

ARTEMIS

Working AI for Global Development



International
Telecommunication
Union

Day 2, Session 3:
Enabling Climate
Action

19 May 2026



Gates Foundation

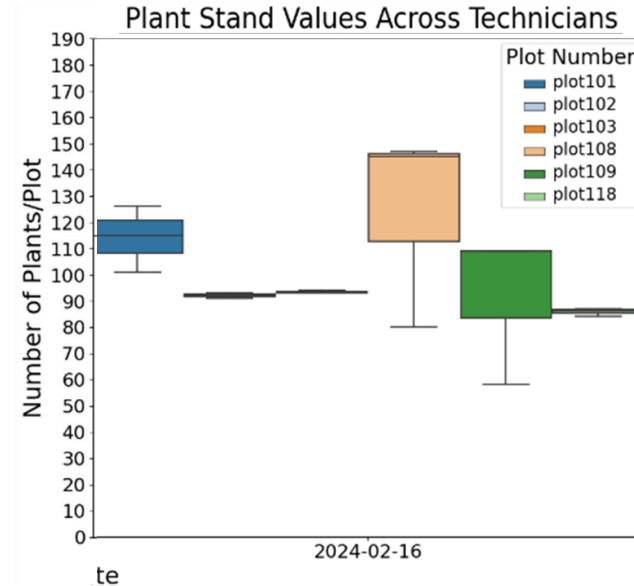
Breeding: Everything you eat has been designed...



It takes 10 years to develop a new variety...



The Phenotyping Bottleneck:
Human vision is error-prone
and slow.



...and adoption is low



Breed for need?
Little timely data and
feedback on real farmer
conditions

“Sometimes breeding
can feel like gambling.
You rely on your eyes
and your experience.”

User Research:
Aline Weinsheimer, Berta Ortiz



Better data for better decisions

- Can we leverage AI?
For the poorest?
For the public good?

....and have fun doing it?....

First use case: crop breeding



What we build



ona.

"To see" -*Computer vision* to replace visual counting



sikia.

"To listen"-*Language Models* to know what farmers want



Tech transfer?

