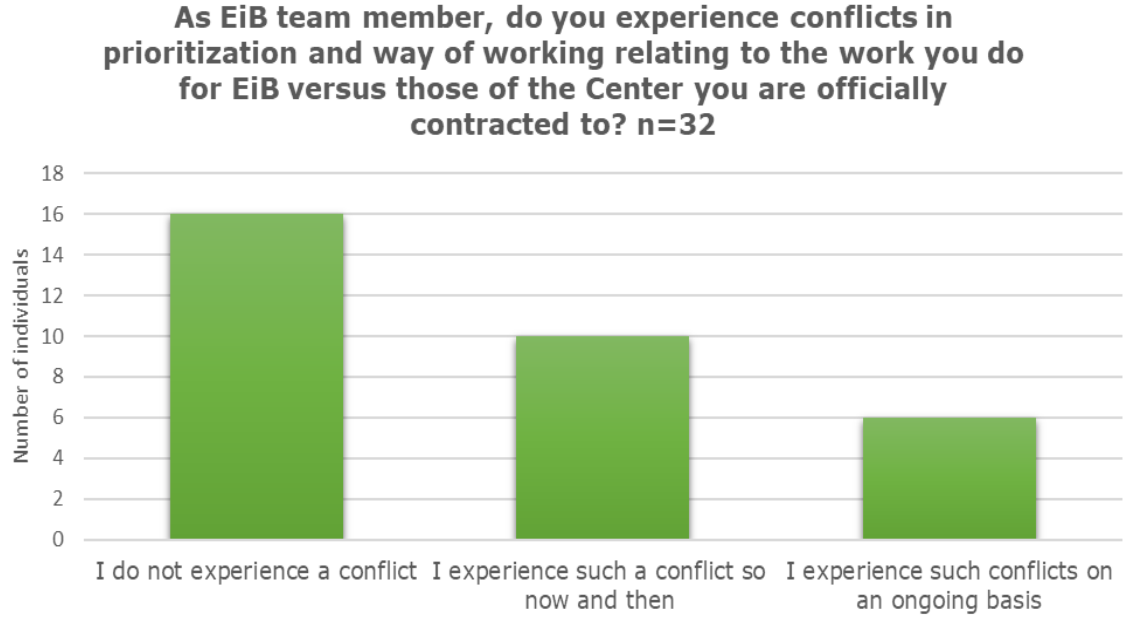


Figure A21: Perception of EiB Platform decision-making inclusion

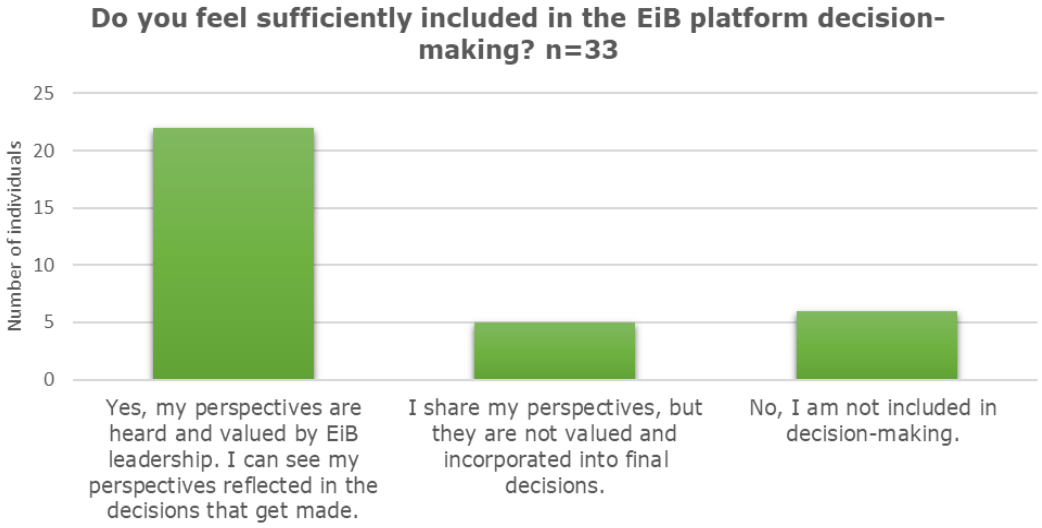


Figure A22: Perception of EiB Platform's progress towards systematic change

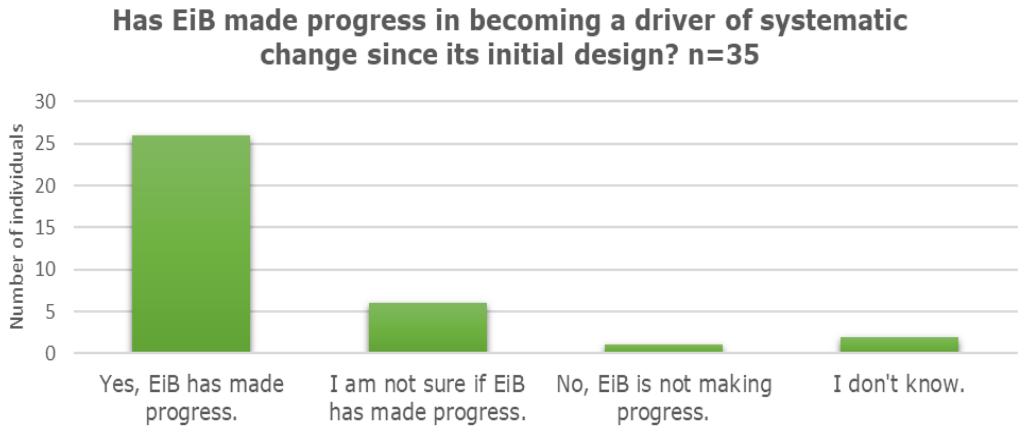


Figure A22: Awareness of donor requests

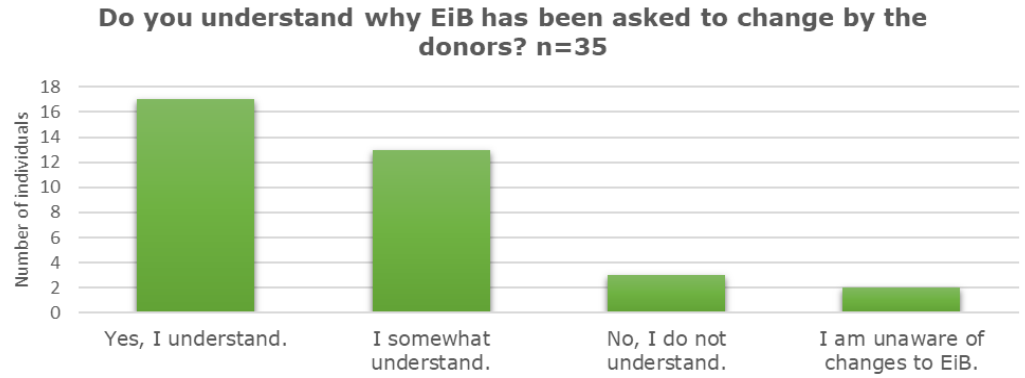


Figure A23: Plan for change communication

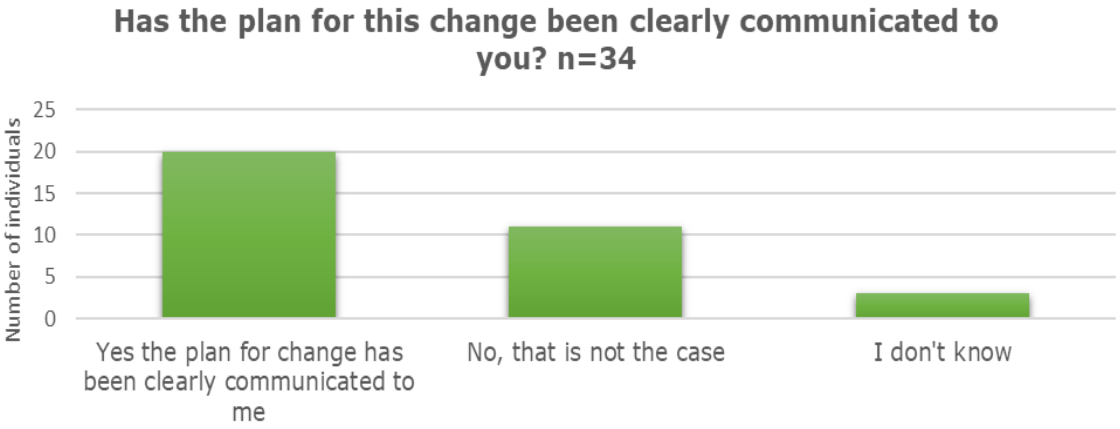


