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ideas to products

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Statistics for Agriculturists

Cluster and Multiple Stage Sampling

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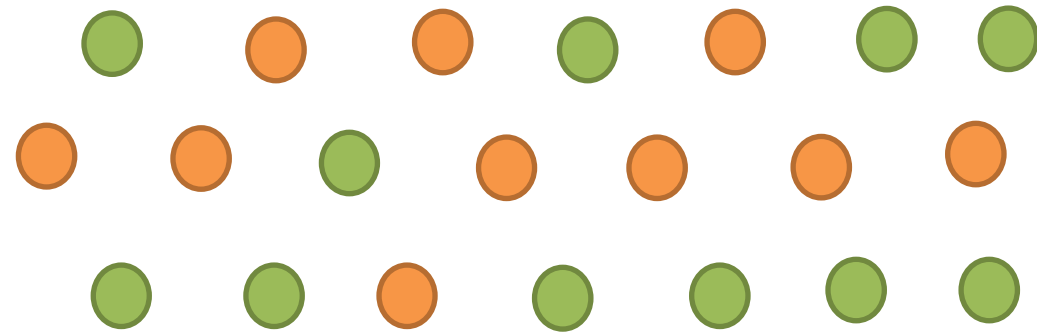
Cluster Sampling

- Used when natural groups are present in a population
- Cluster as the name suggests formation of clusters of given population.
- Typically used in market-research when one can fetch info about clusters but not about the whole population
- Cluster Sampling is more beneficial, economical and time saving than stratified or simple random sampling
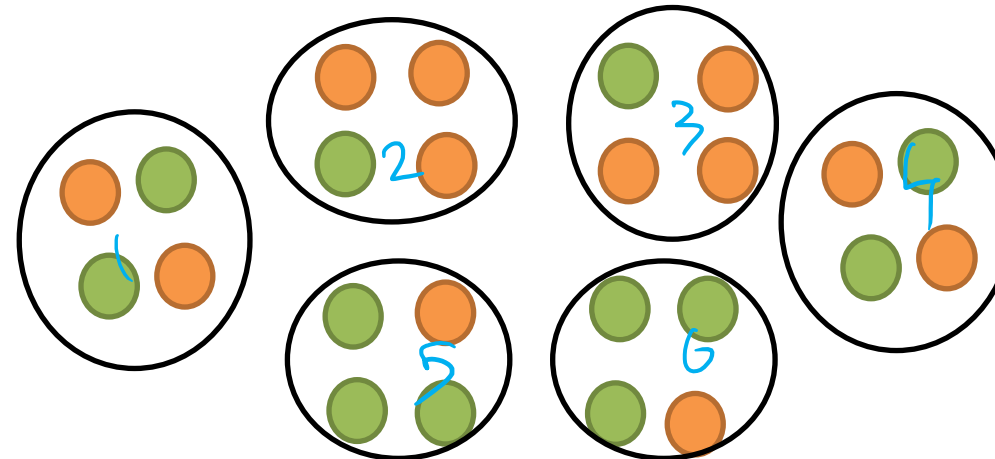
All units in cluster sampled

