GENEBANKS TECHNICAL REVIEW
SELF-ASSESSMENT
GUIDE 2.0 | March 2023

ABOUT THIS GUIDE

To prepare for the Genebank Technical Review, we compiled a list of questions that will help the Technical Review team assess the strengths, weaknesses, opportunities, and threats of the genebank. We give focus to the composition of the collection, operations, and overall capacity of the genebank to secure the long-term conservation of the genetic resources under its mandate. In addition, we aim to better understand the use aspect of plant genetic resources, through genebank distributions and seed systems linkages.

The self-assessment questionnaire comprises 10 sections. Each section and the questions therein are numbered with unique identifiers. You will see in various sections of the questionnaire that tables and additional documents are being requested separately. Please complete the questionnaire using the templates provided to you. We encourage you to involve all relevant people within your organization to answer the questions.

DO NOT USE THIS GUIDE TO COMPLETE YOUR RESPONSES.

Please enter "N/A" (not applicable) or "Don't know" for those questions for which you are unable to provide information. Those are valid responses and indicate the gaps that need to be addressed.

Do not leave a response field blank. If it is blank, we will assume that you missed this question.

Please email Nelissa Jamora at nelissa.jamora@croptrust.org if you have questions or need clarifications.

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5 Risks	10	12	0	0
6 Staff management	11	7	1	1
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9 Communications	18-19	17	1	2
10 Seed Systems	20	3	0	0
TOTAL		142	15	7

1 Operations

1. Please indicate in what year was the collection was established:

2. Number of accessions at the founding of the collection:

3. Number of accessions today:

4. Maximum number of accessions that can be stored in long-term storage (LTS):

5. Maximum number of accessions that can be stored in medium-term storage (MTS):

6. Number of crops represented in the collection:

7. Number of species represented in the collection:

8. % of wild relatives represented in the collection:

9. Do you test the initial seed viability before storage?

10. How do you record or store the information related to the initial seed viability before storage?

11. How do you decide which accessions should be tested for viability?

12. How frequently do you perform viability testing for samples in LTS?

13. How frequently do you perform viability testing for samples in MTS?

14. How many accessions are difficult to regenerate? Specify crop name and main reason why.

15. In an average year, which months are busiest in terms of sample processing?

16. What is the approximate average number of seeds per accession?

17. Where is seed cleaning carried out? Describe the location.

18. How are seeds cleaned? Briefly describe the process.

19. What safety procedures are followed by staff during seed cleaning?

20. How do you label seed packets (i.e., written manually, computer-generated labels)?

21. What type of drying equipment is used? Briefly describe the specifications.

22. What type of storage containers or materials are currently used for different types of storage?

23. What facilities are available for phytosanitary processing and quarantine? Are the facilities available in the genebank, within the parent institute, or with other NARS outside the parent institute?

24. What are known gaps in your collection and what are your plans to fill them?

25. How many accessions have been collected by the genebank in the past 10 years?

26. How many accessions have been acquired from other institutions in the past 10 years?

27. Describe the highest priority activities that could potentially improve genebank operations.

28. Describe the highest priority activities that could potentially bring about cost-efficiencies in the management of the collection.

29. Please describe below the established protocols that are followed in the genebank and the written operations manuals (or standard operating procedures) developed for operations.

Operation	Follows an established protocol? (Y/N)	Do you have a written operations manual? (Y/N)	If yes, year last modified (YYYY)	If yes, manual available upon request? (Y/N)
Acquisition of new accessions				
Collection of new accessions				
Accessioning or entry into collection				
Field operations				
Seed production, drying and storage				
In vitro conservation				
Long term field conservation				
Clonal propagation				
Regeneration				
Multiplication				
Characterization				
Evaluation				
Pathogens/diseases detection and cleaning				
Distribution or germplasm exchange				
Safety duplication				
Information management				

Table 1 Composition of the collection by storage type (insert more rows where relevant)

Crop (common name)	Number of accessions				
	In total	In long term seed storage	In medium term seed storage	In *in vitro* culture	In field genebank
Total					

Table 2 Conservation status of the collection (insert more rows where relevant)

Crop (common name)	Number of accessions							
	In total	With viability tested	With acceptable viability (>85%)	With health status tested	With clean health status	With sufficient seed number	Regenerated or multiplied in the past 5 years	Available for distribution
Total								

Table 3 Composition of the collection by biological status (insert more rows where relevant)

Crop (common name)	Number of accessions						
	In total	Landraces	Breeding materials	Genetic stock	Cultivars or released varieties	Crop wild relatives	Others
Total							

Table 4 Safety duplication of accessions (insert more rows where relevant)