Figure A24: Agreement with plan for change

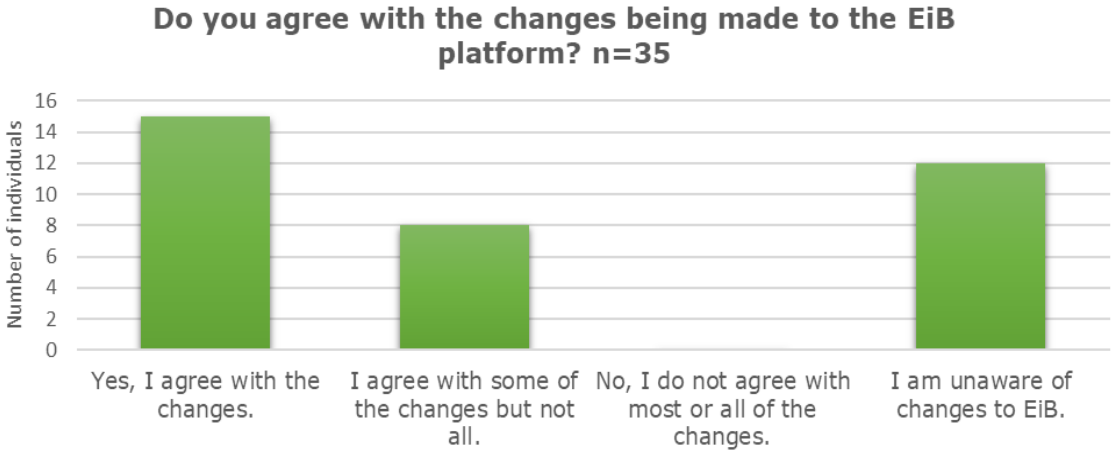


Figure A25: Collaborative work with managers to update roles and responsibilities

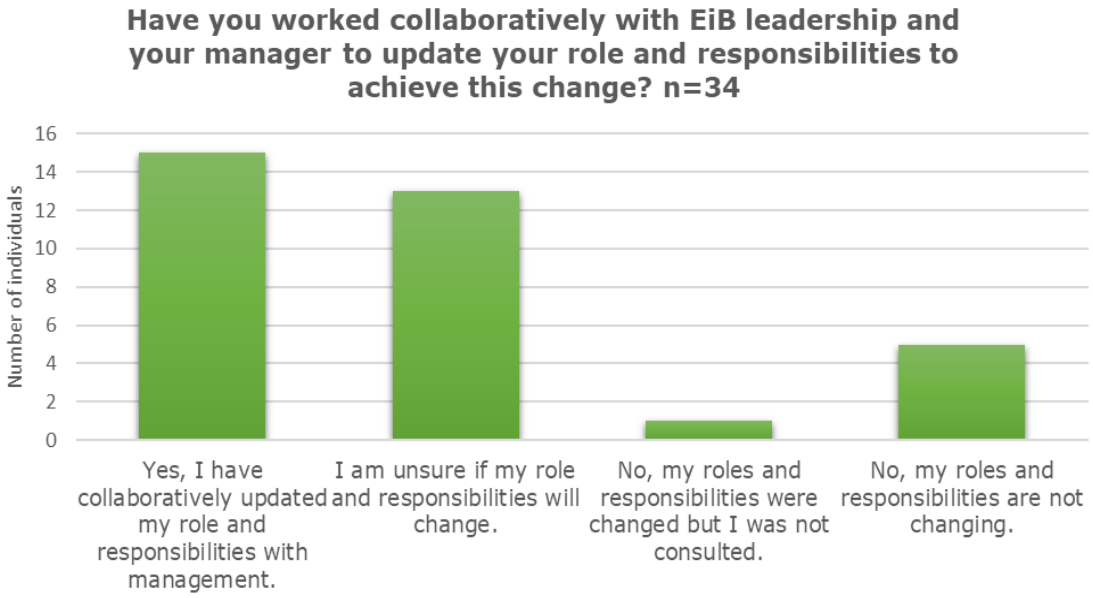


Figure A26: Knowledge and skills for changing roles

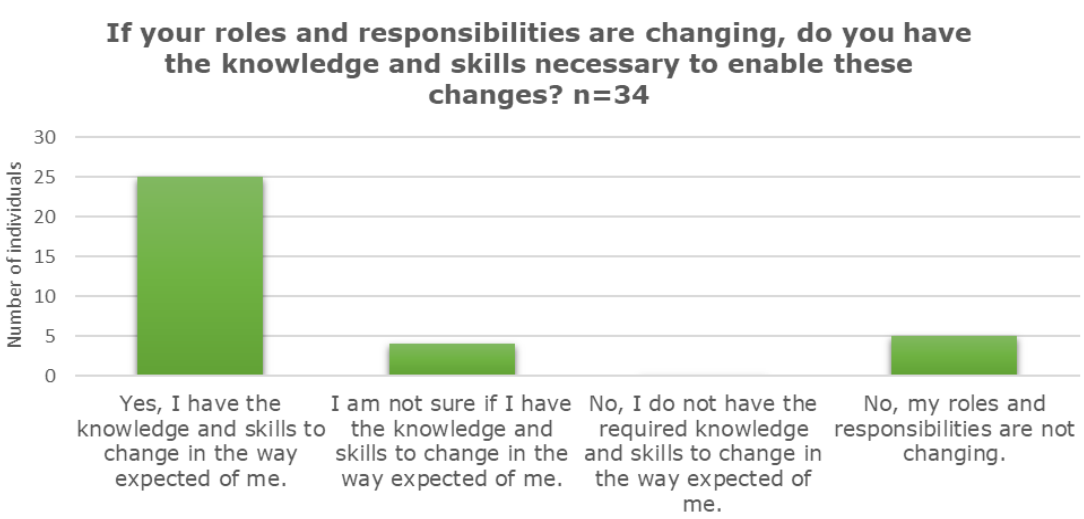


Figure A27: Perception for sharing disagreements with leadership

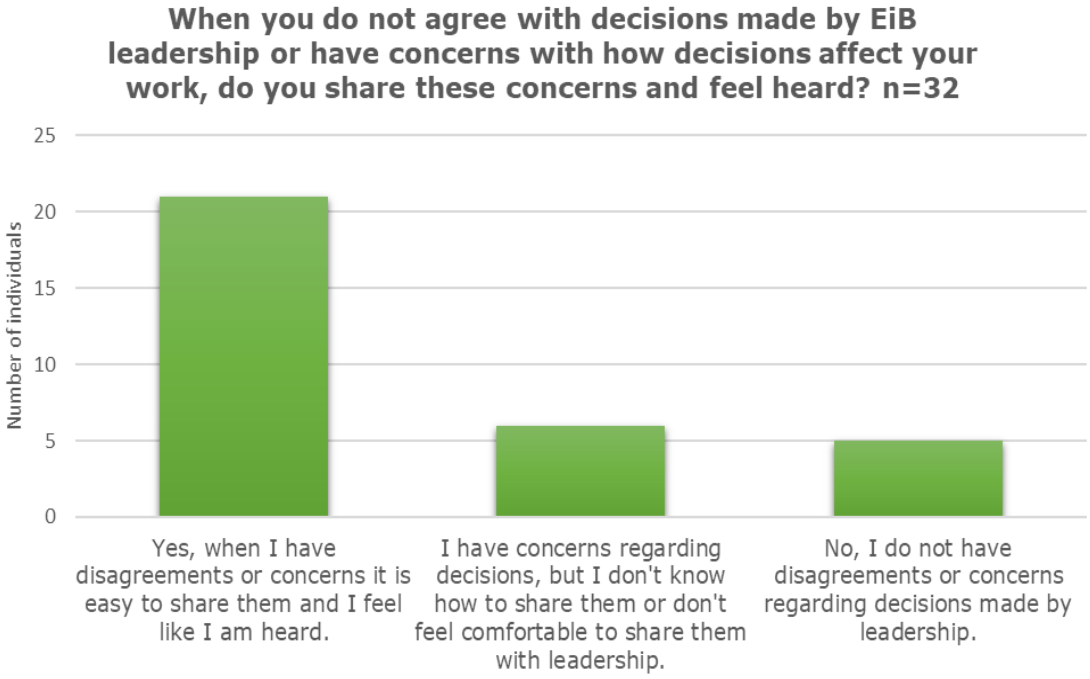


Figure A28: Numbers of organizations with breeding programs (n=27)