Clustered Sample
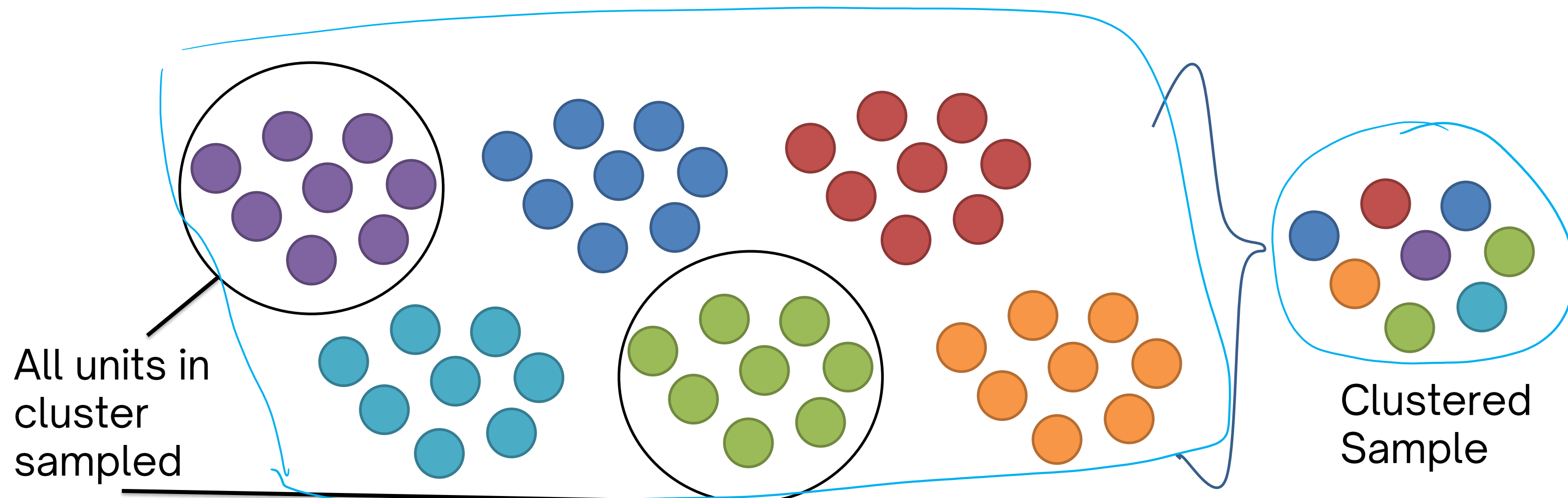
How it's done?

The process to how it's done has been illustrated below
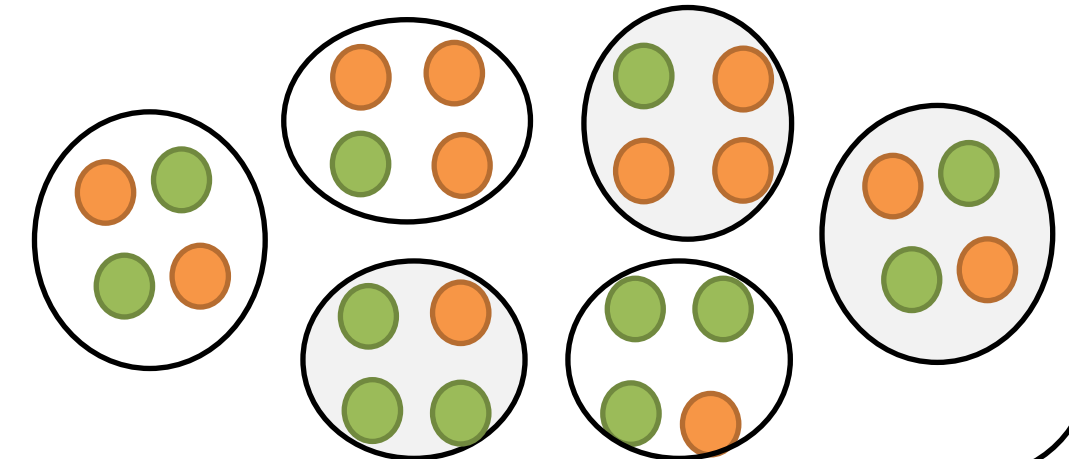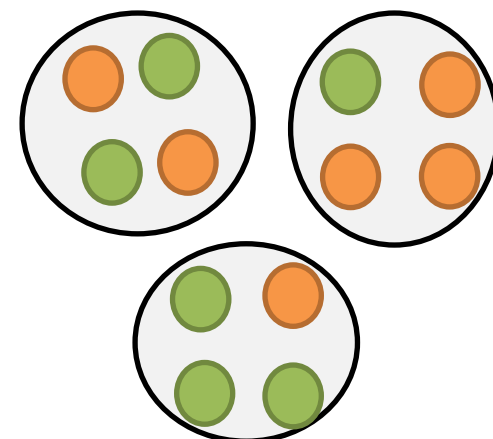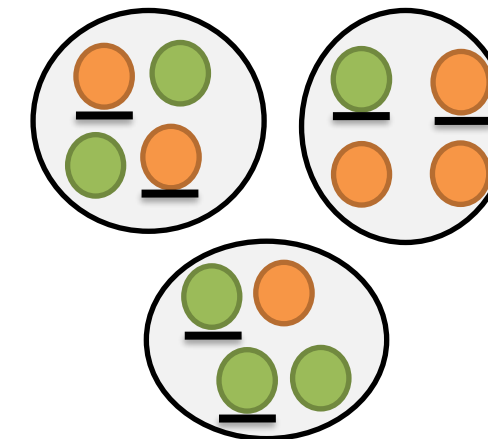
Advantages & Challenges

