

## **Research Study**

**The purpose of this study is to assess the national tree seed system and the quality of seed for forest and landscape restoration projects in Africa. For this assessment, we invite all stakeholders who are involved in the national tree seed supply chain for restoration efforts to participate in this research study.**

**To meet the country's ambitious reforestation target, it is paramount to develop a resilient tree seed system with high-quality seed in place. This survey aims to identify overarching challenges and opportunities to strengthen the national seed system. Your answers will help to better understand the challenges and opportunities in the tree seed supply chain. Each completed questionnaire is a valuable and relevant contribution to the analysis of the current seed supply system, and your answers would thus be highly appreciated. This survey will take about 25 minutes to complete. Many thanks in advance for your contribution.**

## **About**

**This survey is conducted as part of a master thesis research project at the Department of Environmental Systems Science at ETH Zurich in collaboration with the Alliance of Bioversity and CIAT. If you require further information about this research or if you have any questions, please contact Fiona Giacomini via [fionagi@student.ethz.ch].**

## **Privacy notice**

### ***In general***

**Your responses will remain confidential and will be anonymised during the analysis. In collecting this information, we are acting as a data controller and, by law, we are required to provide you with information about us, about why and how we use your data, and about the rights you have over your data.**

### ***What do we do with your information?***

**The survey is hosted and collected through monkey survey. The privacy conditions and notice of Monkey Survey can be accessed here:  
<https://www.surveymonkey.com/mp/legal/privacy-basics/>.**

### ***How long do we keep your information for?***

**The data will be retained for 9 months, at which time the information you have supplied will be anonymized , however, you can request at any time for us to remove it from the database by sending an email to [bioversity-ds-requests@cgiar.org].**

### ***Your rights over your information***

**By law, you can ask us what information we hold about you, and you can ask us to correct it if it is inaccurate. You can also ask for it to be erased or ask us to stop using your information. The simplest way to do this is to withdraw your consent, which you can do at any time, either by emailing or writing using the contact details above.**

**Thank you and best wishes**

## General questions

\* 1. In what country do you work on forest and landscape restoration?

- ☐ Burkina Faso
- ☐ Cameroon
- ☐ Ghana
- ☐ Kenya
- ☐ Other (please specify)

\* 2. In what region do you work on forest and landscape restoration?

\* 3. What kind of organisation are you from?

- ☐ Intergovernmental organisation
- ☐ Public institution or agency
- ☐ Private company
- ☐ Civil society or NGO
- ☐ Farmer or producer organisation
- ☐ Academia or research institution
- ☐ Local community
- ☐ Other (please specify)

\* 4. What is your educational background?

- ☐ Forestry
- ☐ Ecology
- ☐ Botany
- ☐ Environmental sciences
- ☐ Economics
- ☐ Social sciences
- ☐ Other (please specify)

\* 5. What is your highest degree?

- ☐ PhD
- ☐ Master degree
- ☐ Bachelor degree
- ☐ High school certificate
- ☐ Other (please specify)

\* 6. What is your gender?

- ☐ Female
- ☐ Male
- ☐ Prefer not to say
- ☐ Other

## Selection and innovation

***The term “seed” in this survey refers to any planting material, including seeds, seedlings, wildlings and vegetative material.***

\* 7. Does your work involve any kind of seed selection?

☐ Yes

☐ No

Could you please comment and/or add references to support your answer:

## Selection and innovation

\* 8. Do you know if there exist lists of priority native species?

*If you know, select yes, if not, select no*

☐ Yes

☐ No

Could you please comment and/or add references to support your answer:

## Selection and innovation

\* 9. Are **lists** of **priority native species** for restoration available for key ecosystems?

- ☐ No
- ☐ There are lists of priority native species for **a few** priority ecosystems
- ☐ There are lists of priority native species for **most** priority ecosystems
- ☐ There are lists of priority native species for **all** priority ecosystems
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 10. Are **threatened species** included in the priority lists for restoration?

- ☐ No
- ☐ **A few** threatened species are included
- ☐ **Many** threatened species are included
- ☐ **All** threatened species are included
- ☐ I don't know

Could you please comment and/or add references to support your answer:

## Selection and innovation

\* 11. Do you know if there is research on the effects of climate change on key ecosystems or native species?