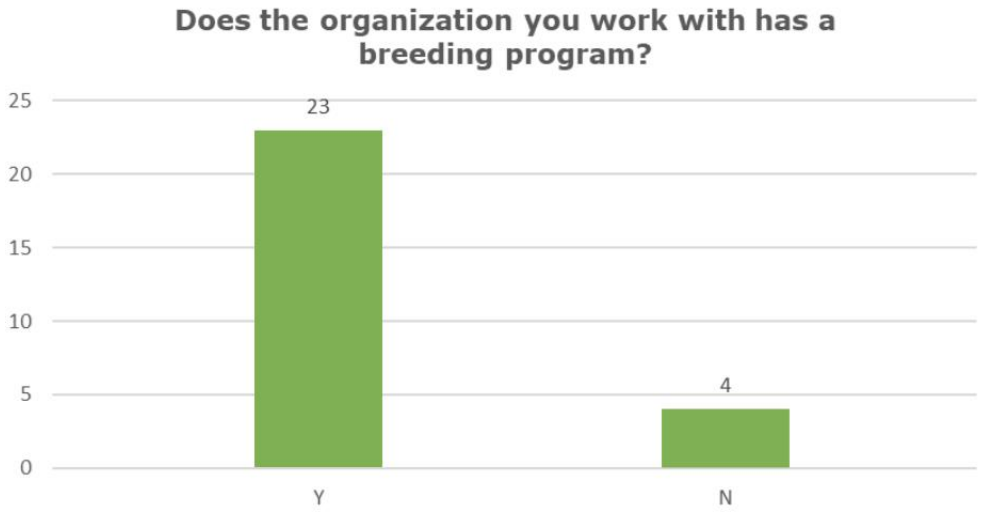
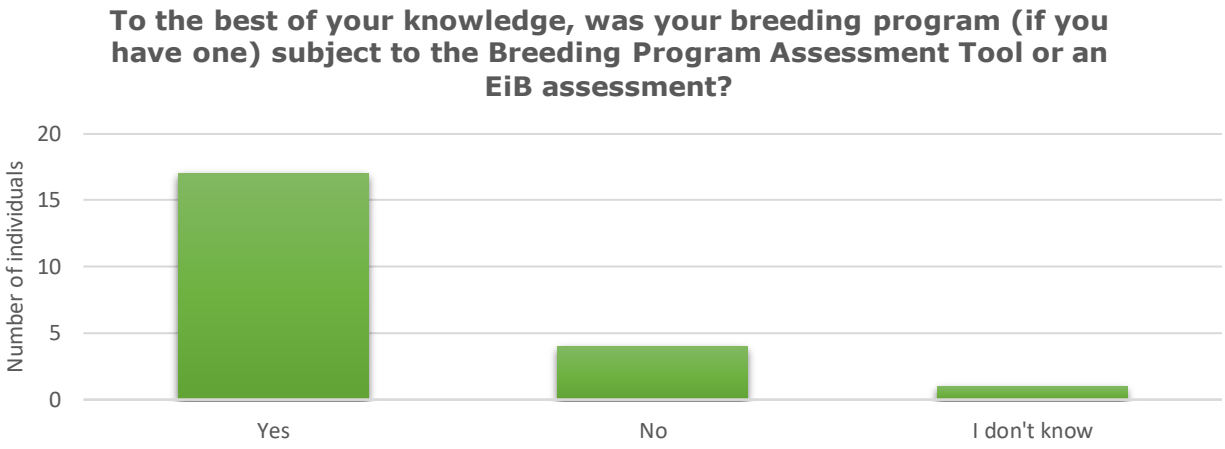


Figure A28: Breeding program assessment (N=23)