Time and cost efficient

Higher Validity due to higher randomization

Clustering should be done very carefully

Multistage Sampling

- Extended version of cluster sampling
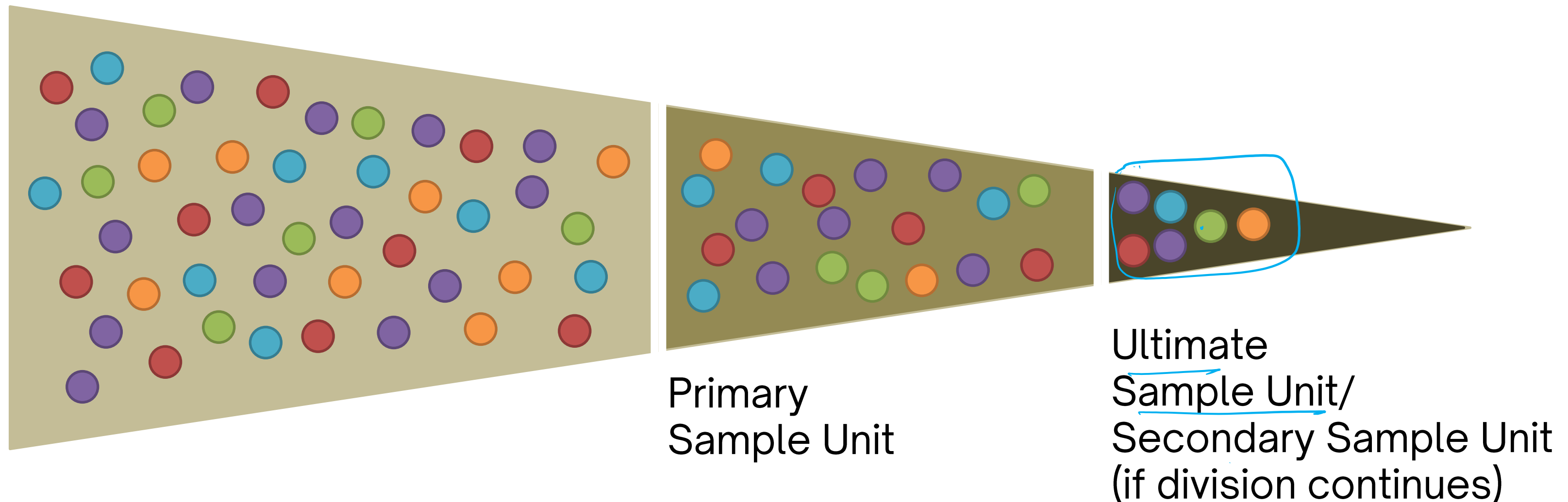- Divides a large set of population into stages
- A combination of stratified sampling or cluster sampling and simple random sampling is used
- Unlike single-stage sampling, here sampling frame is not reqd.

Primary Sample Unit

Ultimate Sample Unit/ Secondary Sample Unit (if division continues)

Advantages & Challenges

Flexible, convenient and Cost-effective

Less accurate than simple random sampling

Use on n-number of stages to come down to reqd. size

Subjective component can put results in question

No restrictions on way of division of groups

Lacks external validity of research findings due to subjective component

Example of multi-stage sampling

- A systematic sample of types of wheats grown within Enumeration Areas (EAs) with in a district

→District – Strata – 1st Stage

→EAs – Clusters – 2nd Stage

→Households – 3rd Stage

Within each district take sample of EAs

Within each EAs, take sample of households

Within each household, sample two individuals

Thank you