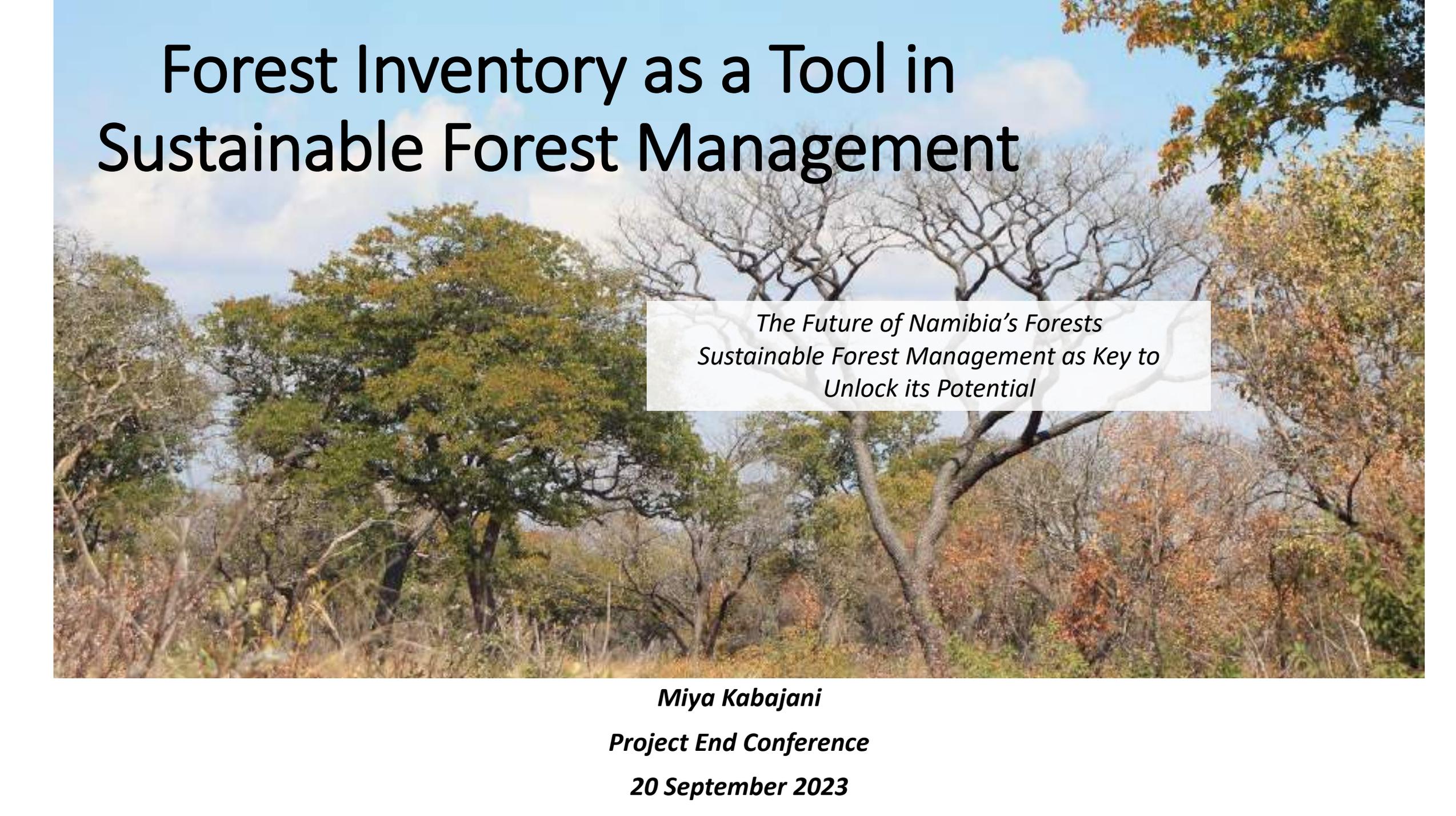


Forest Inventory as a Tool in Sustainable Forest Management



*The Future of Namibia's Forests
Sustainable Forest Management as Key to
Unlock its Potential*

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Project End Conference

20 September 2023

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- What is a forest inventory?
- Why are forest inventories important?
- How are inventories done?
- When do you do inventories?
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Introduction

- Any type of management requires information on the resources that are to be managed. Forestry is no exception.
- Basic data is required for forests to be managed sustainably and this is done through inventories.
- This implies that the forest is productive and ecologically functional.