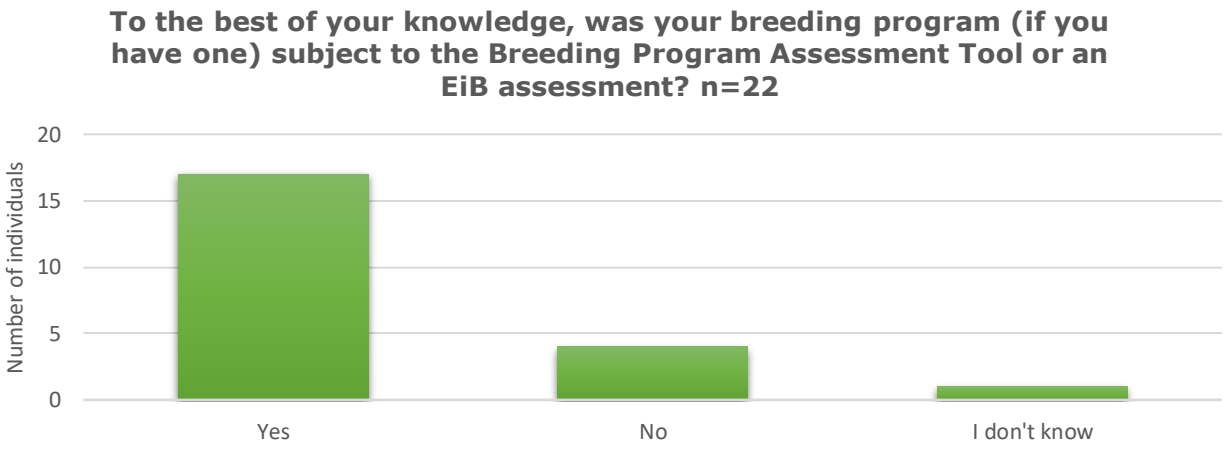


Figure A29: Partner perception of EiB as a driver of systematic change

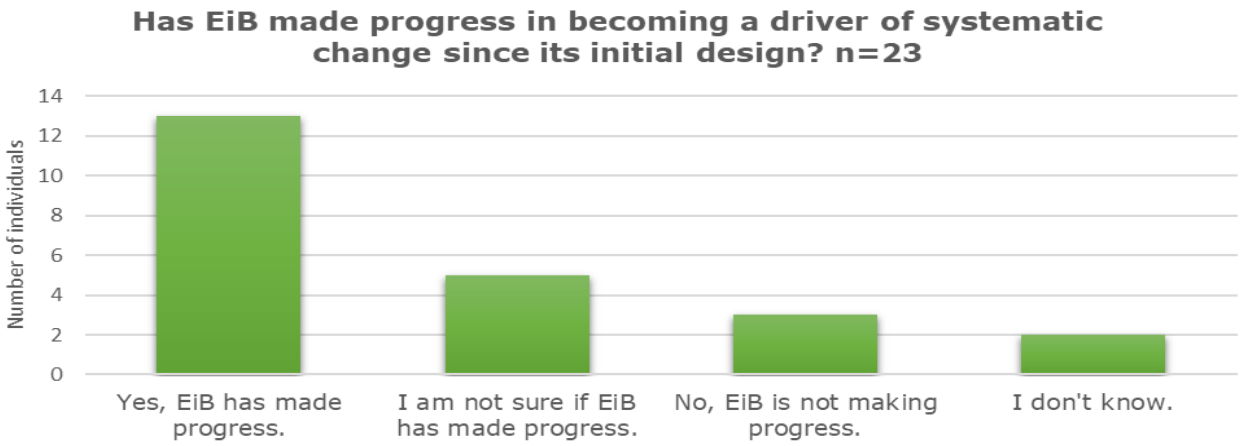


Figure A30: Partner understanding of donor requested change

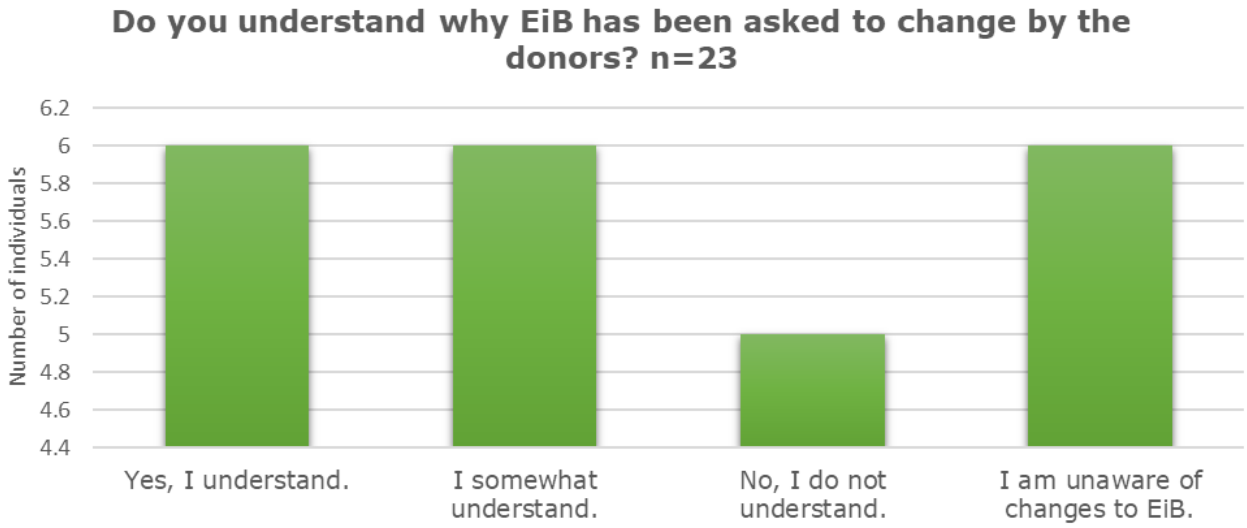


Figure A31: Partner perception of communication to them regarding change

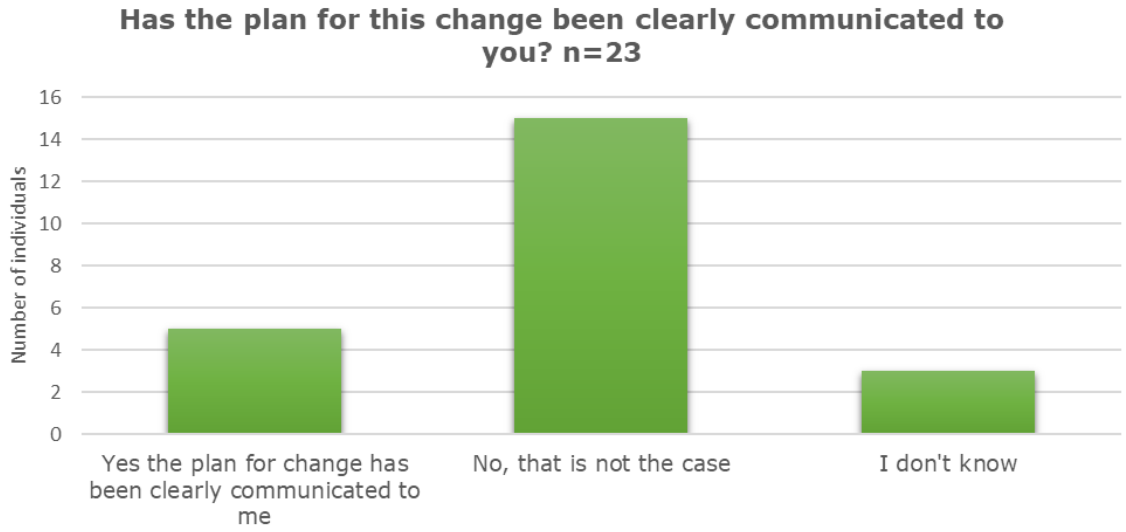


Figure A32: Partner opinion regarding change

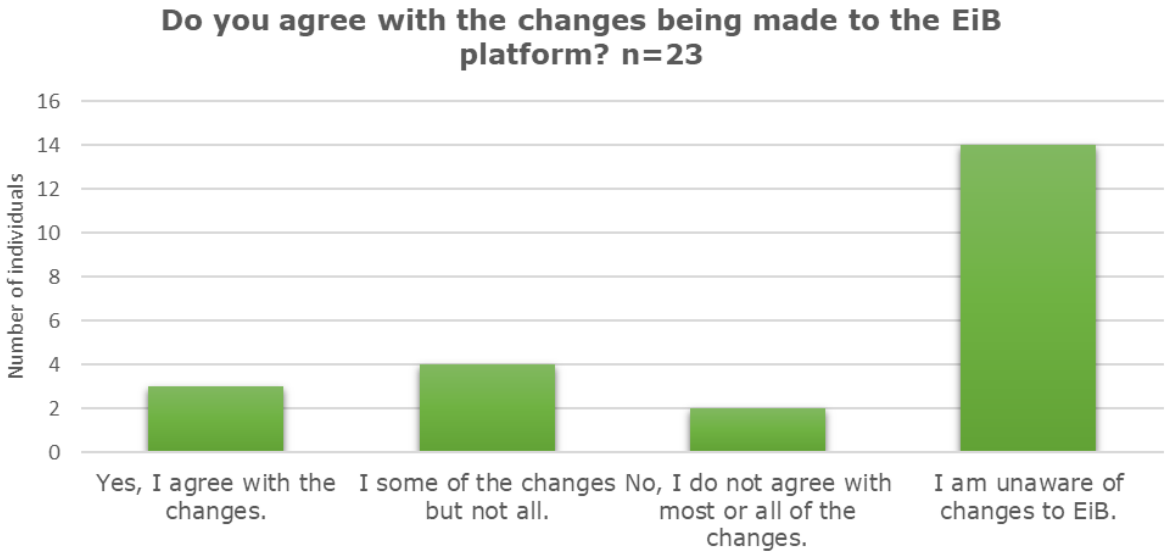


Figure A33: Most used words from end of survey questions for the EiB Platform members and external partners, N=21

Annex 8. List of Persons Interviewed

*Represents those re-interviewed during validation

** New individuals interviewed during validation

Nr	Role	Name	Gender	Category
1	Director, Excellence in Breeding Platform	Michael Quinn*	M	EiB
2	Deputy Director for Excellence in Breeding Platform	Jan Debaene*	M	EiB
3	Administrative Support	Carole Mukundi	F	EiB
4	Full-Stack Digital Systems Specialist	Solomon Sirak	M	EiB
5	Excellence in Breeding - Platform Administrative Officer	Brenda Bautista	F	EiB
6	Finance Manager	Adriana Gonzalez	F	EiB
7	Senior Project manager	Nick Tang	M	EiB
8	Head of Communications	Adam Hunt	M	EiB
9	EiB learning management system	Sarah Hearne	F	EiB
10	Communications consultant	Sam Storr	M	EiB
11	Module 1 Lead	Peter Coaldrake	M	EiB
12	Former Module 1 lead	George Kotch	M	EiB
13	Module 1 Product Manager	Tawanda Mashonganyika	M	EiB
14	Module 2 Lead	Giovanny C. Pazaran	M	EiB
15	Module 3 Lead/CtEH coordinator	Eng Hwa Ng	M	EiB
16	Module 4 Lead	Gustavo Teixeira	M	EiB
17	Module 5 Lead	Young Wha Lee	F	EiB
18	Module 5/ Cornell University	Kelly Robbins	F	EiB
19	Lead on NARES engagement	Bish Das	M	EiB
20	Lead on Adoption and Outreach	Liz Jones	F	EiB
21	M&E expert (EiB, until February 2021)	Shaylyn Gaffney	F	EiB
22	EiB Coordinator- IGGP	Sanjay Kathiar	M	CGIAR
23	Human Resources Director at International Maize and Wheat Improvement Center (CIMMYT Mexico)	Monika Altmaier	F	CGIAR
24	Director of the Genetic Resources Program at International Maize and Wheat Improvement Center (CIMMYT)	Kevin Pixley*	M	CGIAR
25	Director of CIMMYT's Global Wheat ProgramYT	BENTLEY, Alison	F	CGIAR

Nr	Role	Name	Gender	Category
26	Gender research coordinator at International Potato Center (CIP)	Vivian Polar	F	CGIAR
27	Director, MAIZE CRP and CIMMYT Global Maize Program	B.M. Prasanna	M	CGIAR
28	Agrobiodiversity Research Area Director International Center for Tropical Agriculture (CIAT) (PSC member)	Joe Thome	M	CGIAR
29	Research Director at International Potato Center (PSC member)	Hugo Campos	M	CGIAR
30	Crop Improvement & Interim Global Head Breeding Asia Program	Harish Gandhi	M	CGIAR
31	International Institute of Tropical Agriculture (IITA)	Edward Kanju	M	CGIAR
32	International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)	Rajeev Varshney	M	CGIAR
33	International Institute of Tropical Agriculture (IITA)	Bela Teeken	M	CGIAR
34	Global Director, Genetic Innovation (as of 02/2022); previously Director of Programs, CGIAR System Management Organization	Sonja Vermullen*	F	CGIAR
35	International Center for Tropical Agriculture (CIAT) Bean Uganda	Clare Mukankusi	F	CGIAR
36	Genebanks	Charlotte Lusty	F	CGIAR
37	Global Director, People and Culture at CGIAR (since 08/2021); previously CGIAR System Senior Advisor, Gender, Diversity and Inclusion	Fiona Bourdin-Farrell	F	CGIAR
38	Bill & Melinda Gates Foundation	Jeffrey Ehlers	M	DONOR
39	Bill & Melinda Gates Foundation	Gary Atlin	M	DONOR
40	GIZ (CtEH funder)	Sarah Schmidt	F	DONOR
41	Australian Centre for International Agricultural Research (ACIAR) (CtEH)	Eric Huttner	M	DONOR
42	UKAID (DFID) (CtEH)	John Hickey	M	DONOR
43	*GIZ (former SIMEC chair)*	*Michel Bernhard***	M	DONOR
44	Member of SC. Ag Deputy Director General Crops, Kenya Agricultural and Livestock Research Organization (KALRO)/ Kenya	Felister Makinin	F	NARS

