



# Technology to enhance small scale farmer development in Africa

## *The people component*

Presented by:

Dr Langelihle Simela  
Absa Agribusiness

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# My formative years' story in brief



# Grain technology



Manual husking (removing sheath) and drying in a rack



Storage in the granary, with a pesticide.

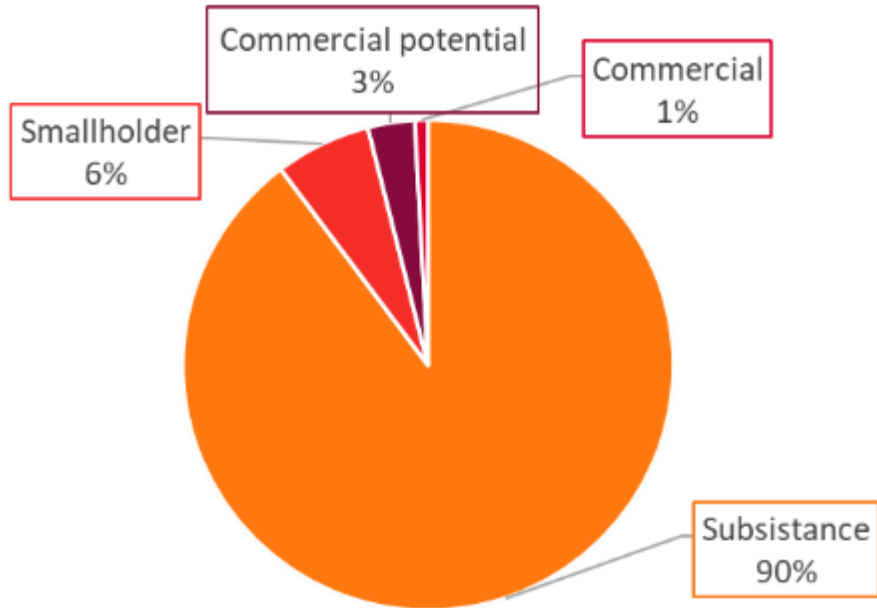


Packed in hessian bag for market or grinding mill.



Winning as an when required for market or household consumption

# Small-scale farmers are not a homogenous group ...



## Developing commercial farmers

- Owned, leased and communal land
- Ranges from 30ha upward for grains

## Substance producers, mainly for household consumption

- On communal land
- Constitute >90% of rural households
- Produce on  $\leq 1$ ha
- Sell <15% of produce
- Range from grant-dependent, wage earners & professionals such as teachers
- Pathway may be out of agriculture

## Commercially-oriented producers

- On communal land
- Constitute 4.6% of rural households
- Produce on 4.8ha & own more livestock
- Sell 46% of produce



# South African experience

- Smallholder farmers moved from ox-drawn to tractor drawn equipment in the 70s.
- Vast areas of fallow land because of limited access to machinery and equipment.
- Smallholders on <5ha, use manual processes
- Necessity is the mother of invention
  - *boer maak n plan*
  - improvising to solve problems
- <https://www.youtube.com/watch?v=gg6ExyM5tr4> – Michris Janse van Rensburg Back-saving inventions for smallholder farmers
- Interventions by producer organisations & partners through training and mentorship programmes to optimise land use and up productivity
  - Production improved from <1t/ha to  $\geq 5$ t/ha
  - Farmers now have excess for sale.



# Dispense with the image of the hoe as a primary tool ...

- Start with the people and work with them to achieve growth:
  - E.g. Irrigation schemes in Taung:
    - Annual rainfall ~318mm.
    - 1.7ha (1982) → 10ha/household → 700ha aggregate → 3,020ha on aggregate
  - Access to machinery & equipment in the narrow window for planting (machinery rings have not worked. Partnerships with established farmers have).
- Small-scale production – 1.6ha per household in Africa
- Agricultural growth in Africa is generally achieved by cultivating more land & mobilising more labour, which produces very little improvement in yields.
- ***Appropriate interventions & partnerships work!***





# Handy but not the primary equipment



Planting/re-planting



Weeding between the maize stocks

Harvesting

# We have the means to meet our needs...

- People – affordable labour & huge market for agri-products
- Agri value chain players: - training and extension services
- Land
- Research community: - great potential for putting research to use
- Development community: - test new interventions that can be upscaled
- Partnerships in development: - becoming more of a reality
- Lobbying & advocacy” – much more room for engagement between business & governments
- Africa has led in linking service provision to mobile phone technology:
  - Money transfers
  - Providing credit
  - Collating & sharing agri-information
- Possible enhance this to leap frog into the fourth industrial revolution.



# Africa is huge and by no means a homogenous continent

	'000 ha
Total land area	2,964,921
Agricultural land	1,132,602
Arable land	234,952
Irrigated land	15,790
Grazing land	860,962.62
Forestry	621,266.73
Inland water	53,962.50
Unutilised land	202,000?



**... with divergent cultures, cuisine, ...**



- Common challenge/opportunity is to optimise productivity of the continent's resources (including its people).
- No one size fits all approach

# .... we can optimise our opportunities

- Policy certainty and implementation (CAADP)
- Infrastructure – road, water, electricity, etc.
- Spend correctly – accountability.
- Smart partnerships
- Use the existing spring boards
- Harness the potential in the people in a way that benefits them
- *Run profitable businesses whilst holistically solving for people's needs; in partnership with them.*
- *Innovations in technology can only enhance our interventions.*



) Thank you (