What is a Forest Inventory?

- “Forest inventory is a procedure involving planning of inventory design, data collection, data analysis and reporting about forest resources of a large forested area or entire country.”

(Encyclopedia of Forest Sciences, 2004)

- The systematic collection of data on forest resources in an area.
- *Taking stock of forest resources.*



Scales of Forest Inventories.

Local forest area; Communal area, community forests

Regional Scale or Vegetation type scale

National Scale

Continental and International scale



Why are Forest Inventories Important?

- Provide information about forest resources.
- Provides data for predictable equations.
- Provide information for decision making
- Information for site management, decision making and timber harvests.
- Site quality assessments.

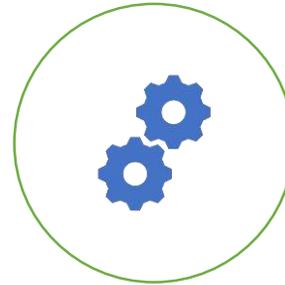


Why are Forest Inventories Important?



Administrative

Community forest registrations,
Permitting processes
Zonation and classifications



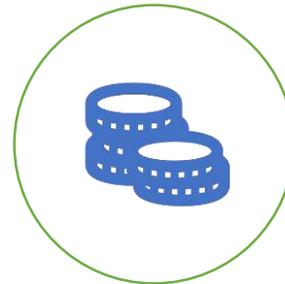
Technical

Research and training



Environmental

Quantifying resources
Site management and
Site quality assessments

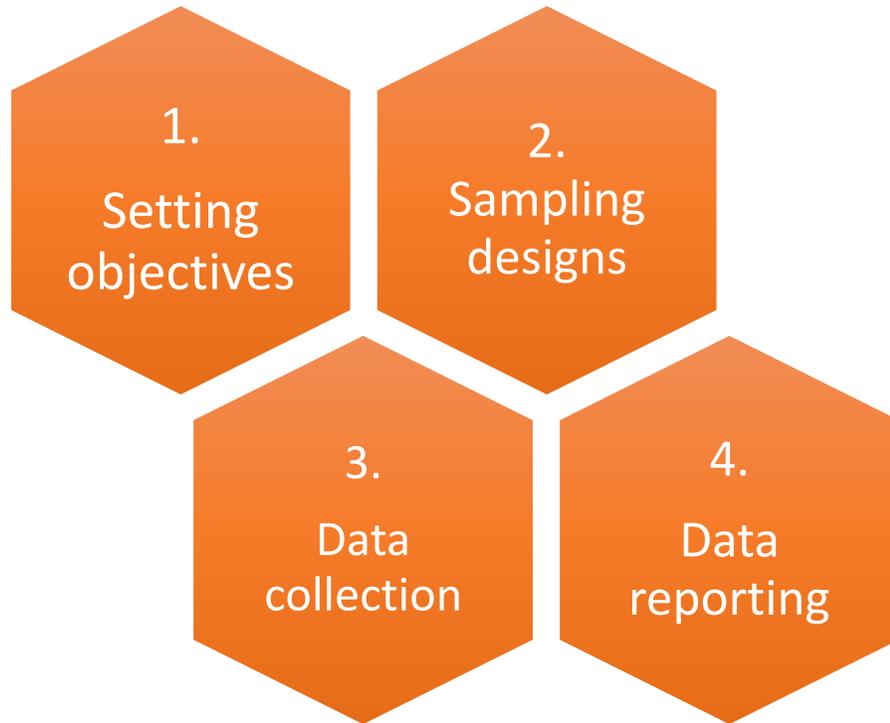


Financial

Quantifying and valuating resources,
Value addition and income generation



How are Inventories Done?



Setting objectives

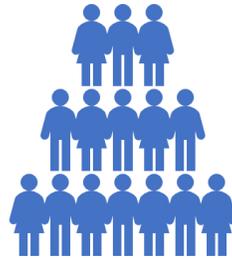
- The purpose of the inventory determines the scale and resources required for the inventory.
- Clearly outlined objectives lead to a clear plan of action and determination of duration.
- This also determines the type of method to be used



Considerations When Planning for Inventories.