Nr	Role	Name	Gender	Category
45	Principal Scientist with Genetics Division, the Indian Council of Agricultural Research (ICAR)/India	Chellapilla Bharadwaj	M	NARS
46	Director at Indian Council of Agricultural Research (ICAR) (Wheat, Chickpea, Basmati Rice)/India	Ashok Kumar Singh	M	NARS
47	Principal Scientist, Division of Genetics, Indian Agricultural Research Institute (IARI)	Rajbir Yadav	M	NARS
48	Geospatial Research Specialist at Indian Agricultural Research Institute (IARI)	G. Krishan	M	NARS
49	Director at KALRO's Food Crops Research Institute - Kenya Agricultural and Livestock Research Organization (KALRO)/ Kenya	Joyce Malinga	M	NARS
50	Rice & Maize Breeder. Center Manager at Tanzania Agricultural Research Institute (TARI)/Tanzania	Atungonza Bilaro	M	NARS
51	Integrated Breeding Platform Director	Jean-Marcel Ribaut	M	Private Sector
52	Syngenta Foundation	Mike Robinson	M	Private Sector
53	Senior advisor at Syngenta Foundation for Sustainable Agriculture	Vivienne Anthony	M	Private Sector
54	Director INNOLEA SAS	Monica Menz	F	Private Sector
55	Director; Development of a diversity array technology (DArT)	Killian Andrzej	M	Private Sector
56	*Corteva Agriscience (retired)*	*David Meyer***	M	Private Sector
57	*Breeding Program Assesstment Tool (BPAT) Director, University of Queensland*	*Christoher Lambrides***	M	Academia
58	Breeding Program Assesstment Tool (BPAT) Assessor	Randall Holley	M	Private Sector
59	Breeding Program Assesstment Tool (BPAT) Assessor	Rollin Sears	M	Private Sector
60	Former PSC Member, Former Deputy Director General, Research & Partnerships	Marianne Banziger	F	Private Sector

Nr	Role	Name	Gender	Category
61	North Carolina State University (since 1/2020), previously at Syngenta	Carlos Iglesias	M	Academia
62	*Bayer Cropscience*	*Mark Edge***	M	Private Sector
63	*Bayer Cropscience*	*Stella Salvo***	F	Private Sector
64	*National Agricultural Research Organisation (NARO) Uganda*	*Godfrey Asea***	M	NARS
65	*University of Queensland/ International Livestock Research Institute (ILRI), Joint Chief Investigator, Demand-led Plant Breeding in Africa*	*Gabrielle Persley***	F	Academia
66	*Cornell University*	*Tufan Hale Ann***	F	Academia
67	*Cornell University*	*Chiedozie Ngozi Egesi***	M	Academia
68	*University of Queensland Breeding Program Assessment Tool Assessor, Independent consultant*	*Monyo, Emmanuel S.***	M	Private Sector
69	*Bangladesh Rice Research Institute (BRRI)*	*Iftekharuddaula (Pavel) Khandakar***	M	NARS
70	*Breeding Program Assessment Tool (BPAT) assessor, International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)-ETHIOPIA*	*Yilma Kebede***	M	CGIAR
71	*Interim manager for EBS, independent consultant*	*Steffen Weber***	M	EiB
		*=4 **=13	F=22 M=49	

Annex 9. Key Documents and References

1. CGIAR (2009). The CGIAR challenge program experience: a critical analysis, a contribution to Consortium and Mega-program design; 6 February 2009
2. CGIAR (2016). EiB full proposal on: Excellence in Breeding Tools and services that create synergies and accelerate genetic gains of breeding programs targeting the developing world.
3. CGIAR (2017). Annual Report of Excellence in Breeding platform.
4. CGIAR (2017). EiB Quarterly Portfolio & Non-portfolio Report – CIMMYT
5. CGIAR (2018). Annual Report of Excellence in Breeding platform.
6. CGIAR (2018). EiB Quarterly Portfolio & Non-portfolio Report – CIMMYT
7. CGIAR (2019). Gender responsive product profile development.
8. CGIAR (2019). Annual Report of Excellence in Breeding platform.
9. CGIAR (2019). EiB Quarterly Portfolio & Non-portfolio Report – CIMMYT
10. CGIAR (2020). Annual Report of Excellence in Breeding platform.
11. CGIAR (2020). EiB Portfolio Expenditure Report – CIMMYT
12. ICRISAT (2017). Shipping Invoice
13. BRRI (2018) Training under TRB-BRRI Project
14. BRRI. EiB Presentation
15. Genotyping Information-TRB
16. ICRISAT (2016) Invitation Letter to Dr. Iftekharuddaula
17. ICRISAT (2017) Shipping Invoice Two Packages to Bangladesh
18. ICRISAT (2017) Shipping Invoice One Package to Bangladesh
19. BRRI (2022) List of TRB-BRRI Porject Equipments-Updated 2022
20. BRRI (2022) Training Report Summary
21. EiB Platform PSC Meeting records September 2017 December 2018 April 2019 July 2019 April 2021
22. CGIAR (2020). Requests from CtEH Funders Crops to End Hunger (CtEH), 2020. Version of May 2021
23. CGIAR (2020). International Maize and Wheat Improvement Center; Staff list as of Jan 31 2020
24. CGIAR (2021). CIMMYT Midterm Technical Report to GIZ under CtEH.
25. CGIAR (2021). CGIAR 2022-2024 Investment Plan Theory of Change.
26. CGIAR (2021). CGIAR Action Area Theory of Change: Genetic Innovation.
27. CGIAR (2021). CGIAR 2022-24 Investment Prospectus: Pooling funds for research and innovation to transform food, land and water systems.
28. CGIAR (2021). One CGIAR Operational Structure.
29. CGIAR (2021). Technical Report - Digitalization@IITA – EiB
30. CGIAR (2021). 2021 SYNTHESIS OF LEARNING FROM A DECADE OF CGIAR RESEARCH PROGRAMS.
31. CIAT (2013). Acceleration Genetic Gains towards a more eco-efficient agriculture: a CIAT plan for plant breeding to 2020.
32. CIAT (2020). CIAT Breeding Report to EiB CtEH: Accelerating genetic gains toward a more resilient agriculture.
33. CIAT (2020). CIAT Breeding Modernization: Continuity and Continuous Changes.
34. CIAT (2021). PABRA-FLAR: Unique partnership between National Programs and CIAT for impact at scale.
35. CtEH (2020). Proposal ICARDA Subgrant Agreement: Modernizing seed processing inventory system and field operation.
36. CtEH (2020). Proposal IITA: Enabling digitalization at IITA.
37. CtEH (2020). Proposal IITA Budget: Enabling digitalization at IITA.
38. CtEH (2020). Proposal IITA Subgrant Agreement-045: Enabling digitalization at IITA.
39. CtEH (2020). Subgrant Technical Report AfricaRice.
40. CtEH (2020). Proposal AfricaRice: Modernizing seed processing inventory system and field operation.
41. CtEH (2020). Proposal AfricaRice Budget: Modernizing seed processing inventory system and field operation.
42. CtEH (2020). Proposal AfricaRice Subgrant Agreement: Modernizing seed processing inventory system and field operation.