- Equipment
- Models



15,000-50,000 USD



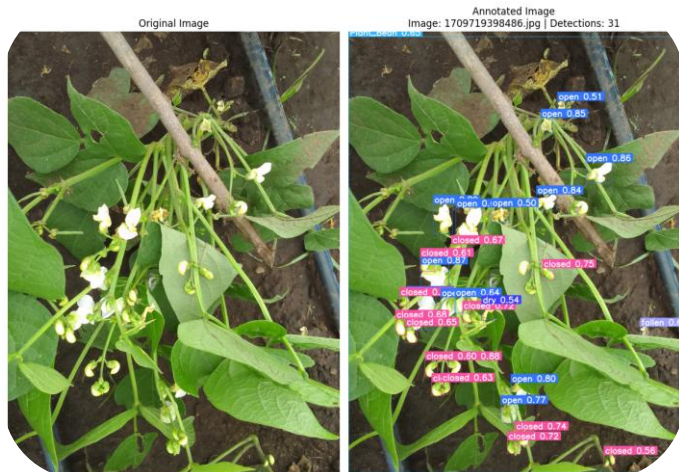
50,000-100,000 USD



250,000 USD

Ona: AI powered digital phenotyping on a smartphone

2x accuracy and **2x efficiency** in a **standardized and transparent** way



Computer-vision models



Ona Software



Bruno Hardware

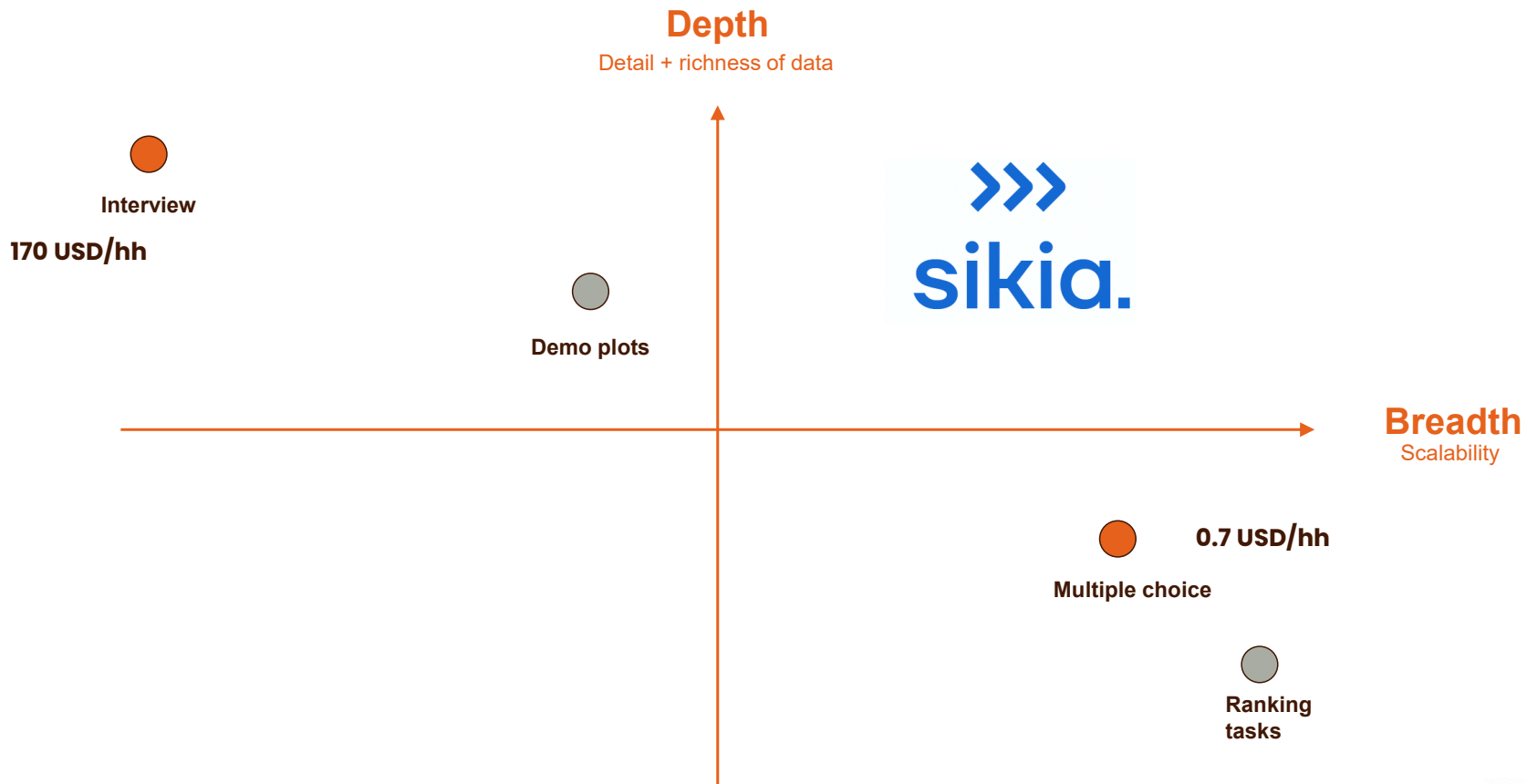
<1000 USD

What we build

>>>
sikia.

Farmer feedback and demand at scale, fast





(Kilic, et al., 2017, Manners et al, 2025)

AUDIO

TRANSCRIPTION

ANNOTATION

MODELS



"The bananas grow well but the stems are weak," and the taste is not good..."



Unstructured Speech Data

Aspect Extraction



LLM

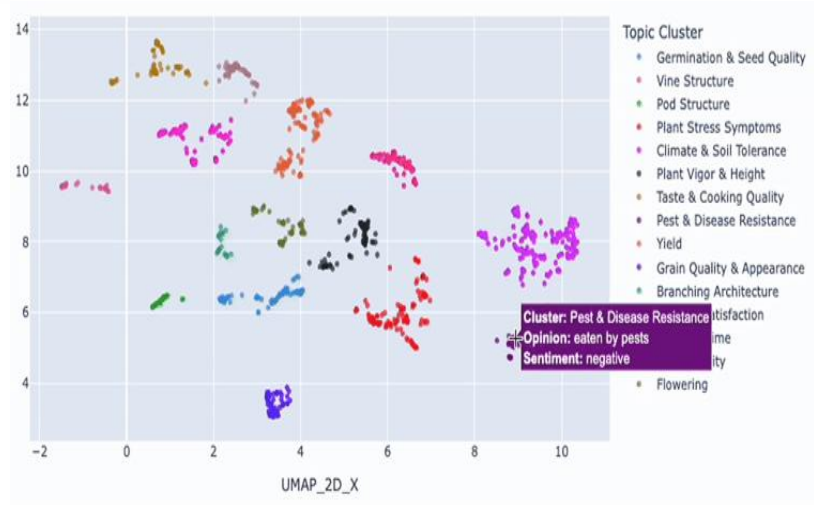
Identify Traits

Analyze Sentiment

Capture Emotion

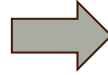
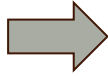
- Traits**
 - Weak Stem
 - Poor Taste
- Sentiment**
 - Negative
- Emotion**
 - Frustration

Structured Outputs



AI-driven breeding: Eyes and Ears on the ground

Anyone can collect data anywhere



**Better varieties for
400 million
farming families,
faster**

Sikia.

What do
farmers want?

Ona.

Can we get
what they
want?

Sikia.

Do they really
get what they
wanted?

Conclusion

Contextualized AI can have a big positive impact for global development

Public breeding needs better evidence from **fields** and **farmers**.

- Ona → eyes on the field.
- Sikia → ears on the field.

Thank You from the Team

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