Timing; seasonality



Resource availability and the area to be surveyed

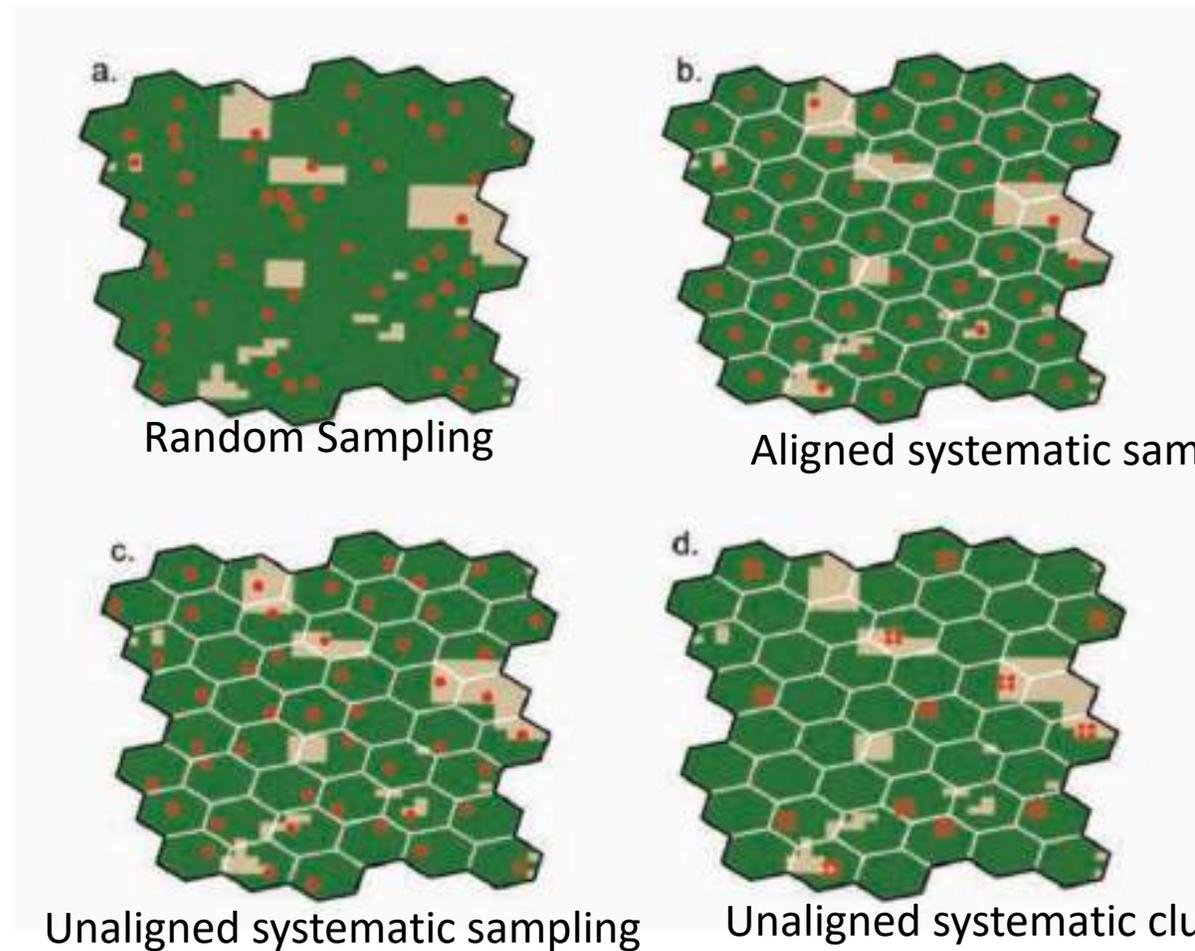


The need for the inventory and the type of information required



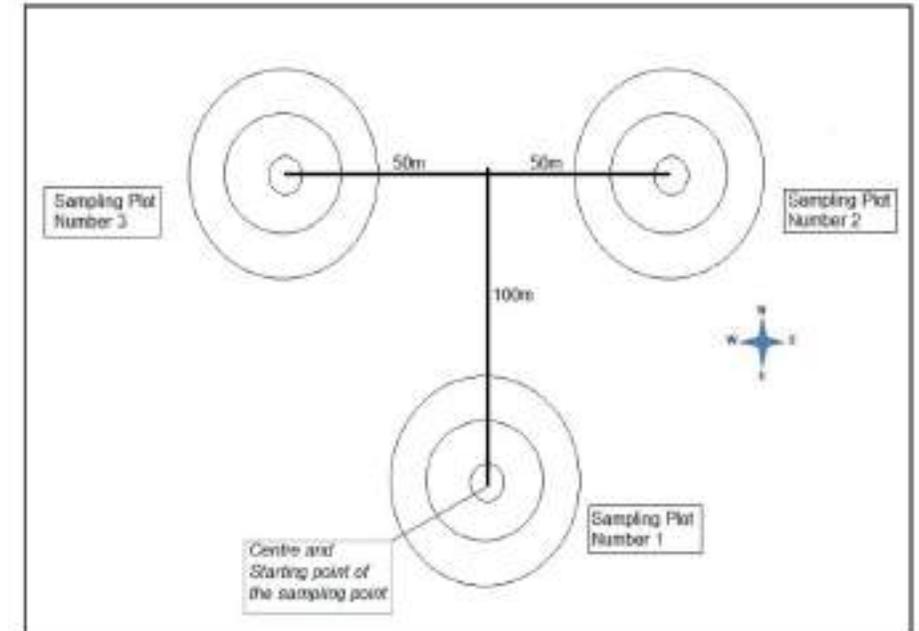
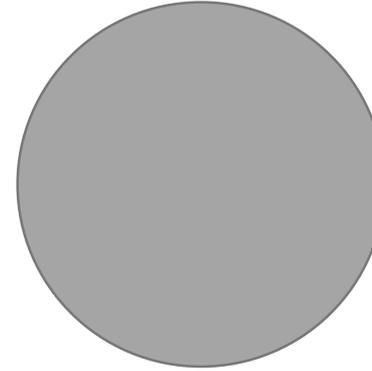
Sampling Designs

- Following preset objectives, a sampling design is selected for the inventory.



Sampling Designs

- There are various sampling units and methods.
- Field surveys, tend to be more cost effective for communities.
- Drone imagery and remote sensing are more specialized and technical.



Data Collection

- The type and amount of data collected can be influenced by available resources.
- Other factors can also influence the need to collect additional data.



What kind of Data is Collected in Inventories?