43. CtEH (2020). Proposal CIMMYT: Expansion of drought and biotic phenotyping in East and Southern Africa and investment in seed dryers by CIMMYT's Global Maize Program (GMP).
44. CtEH (2021). Proposal CIMMYT – Initial budget: Expansion of drought and biotic phenotyping in East and Southern Africa and investment in seed dryers by CIMMYT's Global Maize Program (GMP).
45. CtEH (2021). Proposal CIMMYT – Amendment: Expansion of drought and biotic phenotyping in East and Southern Africa and investment in seed dryers by CIMMYT's Global Maize Program (GMP).
46. CtEH (2021). Proposal CIMMYT – Amendment by sub-project: Expansion of drought and biotic phenotyping in East and Southern Africa and investment in seed dryers by CIMMYT's Global Maize Program (GMP).
47. CtEH (2021). Tracking list of CtEH Subgrants (as of September 2021).
48. EiB (2017). Annual Plan of Work and Budget (POWB) for 2017.
49. EiB (2018). Annual Plan of Work and Budget (POWB) for 2018.
50. EiB (2019). EiB Vision for CGIAR Breeding.
51. EiB (2019). Membership Agreement between KARLO (Kenya) and CIMMYT for joining EiB.
52. EiB (2019). Membership Agreement between NARO (Uganda) and CIMMYT for joining EiB.
53. EiB (2019). CRI Banana Uganda – EiB Baseline Metrics Questionnaire.
54. EiB (2019). Annual Plan of Work and Budget (POWB) for 2019.
55. EiB (2020). Annual Plan of Work and Budget (POWB) for 2020.
56. EiB (2020). 048 Sugbrant_AfricaRice (11.Nov.2020).
57. EiB (2020). Crops to End Hunger implementation mechanism.
58. EiB (2020). Key Actions Taken in Response to Crops to End Hunger.
59. EiB (2020). CRI Rice Improvement Plan.
60. EiB (2020). CRI Rice Ghana - EiB Baseline Metrics Questionnaire.
61. EiB (2021). Budget Monitoring – ICCs Mapping (as of august 2021).
62. EiB (2021). Adoption and outreach: 2021 review and 2022 plans and budget.
63. EiB (2021). Breeding Digital Equipment Technology Adoption Framework.
64. EiB (2021). EiB Technology Adoption Survey: Baseline Survey Results.
65. EiB (2021). Strategies to strengthening NARES Breeding.
66. EiB (2021) NARES Engagement: 2021 Update and 2022 Work plan.
67. EiB (2021). Training report on equipment use and interoperability with BMS for KARLO (Kenya).
68. EiB (2021). Annual Plan of Work and Budget (POWB) for 2021.
69. IDS (2008). Cross-cutting observations based on the review of three CGIAR Challenge programs. Munchi, April 24, 2008
70. Persley G. (2017). The Business of Plant Breeding: Market led Approaches to Plant Variety Design in Africa. Global Change Institute, University of Queensland, Australia, and The Doyle Foundation, UK, Syngenta Foundation for Sustainable Agriculture, Switzerland
71. BPAT (2018). Final Report of the Assessment of IRRI Rice Breeding programs –for Marginal (Inbred) and Favorable Environments (Inbred and Hybrid).
72. EiB_ISPC assessment_14Sep16.pdf (cgiar.org)
73. (2022) Responses to CAS Queries - CGIAR Excellence in Breeding Platform
74. BMGF Revised RBMF_draft
75. EiB. Training statistics – Practical Continuous Improvement
76. EiB (2019) Modernization of CGIAR Breeding
77. CGIAR Advisory Services (2022) Evaluation of CGIAR Excellence in Breeding Platform Final Evaluation Report
78. CGIAR Platform for Excellence in Breeding. Frequently Asked Questions Regarding The Improvement Plan
79. CGIAR Platform for Excellence in Breeding. Meeting Minutes. CteH Implementation Mechanism Meeting
80. Survey for IRRI: EiB's Operational Excellence Learning

Websites

81. CGIAR Platform for Excellence in Breeding. *About the Platform*. About the Platform | CGIAR Platform for Excellence in Breeding
82. CGIAR Platform for Excellence in Breeding. *About the Platform.* Toolbox | CGIAR Platform for Excellence in Breeding
83. https://www.youtube.com/watch?v=L_TVMYpYMdg

Annex 10. Declaration of Interest Statements

A10.1 Statement from CAS

This statement to the annex on declaration of Interest is authored by CGIAR Advisory Services (CAS) Shared Secretariat, as the entity charged with the conduct of this independent evaluation, including the validation exercise.

The aim of the CAS Conflict of Interest policy is to ensure that any potential Conflicts of Interest (COI) are made open and transparent, and that processes are managed to take declared interests into account. Evaluations must be— and must be perceived to be—independent, impartial, and devoid of any conflict of interest. It is the responsibility of all individuals working for and with the CGIAR Advisory Services (CAS) to declare any unforeseen associations. which could be perceived as a conflict before evaluator assignments are finalized, and declare any new arising and originally unforeseen conflicts, since no policy can account for every eventuality.

At the contracting stage and throughout the evaluation and validation (as applicable, see preamble of the main evaluation Report and Annexes 1 and 2), the following mechanisms were implemented to comply with the CAS COI policy (2021):

- All team members signed COI forms prior to start of the evaluation.
- Evaluation team was led by an external evaluation expert – thus, not being a [domain-specific] subject-matter expert herself, the team leader was in a position to drive the conduct of performance evaluation according to international, and CGIAR, standards and principles (independence, lack of bias, triangulation of data, etc.) and lead SMEs to apply industry best practice in data gathering (survey design, interview scripts, etc).
    - The validation team co-lead (joined by the CAS Evaluation function lead) combined expertise in evaluation and background in breeding.
- The (original) evaluation team lead was both back-stopped and overseen by CAS Secretariat Evaluation Function Lead, in the first instance, who brings further evaluative lens to all steps of the process and comments on, e.g., the materials, approaches, and instruments throughout, in the lead up to major quality assurance hurdles that involve also the CAS Secretariat Director and peer reviewers
    - The CAS Secretariat Evaluation Function Lead relied on peer-reviewers and members of the CAS Evaluation Reference group for their independent expert advice and contextualization.
- Evaluation and validation team subject-matter experts (see Annex A10.2 for team bios) represent a balance of relevant domains to the EiB Platform; the evaluation team members were drawn from a roster of 150 experts who have been interviewed by CAS and officially included in a competitive rostering process. Three of the consultants performed in four 2020 CRP Reviews (A4NH, Maize, RTB and Livestock) and have been therefore recommended/vetted through these previous experiences. Finally, the evaluation team was presented to EiB Platform at the induction in August 4, 2021, to be assured that from the perspective of the evaluand, there was not any concern with team composition.
    - Profiles of the validation team members were included in the TOR of the validation exercise: it was endorsed by SIMEC and shared with the EiB Platform (see Annex 1)
- The EiB Platform evaluation design strictly split the SME roles between the genetic/breeding SME's and the organizational effectiveness (OE) SME's; this separation was maintained during report development. The observation, statements and recommendations by the genetic SME's were not discussed with the OE SME's, although of course the content once available was read.
- In scoping the evaluation, OE domain expertise was specifically recommended by the evaluand. In seeking referrals for possible experts, OE independent professionals engaged in BPAT among other assignments were referred by the evaluand to CAS. BPAT is an important project in the broader EIB ecosystem; however, given that BPAT (implemented by University of Queensland and financially supported by the Bill & Melinda Gates Foundation) were not in scope of the Evaluation, and given the

qualifications of these OE professionals, [they] were employed in the team. Again, clear firewalls split the OE concentration (focused on change management driven by EIB Platform) and the technical concentration (in which Improvement Plans, some of them the result of BPAT some the result of other processes). The same process of module study external and internal peer review, with the overarching steer of the Team Lead, were in place.

On October 28, 2021, a potential competing interest was flagged by a senior leader in the evaluand management team. The matter was promptly discussed among the CAS Director, Evaluation Function Lead and external evaluation Team Leader. At that meeting, the concern was voiced; an explanation was provided to the nature of the signed declaration of interest form, quality assurance, firewalls and other mechanisms adopted to mitigate potential CoI, including the role of external peer-reviewers and CAS evaluation reference group members.

After the meeting, the evaluation team leader assessed with the relevant evaluation team member; the member provided assurance of no competing interests (see table below for detail). A further and very detailed declaration of interest was collected by CAS Secretariat, mirroring what was already fully disclosed in the expert's CV and professional bio.

- As a further firewall, the design and implementation of the study on Module 5 remained under the responsibility of another expert on the team and under the direct supervision of the evaluation team leader.
- The drafts of every module and other component studies were reviewed by at least one external peer reviewer, and within the team where relevant subject matter expertise allowed.

Finally, the report was validated, as explained in the preamble to the main report and Annex 2, to provide further assurance.

This is a full disclosure, preceding the declarations of interest, with the intent to fully assure the independence of the evaluation. The CAS Secretariat is therefore confident that the opinions expressed in the final validated evaluation report are independent and robust and not in any way influenced by any former and present relationships.

A10.2 Profiles of Evaluation and Validation Teams; Summary COI forms

A10.2.2 Validation team

David Coombs, Team Leader

David Coombs has a PhD in Genetics and a BSc in Biological Sciences from the University of Birmingham (UK). He has some 40 years of professional experience, 20 years in the UK and European private sector as a plant breeder and seed specialist, and 20 years international development experience in the agriculture, rural development, and food security sectors, and extensive expertise with program evaluations. Dr Coombs carried out a major evaluation of the CGIAR for the EU and led the Roots, Tubers and Bananas CRP review in 2020 for CAS/Evaluation. He has substantial experience in the analysis of programs and reports and has written many technical and evaluation papers and report; English is his mother tongue

Jennifer A. Thomson, (PhD Rhodes)

Jennifer Thompson (PhD Rhodes) is Emeritus Professor in the Department of Molecular and Cell Biology at the University of Cape Town, South Africa. She held a post-doctoral fellowship at Harvard, was Associate Professor in Genetics at the University of the Witwatersrand, visiting scientist at MIT, and Director of the Laboratory for Molecular and Cell Biology for the CSIR, before becoming Head of the Department of Microbiology at UCT in 1988. She won the L'Oreal/UNESCO prize for Women in Science for Africa in 2004 and has an Honorary Doctorate from the Sorbonne University. Her research field is the development of genetically modified maize resistant to the African endemic maize streak virus and

tolerant to drought. She has published four books on Genetically Modified Organisms and is a frequent speaker at international meetings, including the World Economic Forum and the United Nations. She was a member of the CGIAR International Science and Partnership Council (now ISDC) from 2017 until 2019 and was Chair of the Steering Committee for the 2018 Science Forum (SF18) held in Stellenbosch, South Africa. She has been involved in a number of reviews for the CGIAR.