*If you know, select yes, if not, select no*

☐ Yes

☐ No

Could you please comment and/or add references to support your answer:

## Selection and innovation

\* 12. Is there **research** on the effect of **climate change** on **key ecosystem** distribution?

- ☐ No
- ☐ **One or a few** key ecosystems have been studied
- ☐ **Many** key ecosystems have been studied
- ☐ **All** key ecosystems have been studied
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 13. Is there **research** on the effect of **climate change** on **priority native species** distribution?

- ☐ No
- ☐ **Some** priority species have been studied
- ☐ **Many** priority species have been studied
- ☐ **All** priority species have been studied
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 14. Is there **research** on the effect of **climate change** used to inform **planting decisions** for restoration?

- ☐ No
- ☐ There are **few** examples of this research being used to inform planting decisions
- ☐ There are **several** examples of this research being used to inform planting decisions
- ☐ Research is **often** used to inform planting decisions
- ☐ I don't know

Could you please comment and/or add references to support your answer:



## Selection and innovation

\* 15. Do you know if there are provenance trials?

*If you know, select yes, if not, select no*

☐ Yes

☐ No

Could you please comment and/or add references to support your answer:

## Selection and innovation

\* 16. Are there **provenance trials** across the country for the **priority species**?

- ☐ No
- ☐ There are provenance trials for **a few** priority species
- ☐ There are provenance trials for **many** priority species
- ☐ There are provenance trials for **all** priority species
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 17. Are **data** being **collected** from these trials?

- ☐ No
- ☐ Data **is** being collected
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 18. Are the **data** being used to inform **seed source choice** for restoration?

- ☐ No
- ☐ Data is used to inform seed source choice for restoration of **a few** priority species
- ☐ Data is used to inform seed source choice for restoration of **many** priority species
- ☐ Data is used to inform seed source choice for restoration of **all** priority species
- ☐ I don't know

Could you please comment and/or add references to support your answer:

## Selection and innovation

\* 19. Do you know if there is research on species genetics or eco-geographical zones?

*If you know, select yes, if not, select no*

☐ Yes

☐ No

Could you please comment and/or add references to support your answer:

## Selection and innovation

\* 20. Is there **research** on species population **genetics**?

- ☐ No
- ☐ Population genetics research exists for **a few** priority species
- ☐ There is research on population genetics for **many** priority species
- ☐ There is research on population genetics for **all** priority species
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 21. Is there **research** on defining **eco-geographical zones** for priority species?

- ☐ No
- ☐ There is research on defining eco-geographical zones for **a few** priority species
- ☐ There is research on defining eco-geographical zones for **many** priority species
- ☐ There is research on defining eco-geographical zones for **all** priority species
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 22. Is this information used to define **seed transfer zones**?

- ☐ No
- ☐ The information is used to define seed transfer zones for **a few** priority species
- ☐ The information is used to define seed transfer zones for **many** priority species
- ☐ The information is used to define seed transfer zones **nationally**
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 23. Are there **research initiatives** developing **improved material** for those **priority species** used in production restoration for productive purposes?

- ☐ No
- ☐ Improved material is being developed for **one or a few** priority species
- ☐ Improved material is being developed for **many** priority species
- ☐ Improved material is developed for **all** priority species
- ☐ I don't know

Could you please comment and/or add references to support your answer:

## Selection and innovation

\* 24. Do you know if there is information on species choice, on seed sources or on wild vs. selected material available?

*If you know, select yes, if not, select no*

☐ Yes

☐ No

Could you please comment and/or add references to support your answer:

## Selection and innovation

\* 25. Is **suitable information** readily available to **stakeholders** that helps in species choice for restoration?

- ☐ No
- ☐ There is **some** suitable information but it is **not** easily available
- ☐ There **is** suitable information but it is **not** easily available
- ☐ There **is** suitable information **readily** available
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 26. Is **suitable information** readily available on how to identify the most suitable **seed source**?

- ☐ No
- ☐ There is **some** suitable information but it is **not** easily available
- ☐ There **is** suitable information but it is **not** easily available
- ☐ There **is** suitable information **readily** available
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 27. Is **suitable information** readily available on the **difference** between **wild** and **selected** material?

- ☐ No
- ☐ There is **some** suitable information but it is **not** easily available
- ☐ There **is** suitable information but it is **not** easily available
- ☐ There **is** suitable information **readily** available
- ☐ I don't know

Could you please comment and/or add references to support your answer:

## Seed harvesting and production

***The term “seed” in this survey refers to any planting material, including seeds, seedlings, wildlings and vegetative material.***

\* 28. Do you harvest or produce seed?