Crop (common name)	Institute	Location, Country	Status (black box/active safety duplicates)	Number of accessions
			Total	

Note: Include materials shipped to the Svalbard Global Seed Vault, Norway,

Table 5 Genebank field sites (insert more rows where relevant)

Crop (common name)	Location	Distance from the main genebank (in kilometers)

Table 6 Accessions evaluation (insert more rows where relevant)

Crop (common name)	Traits	No. of accessions	Did the genebank conduct the evaluation? (Y/N)	Year when evaluation was conducted

Table 7 Accessions genotyping (insert more rows where relevant)

Crop (common name)	Type of marker	No. of markers	No. of accessions	Did the genebank conduct this activity? (Y/N)	Year when activity was conducted

Documents checklist

List of additional documents requested	Mark X if completed
Section 1 Tables 1-7, in Excel (use template)	
Table 1 Composition of the collection by storage type	
Table 2 Conservation status of the collection	
Table 3 Composition of the collection by biological status	
Table 4 Safety duplication of accessions	
Table 5 Genebank field sites	
Table 6 Accessions evaluation	
Table 7 Accessions genotyping	
Evidence Section 1 Genebank operations, in PowerPoint	
1.1 Photos of seed packets, with captions	
1.2 Photos of storage containers, with captions	
1.3 Video clip showing key genebank operations from sample processing to storage (embed video in slide)	

2 Equipment and facilities

1. Do you consider that the **facilities** available to you are adequate for the long-term conservation and use of the collection?
   If inadequate, what needs to be addressed urgently? How is this being addressed?

2. Do you consider that the **equipment** available to you are adequate for the long-term conservation and use of the collection?
   If inadequate, what needs to be addressed urgently? How is this being addressed?

3. Do you consider that the **field sites** available to you are adequate for the long-term conservation and use of the collection?
   If inadequate, what needs to be addressed urgently? How is this being addressed?

4. Do you consider that the **field sites** available to you are adequate for regeneration activities?
   If inadequate, what needs to be addressed urgently? How is this being addressed?

5. Do you maintain an assets inventory? Who manages this? How often are facilities and equipment checked?

6. If equipment needs to be replaced, what is the process for the procurement of new equipment?

7. What is the process to dispose old equipment?

8. Do you have new equipment that has been recently procured but not yet installed? Briefly describe.

Table 8 Equipment and facilities inventory (insert more rows where relevant)

Category	Description	Year of acquisition / construction	Manufacturer	Model	Quantity	Condition	Location	Date last maintenance	Comments

Documents checklist

List of additional documents requested	Mark X if completed
Section 2 Table 8 in Excel (use template)	
Table 8 Equipment and facilities inventory	

3 Institutional issues

1. What are the mandate and objectives of the genebank and its parent institute (if any)?

2. In your view, what are the constraints that impede the genebank from fulfilling its main objectives?

3. Has there been an external review of the genebank? If yes, when was it done? Can you share the review report, if requested?

4. Describe the genebank's most important internal funding sources. Which genebank activities or cost categories are covered by internal funding sources?

5. Describe the genebank's most important external funding sources. Which genebank activities or cost categories are covered by external funding sources?

6. Describe the genebank's most important external partnerships.

7. Describe the formal and informal links to research and breeding programs in the parent institute and/or with other NARS.

8. Do you produce annual reports summarizing the achievements of the genebank? In what language(s) are these available? Are reports available online or in print?

9. Does the genebank have its own bank account? If not, how are the financial transactions managed?

10. What currencies does the genebank use for its operations?

11. Does the genebank and/or its parent institute have a procedure for annual cost recovery? If yes, how is it calculated?

12. Does your institute have an overhead policy? If yes, how is it calculated and applied?

13. Complete the table below on annual genebank budget in the last 5 years.

Unit/Year	2018	2019	2020	2021	2022
Local currency					
$ USD estimate					

Documents checklist

List of additional documents requested	Mark X if completed
Evidence Section 3 Organigram/organizational structure, in PowerPoint	

4 Policy

1. Is your country a contracting party to the International Treaty for Plant Genetic Resources for Food and Agriculture (Plant Treaty)?

2. What is your WIEWS INSTCODE?

3. Who is the National Focal Point (NFP) to monitor the implementation of the Second Global Plan of Action for PGRFA? How often do you interact with the NFP?

4. Do you have accessions available in the Multilateral System (MLS)? How many accessions have been made available to the MLS?

5. Do you have an institutional MTA (material transfer agreement) or other similar agreements the govern genebank distributions?