Bettina I.G. Haussmann, Extraordinary Prof. for plant breeding at Hohenheim

Bettina Haussmann has a Ph.D. from the University of Hohenheim in Stuttgart, Germany. Bettina Haussmann is an extraordinary Professor for plant breeding at the University of Hohenheim in Germany. She earned a Master's degree in agricultural biology from the University of Hohenheim in 1990 and her Ph.D. on sorghum breeding for semi-arid areas of Kenya in 1995. In 2004, she completed her habilitation with research on sorghum breeding for striga resistance. From 2005 to 2011, Haussmann worked as Scientist for pearl millet improvement and genebank responsible at the International Crops Research Institute for the Semi-Arid Tropics, Niamey, Niger. Since 2011, Haussmann serves as the West Africa Liaison Scientist for the McKnight Foundation's Collaborative Crop Research Program (CCRP), advising the Foundation on the funding strategy in Mali, Burkina Faso and Niger. In addition, she works as strategic project manager at the German seed company KWS SAAT SE, thereby overseeing capacity development projects related to plant breeding and genetic resources in Peru, Ethiopia, Kenya and Zambia.

Svetlana I. Negroustoueva, Evaluation Function lead, CAS

Svetlana Negroustoueva has 20 years of experience designing and conducting evaluations, assessments, monitoring and research activities, and quantitative and qualitative data collection and analyses, at the intersection of sustainable landscapes, energy, health, food security, gender and social inclusion, for projects across a range of funders and implementing entities: at the African Development Bank, World Bank, the Global Environmental Facility (GEF) and Climate Investment Funds (CIF). She holds a Master's degree in Public Affairs from the University of Texas at Austin in the US, and Advanced BA in Public Administration and Social Research from Lomonosov Moscow State University (MSU).

For evaluation and SME consultants COI forms are summarized below, original forms with signatures and additional detail are available upon request (all CAS Secretariat staff complete declarations of interest upon onboarding and are subject to the Code of Ethics and Conduct of the host CGIAR office). Variance in formatting is due to the update of the form template.

A10.2.1 COI statement from the Validation and original Evaluation Team

S/N	Conflict of Interest Statements	Karen McHugh[4]	Vanda Morgan[5]
1	Main employer and any other organization that provides you with remuneration (which may be named participants in the project/ program/ proposal you are being asked to review/evaluate	Independent Consultant, mostly consulting for European Union; CAS/Eval of A4NH an Livestock CRPs (2020)	Independent Consultant
2	Are you aware whether a relative, close friend, close colleague or someone with whom you have financial ties is receiving funding from or giving advice to a project/program/proposal you are being asked to review/evaluate?	Yes Details:	Yes Details:
		No x	No x
3	Does any project/program/proposal you are being asked to review/evaluate cite any of your own current research?	Yes Details:	Yes Details:
		No x	No x
4	Does any project/program/proposal you are being asked to review/evaluate name researchers with whom you have active	Yes Details:	Yes Details:
		No x	No x

S/N	Conflict of Interest Statements	Karen McHugh[4]	Vanda Morgan[5]
	collaborations, recently published joint papers or are in regular email correspondence?		
5	Does any project/program/proposal you are being asked to review/evaluate name any of your past PhD students are active participants?	Yes Details: N/A	Yes Details: N/A
		No x	No x
6	I declare that the information provided on this statement is true and complete	Dated: 09 August 2021	Dated: 27 June 2021

S/N	Conflict of Interest Statements	Sumita Acharjee[6]	Freddy Noma[7]	Frank van den Berg
1	Main employer and any other organization that provides you with remuneration (which may be named participants in the project/program/proposal you are being asked to review/evaluate	Independent consultant; Assistant Professor at the Assam Agricultural University, India	Independent Consultant; Founder and Managing Partner of NCORP R&D; Consultancy with AfricaRice (2021)	Director/shareholder in SME Performance Coaching Ltd, a company trading under the name of a.o. MorganClackson provides Organizational Development services for international public and private sector organizations. I am also a director and shareholder in Infinity Blue Holding Ltd, a company that support organizations with strategies and services for internationalization, digitalization and global performance management.
2	Are you aware whether a relative, close friend, close colleague or someone with whom you have financial ties is receiving funding from or giving advice to a project/program/proposal you are being asked to review/evaluate?	Yes	Yes	Yes
		Details: n/a	Details: n/a	Details: n/a
		No x	No x	No. X My wife Vanda Morgan, a director in MorganClarkson/ SME Performance Coaching, provides consultancy services to the Breeding Program Assessment Tool (BPAT) run by the University of Queensland. However, evaluation of BPAT nor the UoQ are part of the TOR/scope of this project.
3	Does any project/program/proposal you are being asked to review/evaluate cite any of your own current research?	Yes	Yes	Yes x CIMYYT-Maize, CRI-Rice
		Details:	Details:	Details:
		No x	No x	No
4	Does any project/program/proposal you are being asked to review/evaluate name researchers with whom you have active collaborations, recently published joint papers or are in regular email correspondence?	Yes	Yes	Yes
		Details:		
			Details:	Details:
		No x	No x	No x
5	Does any project/program/proposal you are being asked to review/evaluate name any of your past PhD students are active participants?	Yes	Yes	Yes
		Details:	Details:	Details:
		No x	No x	No x

S/N	Conflict of Interest Statements	Sumita Acharjee[6]	Freddy Noma[7]	Frank van den Berg
6	I declare that the information provided on this statement is true and complete	Dated: 08 May 2021	Dated: 26 July 2021	Dated: 10 September 2021

S/N	CAS/ISDC Evaluation SME Roster/ Conflict of Interest Statement	Michel Ragot[8]
1	Are you now employed by a CGIAR Center or during the last two years, have you personally been employed as the DG or Head of Research of a CGIAR Center, the Director of a research program or the CEO/DG of a significant public research institute which is a collaborator/competitor of a CGIAR Center or served as a Board Chair or Chair of a Board Science Committee of a CGIAR Center.	Yes Details: No x
2	During the last five years, have you personally been involved in the activities of a CGIAR Centre or a research program, as an employee, consultant, adviser, Board or Advisory Committee member (i.e. in receipt of financial remuneration beyond expenses) or in receipt of significant funding from a financial contributor to the CGIAR?	Yes / Details: MAIZE CRP review– Contract with Alliance (CIAT and Bioversity)- CAS (2020)- Review of ICRISAT's improvements plans response to BPAT– Contract with ICRISAT (2021) CIAT- Study of feasibility of using genomic selection in bean breeding (2019) AfricaRice: Provision of independent advisory an consulting services within the context of IFAD/IBP project (2019) CIP: Writing of paper on setting breeding priorities and objectives within CGIAR Gender in Breeding initiative (2017) CYMMIT: Assessment and mentoring of target breeding programs in Ghana, Senegal and Uganda within the context of IFAD/IBP project (2017) No
3	Are you now, or during the last two years have you personally been employed by a partner organization which is either a significant collaborator with a CGIAR Center or research program, a significant competitor for donor funding or in receipt of donor funding?	Yes Details: No x
4	During the last five years, has a family member or someone with whom you have financial ties been involved in the activities of a CGIAR Centre or research program, as an employee, consultant, adviser, Board or Advisory Committee member (i.e. in receipt of financial remuneration beyond expenses) or as a financial contributor to the CGIAR?	Yes Details: No x
5	Please give details of any other activity, engagement or relationship with the CGIAR during the last ten years:	Scientific advisory roles with Generation Challenge program; Extended list of 5 items and 3 publications available upon request
Declaration: I declare that the information provided on this Statement is true and complete.		Dated: 04 August 2021 (original), updated 02 February 2022