☐ Yes

☐ No

Could you please comment and/or add references to support your answer:



## Seed harvesting and production

***The term “seed” in this survey refers to any planting material, including seeds, seedlings, wildling***

\* 29. Do you have knowledge about seed sources?

☐ Yes

☐ No

Could you please comment and/or add references to support your answer:

## Seed harvesting and production

*The term “seed” in this survey refers to any planting material, including seeds, seedlings, wildling*

\* 30. Have **seed sources** been identified for the **priority species**?

- ☐ No
- ☐ Seed sources have been identified for **at least one** priority species
- ☐ Seed sources have been identified for **many** priority species
- ☐ Seed sources have been identified for **all** priority species
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 31. Have **seed sources** been identified for **key ecosystems**?

- ☐ No
- ☐ Seed sources have been identified for **at least one** key ecosystems
- ☐ Seed sources have been identified for **many** key ecosystems
- ☐ Seed sources have been identified for **all** key ecosystems
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 32. Do **seed sources** cover the **species range**?

- ☐ No
- ☐ Identified seed sources cover a **small part** of the species range
- ☐ Identified seed sources cover **most** of the species range
- ☐ Seed sources cover the **whole** species range
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 33. Are **seed sources protected** effectively?

- ☐ No
- ☐ Seed sources receive **little** protection
- ☐ Seed sources receive **some** protection
- ☐ Seed sources are protected **effectively**
- ☐ I don't know

Could you please comment and/or add references to support your answer:

## Seed harvesting and production

\* 34. Do you work with native priority species?

☐ Yes

☐ No

Could you please comment and/or add references to support your answer:

## Seed harvesting and production

\* 35. Is there **improved material available** for those **priority species** in production restoration?

- ☐ No
- ☐ There is improved material available for **at least one** priority species
- ☐ There is improved material available for **many** priority species
- ☐ There is improved material available for **all** priority species used in production restoration
- ☐ I don't know

Could you please comment and/or add references to support your answer:

36. Is **improved material available** for the **key ecosystems**?

- ☐ No
- ☐ There is improved material available for **at least one** key ecosystem
- ☐ There is improved material available for **many** key ecosystems
- ☐ There is improved material available for **all** key ecosystems
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 37. Are all **priority species** being **produced**?

- ☐ No
- ☐ **A few** priority species are being produced
- ☐ **Most** priority species are being produced
- ☐ **All** priority species are being produced
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 38. Are all **priority species** being **produced** across each **key ecosystem**?

- ☐ No
- ☐ Production occurs in **at least one** key ecosystem
- ☐ Production occurs in **many** key ecosystems
- ☐ Production occurs in **all** key ecosystems
- ☐ I don't know

Could you please comment and/or add references to support your answer:

## Market access, supply and demand

***The term “seed” in this survey refers to any planting material, including seeds, seedlings, wildlings and vegetative material.***

\* 39. Do you have any touch points with the seed market?

☐ Yes

☐ No

Could you please comment and/or add references to support your answer:

## Market access, supply and demand

\* 40. Do you know what the demand for priority native species is?

*If you know, select yes, if not, select no*

☐ Yes

☐ No

Other (please specify)



## Market access, supply and demand

\* 41. Is there **demand** for **priority native species**?

- ☐ No
- ☐ There is **little** demand for priority native species
- ☐ There is **some** demand for priority native species
- ☐ There is a **high** demand for priority native species
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 42. Do people **request suitable provenance**?

- ☐ No
- ☐ There is **little** demand for suitable provenance
- ☐ There is **some** demand for suitable provenance
- ☐ There is **high** demand for suitable provenance
- ☐ I don't know

Could you please comment and/or add references to support your answer:

## Market access, supply and demand

\* 43. Do you know if there is a network of suppliers?

*If you know, select yes, if not, select no*

☐ Yes

☐ No

Could you please comment and/or add references to support your answer:

## Market access, supply and demand

\* 44. Is there a **network** of **suppliers**?

- ☐ No
- ☐ There are **local** networks of suppliers
- ☐ There are **regional** networks of suppliers
- ☐ There is a **national** network of suppliers
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 45. Can the network **meet the demand** (access and quantity) for **natives** with **suitable provenance**?