- Location
- Diameter
- Height
- Canopy cover
- Dendrochronology (Aging)
- Recruitment/ regeneration
- Density estimations
- Tree health
- Biomass and volume
- Carbon Stock assessments

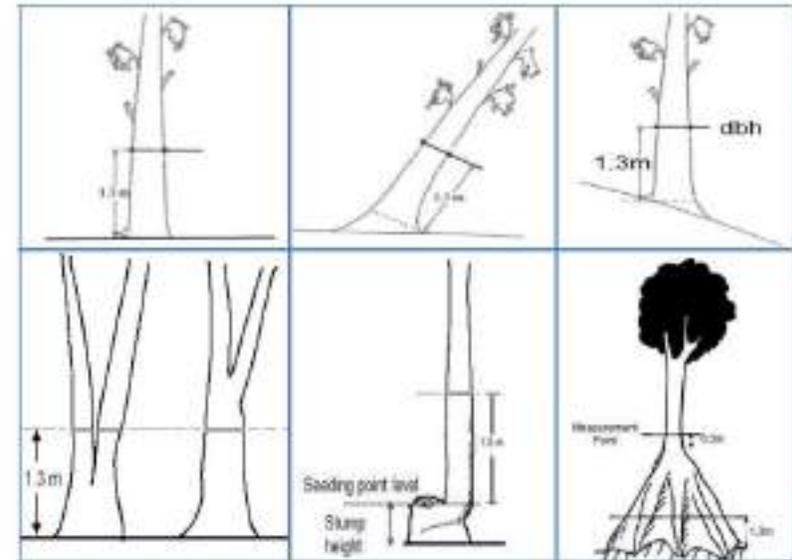


Figure 8: Measuring points for Diameter (HSBCP, 2018)



Data Reporting

- An important part of the process.
- Reporting is done via reports, maps or meetings.
- This promotes transparency.
- Influences decision-making.
- Frequency of reporting is dependent on needs and scale of inventory.



Who Should be Involved in Forest Inventories

- Community members (citizen science)
- School learners
- University students and research institutions
- Government institutions
- Support organizations



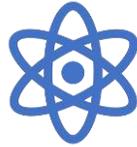
Advancements in Inventories.