S/N	Conflict of Interest Statements	David Coombs	Jennifer A. Thomson	Bettina I.G. Haussmann
1	Main employer and any other organization that provides you with remuneration (which may be named participants in the project/ program/ proposal you are being asked to review/evaluate	Independent Consultant: • CGIAR/CAS – review of RTB CRP (2020); Consultant firms: Particip, The KonTerra Group, CYE, WS Atkins International Limited, GFA Consulting Group, IBTCI, Landell Mills; UN-evaluations for WFP, FAO	University of Cape Town, South Africa; CGIAR/CAS – Synthesis (2021) and ISDC reviews (2021-2022); CGIAR Independent Science and Partnership Council (ISPC) Member (2017-2018)	University of Hohenheim, Germany – professor + contract from the McKnight Foundation Collaborative Crop Research Program; KWS SAAT SE &Co KGaA (German plant breeding company), Einbeck, Germany: 50% position as Capacity Development Manager; Other: USAID-Sorghum and Millet innovation lab (SMIL), consultant on External Advisory Board (EAB).
2	Are you aware whether a relative, close friend, close colleague or someone with whom you have financial ties is receiving funding from or giving advice to a project/program/proposal you are being asked to review/evaluate?	Yes☐ Details: No☒	Yes☐ Details: No☒	Yes☐ Details: No☒
3	Does any project/program/proposal you are being asked to review/evaluate cite any of your own current research?	Yes☐ Details: No☒	Yes☐ Details: No☒	Yes☐ Details: No☒
4	Does any project/program/proposal you are being asked to review/evaluate name researchers with whom you have active collaborations, recently published joint papers or are in regular email correspondence?	Yes☐ Details: No☒	Yes☐ Details: No☒	Yes☐ Details: No☒
5	Does any project/program/proposal you are being asked to review/evaluate name any of your past PhD students are active participants?	Yes☐ Details: No☒	Yes☐ Details: No☒	Yes☒☐ Details: one of my former PhD students, Dorcus Gemenet, is working as Breeding simulation expert for roots and tubers in the EiB No☐
6	I declare that the information provided on this statement is true and complete	Dated: 3 March 2022	Dated: 3 March 2022	Dated: 29 March 2022

Annex 11. EiB Platform – Evaluation Terms of Reference, Executive Summary

EVALUATION OF CGIAR PLATFORM EXCELLENCE IN BREEDING

August 5, 2021

Direct questions or comments about this Terms of Reference to CGIAR Advisory Services Evaluation (CGIAR) <CAS-Evaluation@cgiar.org> cc s.negroustoueva@cgiar.org, CAS Evaluation Function Lead

Full version of the TOR is available in the Inception Report for EIB Platform Evaluation

Rationale and Context of the Evaluation: CGIAR with partners has a long history of investing in genetic gains in farmers' fields across the globe. Increasing both the rate of genetic gain delivered directly by CGIAR breeding programs and improving their ability to support the modernization of national systems is the key scientific challenge facing the system, and the purpose for the Excellence in Breeding (EiB) Platform, approved by the System Council in 2016. Individually, even the largest CGIAR breeding programs were considered too small to support rapid modernization by adapting and mainstreaming state-of-the-art breeding technologies such as found in the multinational private sector. Together, coordinated and supported by the EiB Platform, the programs intended to serve smallholders in the developing world can raise the rate of genetic gain they deliver much more effectively.

In an ambitious One CGIAR reform, under the 2030 Research and Innovation Strategy Action Area 3 on Genetic Innovations aims to ensure the world's growing food and nutrition requirements are met in a time of unprecedented climate change, rapid population growth and urbanization, while simultaneously supporting the livelihoods of millions of farmers.

The 2021 Synthesis of Learning from a Decade of CGIAR Research Programs brought to the fore evidence gaps. The missing assessment of the support platforms in 2020 constrained the analysis of progress along and between the two phases (the Genebank platform) and made it impossible to assess the level of collaboration and interaction between the Platforms (Genebank, EiB, Gender and Big Data in Agriculture) and CRPs. It was also noted that Climate-change threats have highlighted the urgent need for conserving the wealth of the genetic diversity found in nature and on farms.

Evaluation Purpose, Objectives and Scope: The evaluation will cover all the activities of the EiB Platform from its launch in 2017 through mid-2021, funded through W1/W2 as well as W3/Bilateral funding. This scope would meet the need for timely evidence for the launch and implementation of initiatives towards One CGIAR. The evaluation will integrate cross-cutting themes of Gender, Diversity, and Inclusion (GDI), youth, climate change and capacity development as well open data and intellectual assets.

The main objectives of the evaluation of the Excellence in Breeding (EiB) Platform are to:

A. Assess the **relevance and coherence** of the Platform design, theory of change (ToC) and the Platform's role in providing services that create synergies and accelerate genetic gains of breeding programs targeting the developing world in support of its mission;
B. Assess the **effectiveness and efficiency** of the EiB Platform implementation, and its contribution towards CGIAR objectives, considering cohesion with other platforms and CRPs;
C. Identify the **supporting factors and constraints** behind achievements of the EiB Platform and each of its modules in light of the results achieved: governance and management, MEL, and other related implementation processes;
D. Provide **recommendations relevant to the future** implementation aligned with 2030 Research Strategy priorities of Action Area 3: Genetic Innovation, and related ways of working and other system-wide recommendations.
E. Assess **sustainability** of the EiB platform achievements and its positioning in informing One CGIAR and future strategic directions, including in the breeding sector.

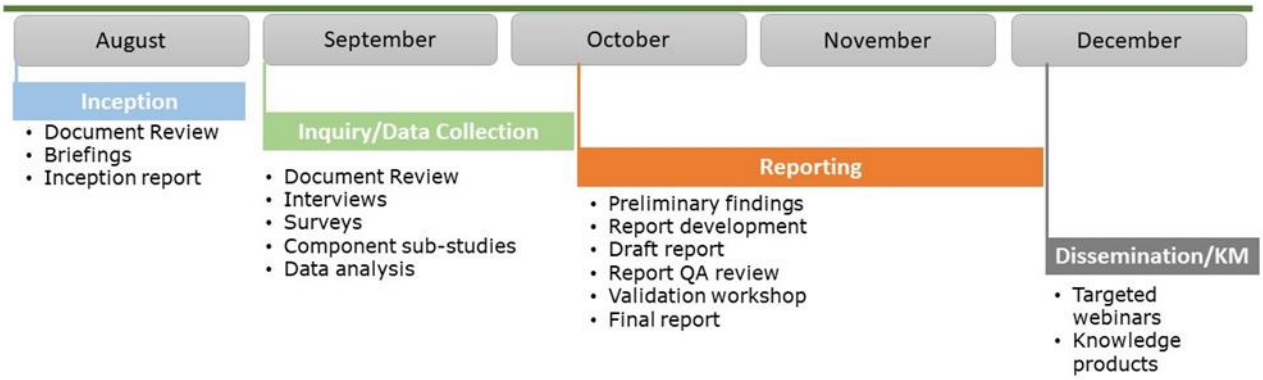
Towards these objectives, key evaluation questions mapped by OECD/DAC evaluation criteria are:

Criteria	Key Evaluation Questions
Relevance	1. To what extent are the EiB Platform's objectives relevant to the needs of its internal and external partners and stakeholders, including end-users in target groups?
Coherence	2. How synergetic is EiB Platform with others in CGIAR and comparable programs in the industry?
Efficiency	3. Have resources (funds, human resources, time, expertise etc.) been allocated strategically and timely to achieve EiB Platform outcomes?
Effectiveness	4. To what extent did the Platform achieve progress towards outcomes? 5. Which internal and external mechanisms and factors, including inputs, contributed or inhibited achievement of outputs and outcomes?
Sustainability	6. What mechanisms have been put in place to ensure that EiB Platform assets, products and mechanisms are sustainable and positioned to respond to immediate as well as future donor requests? 7. Which elements of the EiB Platform assets are likely to sustain and contribute towards One CGIAR?

Methodology: The evaluation will be primarily desk-based and use a mixed-methods design. The inception report will describe the proposed methodological approach and include a detailed evaluation matrix with envisioned data sources to answer EQs and sub-questions. Quantitative data will be collected via online survey instruments, and to the extent possible analyses would be performed on available quantitative indicators and metadata from the relevant data sets (including from the Breeding Program Assessment Tool (BPAT) as prioritized be the EiB Platform). Qualitative techniques would combine an extensive review of extant documentation on the Platform, content analysis of the evaluative evidence from the 2021 Synthesis exercise, open and semi-structured interviews with internal and external stakeholders and focus-group discussions. Potentially, case studies are recommended for each EiB Platform Module or breeding programs to understand the user perspectives and experiences.

The inception report, and module and evaluation reports will be peer-reviewed by evaluation and Subject Matter Experts (SMEs). CAS Secretariat's processes will guide, and quality-assure the evaluation process.

Evaluation Phases and Timeline: The evaluation will take place between August and November 2021, for transmission to the System Council, System Board and Executive Management Team in December 2021, after vetting with SIMEC. An indicative timeframe for the evaluation and expected deliverables is provided below, to be elaborated in the Inception report.



Evaluation Team: The evaluation will be conducted by an independent team of experts (the evaluation team). It will comprise five (5) team members drawn from the Subject Matter Expert (SME) and Evaluator roster maintained by CAS: (1) Evaluation team leader-Evaluator; (2) Senior SMEs in breeding, and (1) Senior SME in Organizational Effectiveness (OE) and change management. They will be supported by (1) mid-level evaluation analyst (consultant) for data collection, analysis, and Knowledge Management (KM). The team would conduct the evaluation in conformity with international and CGIAR evaluation standards (2015).