- ☐ No
- ☐ The network **can** meet the demand for natives but there is **no** provenance information
- ☐ The network **can** meet the demand for native **with** suitable provenance
- ☐ I don't know

Could you please comment and/or add references to support your answer:

## Quality control

***The term “seed” in this survey refers to any planting material, including seeds, seedlings, wildlings and vegetative material.***

\* 46. Do you know if there exists quality control/certification for high quality seed?

☐ Yes

☐ No

Could you please comment and/or add references to support your answer:

## Quality control

*The term “seed” in this survey refers to any planting material, including seeds, seedlings, wildlings and vegetative material.*

\* 47. Does **certification** cover **seed sourcing** (population size, sampling method)?

- ☐ No
- ☐ **Some** aspects are covered
- ☐ **Most** aspects are covered
- ☐ **All** aspects are covered
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 48. Does **certification** cover **seed harvesting** (material type, permission to collect)?

- ☐ No
- ☐ **Some** aspects are covered
- ☐ **Most** aspects are covered
- ☐ **All** aspects are covered
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 49. Does **certification** cover **production** (phytosanitary conditions, control of origin)?

- ☐ No
- ☐ **Some** aspects are covered
- ☐ **Most** aspects are covered
- ☐ **All** aspects are covered
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 50. Does **certification** cover **improved seeds**?

- ☐ No
- ☐ **Some** aspects are covered
- ☐ **Most** aspects are covered
- ☐ **All** aspects are covered
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 51. Do these components function as a **system**?

- ☐ No
- ☐ There is **some** relation between the components
- ☐ **Most** of the components are linked
- ☐ **All** the components are linked
- ☐ I don't know

Could you please comment and/or add references to support your answer:

## Enabling environment

***The term “seed” in this survey refers to any planting material, including seeds, seedlings, wildlings and vegetative material.***

\* 52. Do you know if there exist regulations or legislations for native seed?

*If you know, select yes, if not, select no*

☐ Yes

☐ No

Could you please comment and/or add references to support your answer:

## Enabling environment

*The term “seed” in this survey refers to any planting material, including seeds, seedlings, wildlings and vegetative material.*

\* 53. Are adequate **regulations** being implemented that support the use of **material suitable** for **climate change**?

- ☐ No
- ☐ **Not** adequate and **not** implemented
- ☐ **Adequate** but **not** implemented or **not** adequate but **implemented**
- ☐ **Adequate** and **implemented**
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 54. Are adequate **regulations** being implemented to define **seed transfer zones**?

- ☐ No
- ☐ **Not** adequate and **not** implemented
- ☐ **Adequate** but **not** implemented or **not** adequate but **implemented**
- ☐ **Adequate** and **implemented**
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 55. Are adequate **regulations** being implemented to **protect seed sources**?

- ☐ No
- ☐ **Not** adequate and **not** implemented
- ☐ **Adequate** but **not** implemented or **not** adequate but **implemented**
- ☐ **Adequate** and **implemented**
- ☐ I don't know

Could you please comment and/or add references to support your answer:



\* 56. Are adequate **regulations** being implemented that provide **incentives** for the use of **native species**?

- ☐ No
- ☐ **Not** adequate and **not** implemented
- ☐ **Adequate** but **not** implemented or **not** adequate but **implemented**
- ☐ **Adequate** and **implemented**
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 57. Are adequate **regulations** being implemented for a **certification system** for **native species**?

- ☐ No
- ☐ **Not** adequate and **not** implemented
- ☐ **Adequate** but **not** implemented or **not** adequate but **implemented**
- ☐ **Adequate** and **implemented**
- ☐ I don't know

Could you please comment and/or add references to support your answer:

## Enabling environment

***The term “seed” in this survey refers to any planting material, including seeds, seedlings, wildlings and vegetative material.***

\* 58. Do you know if there exists any kind of capacity building in the seed system?

*If you know, select yes, if not, select no*

☐ Yes

☐ No

Could you please comment and/or add references to support your answer:

## Enabling environment

\* 59. Is there sufficient **capacity building** for **decision makers**?

- ☐ No
- ☐ There is **little** capacity building
- ☐ There is **some** capacity building
- ☐ Capacity building is **sufficient**
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 60. Is there sufficient **capacity building** for **technicians**?