Drone imagery



Remote sensing



Citizen science



Carbon stock
estimations

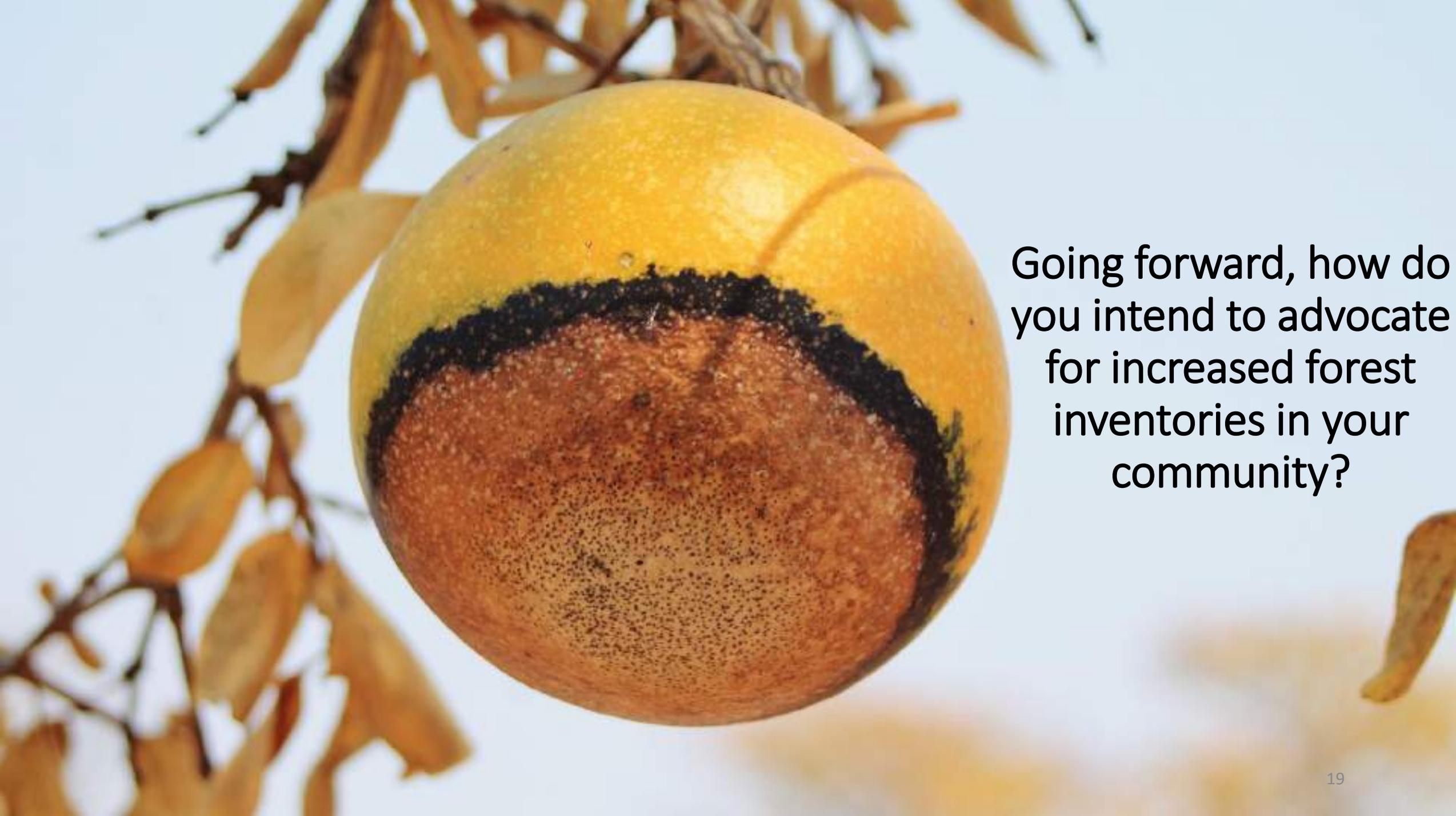


Management
plan
developments



Why are Forest Inventories Important in Forest Management





Going forward, how do you intend to advocate for increased forest inventories in your community?

Every sunset paves way for a new dawn.

Thank you

