

Unlocking the value of genebank collections: Discovery use

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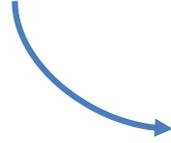
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IRRI



Customer focus

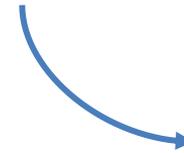
Genebanks



Discovery
research



Breeding
programs



Primary
producers



What is being discovered?

Genebanks



Discovery
research



Breeding
programs



Primary
producers

Other research areas:

- Genomics
- Genetic diversity
- Evolutionary studies etc.

- Trait developers (pre-breeding):
QTLs for traits
- Universities: QTLs for traits



Route to impact: Diversity studies

Genebank
diversity



DNA



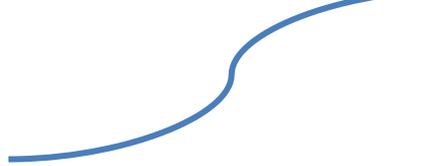
Genotyping



RNA

Transcriptomics:

- Gene discovery



Data
visualisation



- SNP-seek
- Geneinvestigator



End users

Mid-High density:

- Population structure
- Evolutionary studies
etc.

Sequencing:

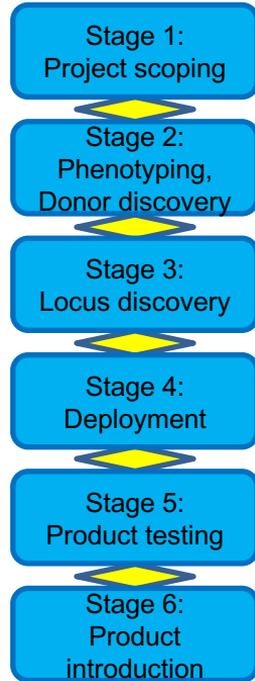
- Allele mining
- Gene discovery
- Population and
evolutionary studies



Route to impact: Trait development

Genebank
diversity

Trait development pipeline



Market
research

Breeding
programs

Rate-limiting steps in use cases

Genomics

- Reference genomes
- Availability of datasets
- Seed/leaf/DNA shipping
- Platforms for interacting with data
- DSI discussions

Trait development

- Time to develop populations
- Cost of genotyping populations
- Intractable traits
- Curation data (FIGS approaches)
- Seed shipping



Key resources to improve the flow

Genebank
diversity



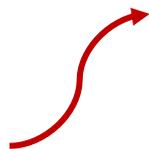
DNA



RNA



Genotyping



Transcriptomics:

- Gene discovery

Sequencing:

- Allele mining
- Gene discovery
- Population and evolutionary studies

Implement



Data
visualisation



- SNP-seek
- Genevestigator

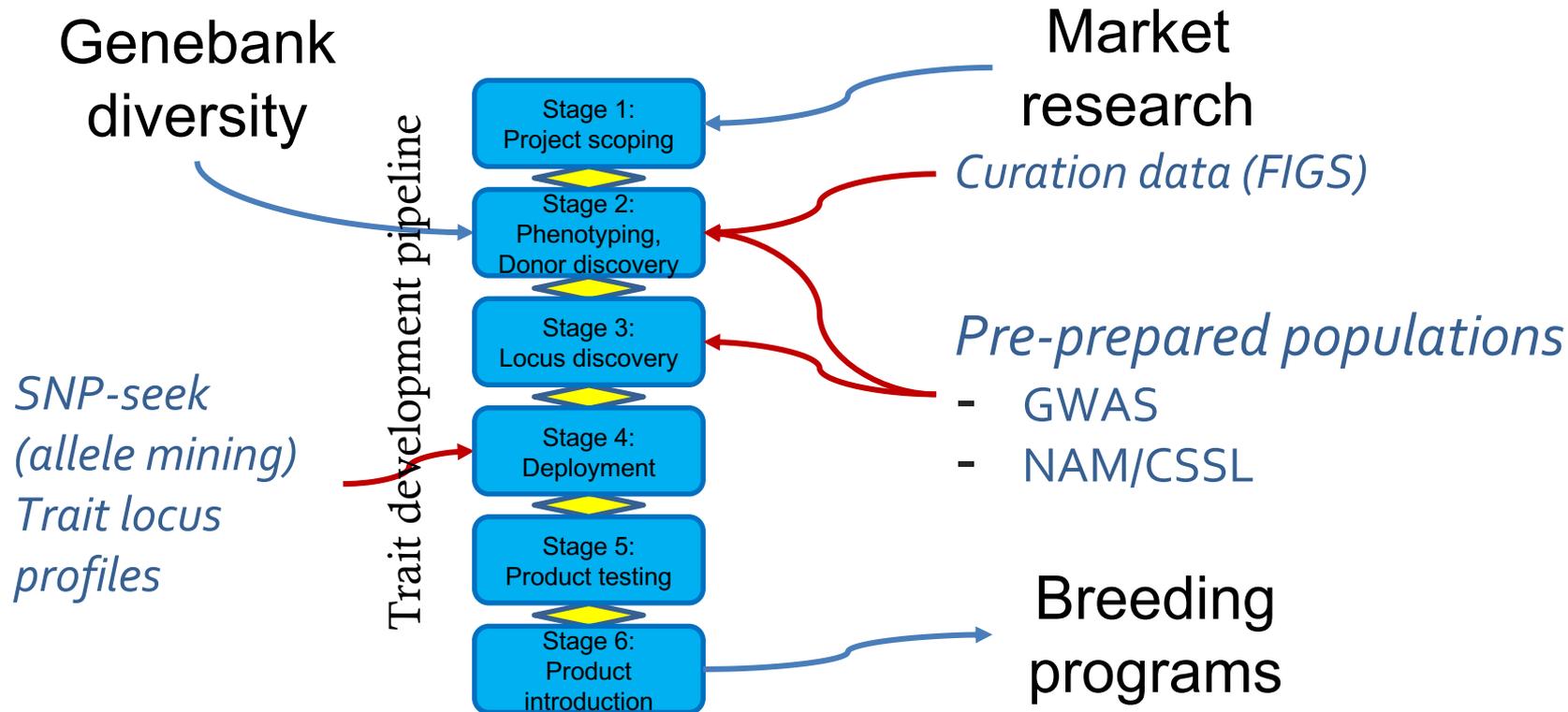


End users

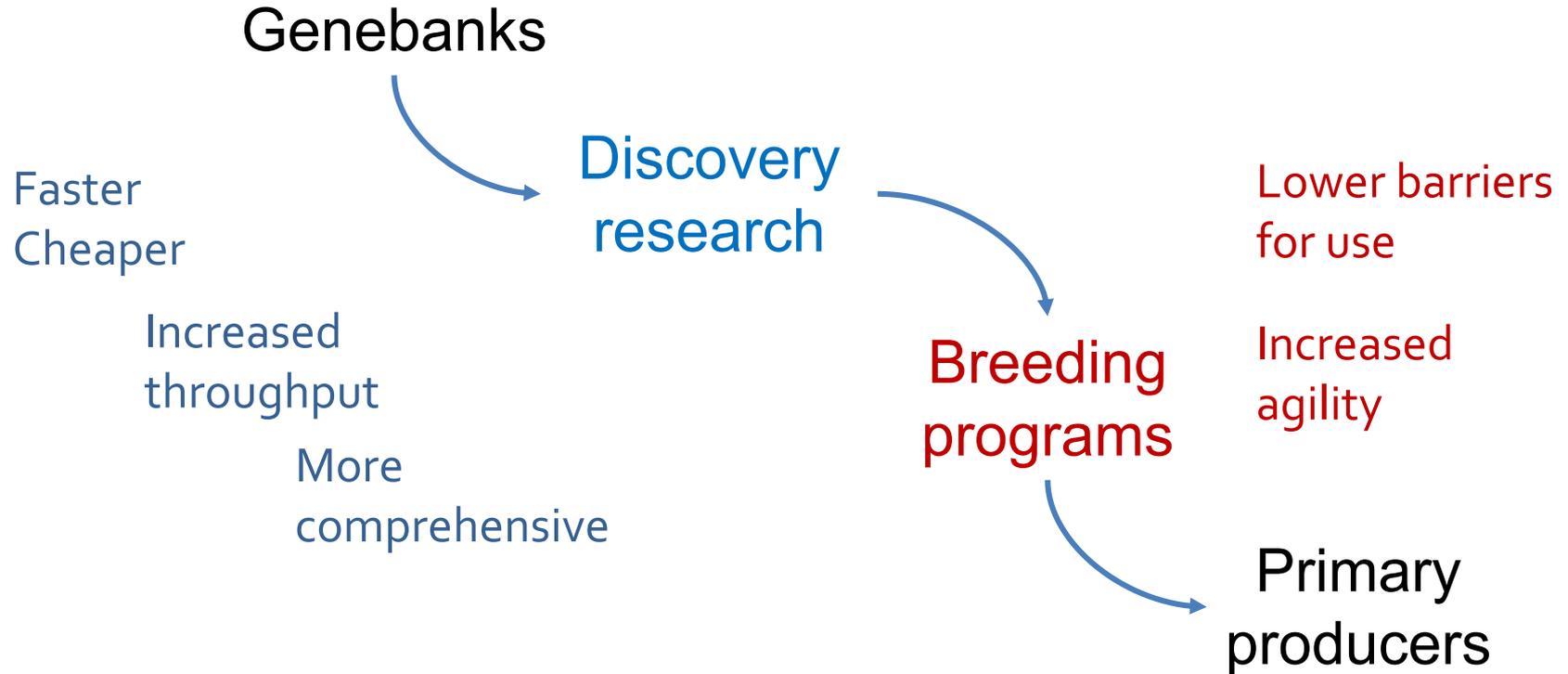
*Organised,
long-term effort*



Key resources to improve the flow



Benefits of increased flow



Thank you