6. Is germplasm distribution subject to the conditions of the Nagoya Protocol for the CBD? For which crops?

7. Is germplasm distribution subject to the conditions of the Plant Treaty? For which crops?

8. How do you report your germplasm distributions to the Secretariat of the Plant Treaty?

9. Describe significant partnerships and interactions with the Plant Treaty.

10. Have you or any of your genebank staff attended a workshop/training hosted by the Plant Treaty? Please describe briefly.

Documents checklist

List of additional documents requested	Mark X if completed
Evidence Section 4 Copy of the institutional MTA (material transfer agreement), if available (in pdf or Word)	

5 Risks

1. What are the primary threats to the collection?

2. Were there incidents in the past 5 years that adversely affected genebank operations? Please describe the incident and the outcomes.

3. Does the genebank have stable electricity supply? If not, what is the impediment to having a stable electricity supply?

4. In case of a cut in electricity supply, do you have alternate power sources? Please describe.

5. Do you have a First Responder plan in case of accidents (e.g., fire)?

6. What are the primary disease/pathogen concerns?

7. What are the main measures taken for prevention of pest or disease infestation?

8. Has a risk assessment been conducted in the genebank? When was it last conducted?

9. Do you have a risk assessment table? When was this last updated?

10. Who supervises the assessment of risk and the development of a risk management plan?

11. Describe how COVID affected your operations in 2020 and 2021? Did you lose any accessions?

12. What changes have been implemented in the genebank to mitigate the adverse impacts of COVID pandemic?
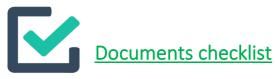
6 Staff management

1. What is the annual staff turnover in the past 5 years? *(i.e., average number of staff leaving the genebank in a year)*

2. How many genebank staff were identified as "core" or "essential" during the pandemic, hence were allowed to continue working on-site during lockdown?

3. Do you have a plan or policy for staff training and capacity development? Briefly describe.

4. Do you have staff members trained in genebank quality management?

5. Are there opportunities for genebank staff to participate in academic conferences or meetings related to PGRFA conservation within the country? Outside the country? Please give a few examples.

6. Are there opportunities for genebank staff to participate in training and workshops related to PGRFA conservation within the country? Outside the country? Please give a few examples.

7. What staff capacities are missing in your genebank?

Table 9 Genebank staff (insert more rows where relevant)

Name	Position	Gender (F/M)	Highest level of education	Main tasks in the genebank	Number of years in position	1=Regular staff, 2=Temporary, short-term, 3=Student/Intern

Documents checklist

List of additional documents requested	Mark X if completed
Section 6 Tables 9 in Excel (use template)	
Table 9 Genebank staff (insert more rows where relevant)	
Evidence Section 6 Staff management, in PowerPoint	
6.1 Short profiles of key genebank staff	
6.2 Staff group photo, if available	

7 Users

1. How can users request germplasm?

2. Estimate the % of germplasm requests made through: online form? email? phone? post mail? in person?

3. Total number of requests received in the last five years

4. Total number of requests rejected in the last five years

5. What are common reasons to reject a germplasm request?

6. Who reviews and approves a germplasm request?

7. Who responds to questions related to accession-level information on germplasm?

8. Outline the steps from request to shipment of germplasm.

9. How long does it normally take to process a germplasm request (from request to shipment)?

10. How is distribution data managed? Who updates these data?

11. From what year is the oldest available record of a germplasm request?

12. Do you ask for feedback from users regarding the quality and usefulness of genebank materials they received? Please describe the process for asking feedback.

13. If you ask for feedback, were there complaints regarding the quality and usefulness of genebank materials they received? Briefly mention a few examples.

14. Under what circumstance, if any, is a charge made for any genebank services to external or internal users, and how much is it?

15. Number of unique accessions that have never been distributed or requested.

16. What are the top 3 most requested accessions in your collection (regardless of biological status)? Briefly explain why they are frequently requested.

17. What are the top 3 most requested landraces in your collection? Briefly explain why they are frequently requested.

18. Do you get germplasm requests from the private sector or seed industry firms? What is the total number of accessions sent to the private sector in the past 5 years?

19. Please list the top 3 countries (geographical origin of germplasm recipients) requesting materials from your genebank in the past 5 years.

20. Please list the top 3 research & breeding organizations within your country requesting materials from the genebank in the past 5 years.

21. Please list top 3 local community organizations or civil society groups within your country requesting materials from the genebank in the past 5 years (specify the location/area/town)

22. If no material was distributed outside your institute, please explain why.

23. If no material was distributed outside of your country, please explain why.

24. Do you organize participatory evaluation of germplasm with farmers? How often do you do this, and how many farmers usually attend? Do you involve other partners?