- ☐ No
- ☐ There is **little** capacity building
- ☐ There is **some** capacity building
- ☐ Capacity building is **sufficient**
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 61. Is there sufficient **capacity building** for **communities**?

- ☐ No
- ☐ There is **little** capacity building
- ☐ There is **some** capacity building
- ☐ Capacity building is **sufficient**
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 62. Is there sufficient **capacity building** for the **general public**?

- ☐ No
- ☐ There is **little** capacity building
- ☐ There is **some** capacity building
- ☐ Capacity building is **sufficient**
- ☐ I don't know

Could you please comment and/or add references to support your answer:

63. Is there sufficient **capacity building** for **students**?

- ☐ No
- ☐ There is **little** capacity building
- ☐ There is **some** capacity building
- ☐ Capacity building is **sufficient**
- ☐ I don't know

Could you please comment and/or add references to support your answer:

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## Enabling environment

***The term “seed” in this survey refers to any planting material, including seeds, seedlings, wildlings and vegetative material.***

\* 64. Do you know if there is financial support for the seed system?

*If you know, select yes, if not, select no*

☐ Yes

☐ No

Could you please comment and/or add references to support your answer:

## Enabling environment

*The term “seed” in this survey refers to any planting material, including seeds, seedlings, wildlings and vegetative material.*

\* 65. Is there sufficient **financial support** for **baseline information** on priority native species, key ecosystems and climate change?

- ☐ No
- ☐ There is **little** financial support
- ☐ There is **some** financial support
- ☐ There is **sufficient** financial support
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 66. Is there sufficient **financial support** for **seed source** identification?

- ☐ No
- ☐ There is **little** financial support
- ☐ There is **some** financial support
- ☐ There is **sufficient** financial support
- ☐ I don't know

Could you please comment and/or add references to support your answer

\* 67. Is there sufficient **financial support** for **research** on **material production**?

- ☐ No
- ☐ There is **little** financial support
- ☐ There is **some** financial support
- ☐ There is **sufficient** financial support
- ☐ I don't know

Could you please comment and/or add references to support your answer:

## Enabling environment

***The term “seed” in this survey refers to any planting material, including seeds, seedlings, wildlings and vegetative material.***

\* 68. Do you know if local community members are involved in the seed supply chain?

*If you know, select yes, if not, select no*

☐ Yes

☐ No

Could you please comment and/or add references to support your answer:

## Enabling environment

*The term “seed” in this survey refers to any planting material, including seeds, seedlings, wildlings and vegetative material.*

\* 69. Are **local community members** involved in the establishment of the **priority native species lists**?

- ☐ No
- ☐ There is **little** involvement of local community members
- ☐ There is **some** involvement of local community members
- ☐ There is a **strong** involvement of local community members
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 70. Are **local community members** involved in the identification of **seed sources** for priority species and key ecosystems?

- ☐ No
- ☐ There is **little** involvement of local community members
- ☐ There is **some** involvement of local community members
- ☐ There is a **strong** involvement of local community members
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 71. Are **local community members** involved in **protecting** and **managing** seed sources?

- ☐ No
- ☐ There is **little** involvement of local community members
- ☐ There is **some** involvement of local community members
- ☐ There is a **strong** involvement of local community members
- ☐ I don't know

Could you please comment and/or add references to support your answer:



\* 72. Are **local community members** involved in the **network** of seed **suppliers**?

- ☐ No
- ☐ There is **little** involvement of local community members
- ☐ There is **some** involvement of local community members
- ☐ There is a **strong** involvement of local community members
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 73. Are **local community members** involved in the elaboration of **regulations** and/or **incentives** on the use of **native tree species**?

- ☐ No
- ☐ There is **little** involvement of local community members
- ☐ There is **some** involvement of local community members
- ☐ There is a **strong** involvement of local community members
- ☐ I don't know

Could you please comment and/or add references to support your answer:

\* 74. Is the **certification system** accessible for **seed producers** in **local communities**?

- ☐ No
- ☐ **A few** seed producers have access
- ☐ **Many** seed producers have access
- ☐ **All** seed producers have access
- ☐ I don't know

Could you please comment and/or add references to support your answer:

## Final questions

75. What do you perceive to be the biggest challenge(s) in the national seed supply system?

76. Do you have any other comments on the tree seed system in your country?

THANK YOU

**End of survey**