25. Do you organize participatory breeding of germplasm with farmers? How often do you do this, and how many farmers usually attend? Do you involve other partners?

26. Please describe any multiplication or direct distribution of seed accessions with farmers. How often do you do this, and how many farmers usually attend? Do you involve other partners?

27. Do you have activities to promote the use of genebank materials? Please describe.

28. Do you organize tours of the genebank to groups and individuals? If yes, how many genebank tours do you usually organize in a year? How do you keep track of these genebank tours?

Table 10a Number of unique accessions distributed in the last 5 years (insert more rows where relevant)

Number of unique accessions	2018	2019	2020	2021	2022
Within your institute					
Within your country (excluding your institute)					
Outside your country					
Total number of accessions					

Table 10b Number of samples distributed in the last 5 years (insert more rows where relevant)

Number of samples	2018	2019	2020	2021	2022
Within your institute					
Within your country (excluding your institute)					
Outside your country					
Total number of samples					

Table 11 List of key users/requestors of germplasm and genebank services (insert more rows where relevant)

User/Requester name	Type of user (individual, institute)	Institutional affiliation	Location of user/requestor	Service provided (e.g., germplasm, data, laboratory work, multiplication, safety duplication, advice, etc.)	Email address

Documents checklist

List of additional documents requested	Mark X if completed
Section 7 Tables 10-11, in Excel (use template)	
Table 10 Number of accessions and samples distributed in the last 5 years	
Table 11 List of key users/requestors of germplasm and genebank services	
Evidence Section 7 Photos on distribution, in PowerPoint	
7.1 Photos of seed packets ready for shipment, with captions	
7.2 Photos of top 3 most requested accessions, with captions	
7.3 Photos of top 3 most requested landraces, with captions	
7.4 Photos or videos of genebank tours or farmer field days, if available, with captions	

8   Databases

1. Please describe your genebank inventory management system.
   - *1=paper forms, 2=spreadsheet, 3=database, 4=specialized software*

2. If you use a specialized software system, please provide the following information:
   - Name of the system:
   - How was the system developed?
     - *In-house developed system*
     - *Commercial product developed by (name):*
     - *Obtained from another organization (name):*
   - How many people regularly use the system?
   - The system is supported by:
     - *In-house IT staff*
     - *External support*
   - When did you start using it?

3. Is the accession number assigned: manually (by looking up the last number) or automatically?

4. How long does it take you to produce a report on germplasm distributions?
   - *about one hour, a day, a week, longer*

5. How do you keep track of accessions which are being tested for viability?
   - *1=paper forms, 2=spreadsheet, 3=database, 4=specialized software*

6. How do you store the results of viability testing?
   - *1=paper forms, 2=spreadsheet, 3=database, 4=specialized software*

7. Do you have plans to upgrade your genebank inventory management system? If yes, please describe briefly.

8. Do you have a back-up system for your digital data?
   - If yes, when was the last time it was back up?
   - Who implements this activity?
   - How often do you implement system back-ups?
   - Where do you store back-ups?

9. Is wifi available in the genebank? *Yes/No*

10. How is your internet connection in the genebank?
    - *Fast/OK/Poor/Not available? Check speed at fast.com*

11. If external users have questions about accession data or genebank work, who do they contact? And how (by email, phone, SMS, etc.)? Please provide the name, position and contact information of the staff responsible for communication with external clients.

12. Do you have a data sharing policy? If someone asks for trait or passport data, do you provide the data? How do you decide?

13. Are there any national policies or other restrictions that might prevent the genebank from making their accession level information available in an international PGRFA database (i.e. Genesys)?

14. Is there an INRA institutional IT department? Do they maintain your IT infrastructure? Who is the contact person?

15. Do you have digital scales (electronic balances), barcode readers, label printers, (A4) scanners? How many units each?

Table 12 Status of accession-level information (insert more rows where relevant)

Crop (common name)	Number of accessions with			
	Passport data	Morphological characterization data	Molecular characterization data	Evaluation data
Total				

Table 13 Availability of accession-level information

Data type	Is available internally? (Y/N)	Available in what form? (1=paper-form; 2=spreadsheet; 3=database; 4=special software)	Is available externally? (Y/N)	Published where? (1=your website, 2=Genesys, 3=Other website, specify URL, 0=not published externally)
Passport data				
Morphological characterization data				
Molecular characterization data				
Evaluation data				
Images				

Table 14 Data management on genebank operations

Operation	Is the activity recorded in __? (1=paper-form; 2=spreadsheet; 3=database; 4=special software)	Do you use barcoding or RFID technology while implementing this activity? (Y/N)
Acquisition of new accessions		
Collection of new accessions		
Accessioning or entry into collection		
Field operations		
Seed production, drying and storage		
In vitro conservation		
Long term field conservation		
Clonal propagation		
Regeneration		
Multiplication		
Characterization		
Evaluation		
Pathogens/diseases detection and cleaning		
Distribution or germplasm exchange		

Documents checklist

List of additional documents requested	Mark X if completed
Section 8 Tables 12-14 in Excel (use template)	
Table 12 Status of accession-level information	
Table 13 Availability of accession-level information	
Table 14 Data management on genebank operations	

9 Communications

1. Please share url links to the most recent media coverage of the genebank (in news articles, magazines, or other websites).

2. Who are your top target audiences, and what is the key message you aim to convey to them?

   Audience 1: _____ Message: _____

   Audience 2: _____ Message: _____

   Audience 3: _____ Message: _____

3. What would you consider your main/most effective means of communicating about the genebank with these audiences?

   (e.g., blogs/online stories, social media, media articles/press releases, email newsletters, in person events, genebank tours)

4. Do you have a website or is there a section of a website dedicated to the genebank? (Yes/No)

5. Please provide the website links of the genebank and the home institute of the genebank.

6. How many website visitors do you have monthly?

7. If you have a newsletter, what is the number of subscribers? and your monthly readership?

8. Do you publish your own news stories on this website or another platform? (Yes/No)

9. If yes, approximately how often do you post a genebank-related news article or story?

   - *1x week or two weeks, 1x month, 1x every two month, 1x every three or more months, 1x a year*

10. Do you receive support on communication from your parent institute? Briefly describe how you manage genebank-related communication.

11. If you have a communications budget, approximately how much is it annually? (specify currency)

12. Number of staff dedicated strictly to communications activities. If none, please share an estimate of the time that non-communications staff currently spend on communications efforts (hours/month).

13. What would you consider the greatest limitations or challenges that you currently face in terms of communications?

14. What are the most important objectives for your communications program for the next 12 to 24 months?

15. If you could create 3 communication materials or implement 3 ways of reaching your key audiences, what would these be?

16. From 1 (lowest) to 5 (highest), rate the following topics in terms of interest and relevance for genebank and communications staff.

- Finding, writing and telling stories
- Best practices for interviewing
- Writing press releases
- Media relations
- Photography
- Videography
- Newsletters

17. Is there anything else you would like to tell us about your communications program or training needs?

Table 15 Social media presence

Channel name	Handle/URL	Current number of followers	Frequency of posting (e.g., daily, weekly, monthly)	Languages used to post or respond
Instagram				
Twitter				
Facebook				
LinkedIn				
Other _____				

✔️ Documents checklist

List of additional documents requested	Mark X if completed
Section 9 Table 15, in Excel (use template)	
Table 15 Social media presence	
Evidence Section 9 Communications	
9.1 Current communications strategy/plan, if available	
9.2 Communication materials you currently use (e.g., PowerPoint presentations, brochures, media kit, FAQ, posters, etc.)	

10 Seed systems

In this section, we are interested to understand genebank - seed systems linkages, i.e., if and how genebanks work with seed system actors beyond the core function of collection and conservation of germplasm and its distribution to users.

1. Please provide information on any collaboration or work your genebank has carried out with seed system actors, past or present, and at any scale (small pilots or big initiatives).

Seed system actors	Worked with this seed system actor? (Y/N)	If YES, describe the specific activities, scale or size, implementation period, partners involved (other than the seed system actor to the left), funding source, technical and governance challenges, including regulatory frameworks. Provide examples as necessary.
Individual farmers		
Community Seed Banks		
Niche production actors (e.g., organic food producers)		
Hobby grower networks (e.g., seed saver networks, seed libraries)		
Local NGOs working in the seed system		
Donors supporting local seed initiatives		
Seed producer groups/cooperatives		
Breeders or national agricultural research institutions (e.g., universities, national agricultural institutes)		
International agricultural research institutions, e.g., CIMMYT, ICARDA, ICRISAT, Alliance CIAT/Bioversity		
Public seed enterprises		
National private seed companies		
International private seed companies		
Commercial out-growers		
Other seed system actors (*specify*)		

2. Is your institution interested in active collaboration between the genebank and other seed system actors? If yes, describe a feasible approach that you foresee for your genebank to work with the different seed system actors operating in your country.

3. Is your institutional mandate flexible enough to allow you to work with seed system actors beyond the core function of collection and conservation of germplasm and its distribution to users? If yes, explain existing mandates and examples of such flexibility. If no, describe the regulatory and technical bottlenecks