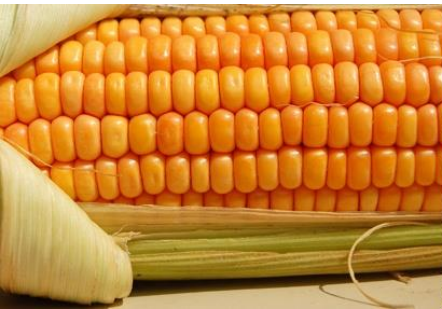# Measuring and tracking smallholder market access in South Africa

Presentation at NAMC Seminar

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Presentation Outline

- Introduction
- Smallholder market access: the concept
- Smallholder market access: the problem
- Smallholder market access: measuring & tracking
- Conclusions

Introduction

- One of the founding objectives of the NAMC, as stipulated in the Marketing of Agricultural Products Act (Act 47 of 1996), is **to increase market access for all participants**

- "The RDP aims to create a restructured agricultural sector that spreads the ownership base, encourages small-scale agriculture, further develops the commercial sector and increases production and employment" (African National Congress, 1994).
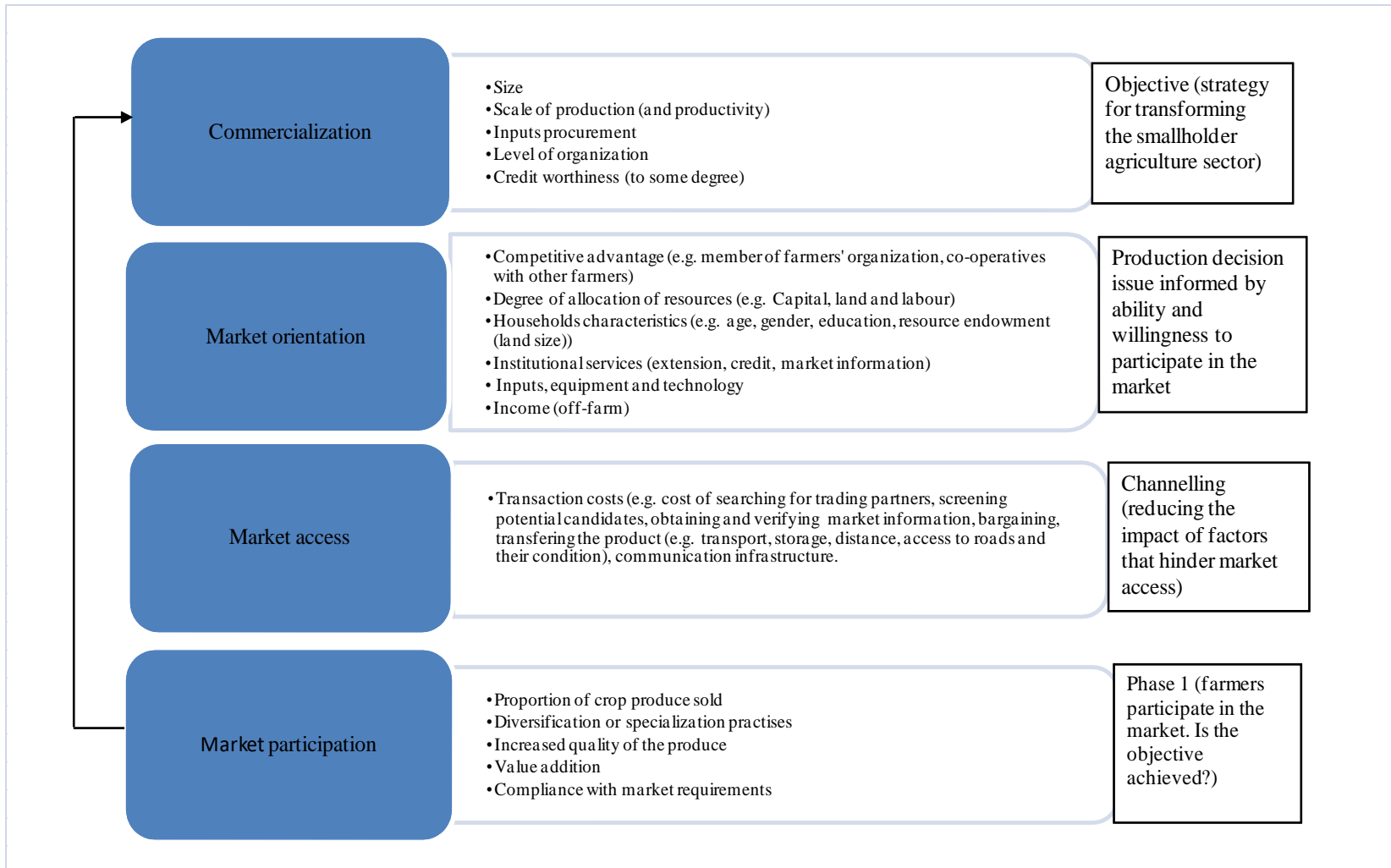
Introduction

- **"BATAT Marketing Drive"** sought to "improve small scale farmers' ability to seize marketing opportunities" (Van Renen, 1997)

- Need for a measure of the progress towards meeting the market access objective – for black smallholders in particular

- This paper proposes development of an Index to measure & track market access

Smallholder market access: the concept

Commercialization
- Size
- Scale of production (and productivity)
- Inputs procurement
- Level of organization
- Credit worthiness (to some degree)

Objective (strategy for transforming the smallholder agriculture sector)

Market orientation
- Competitive advantage (e.g. member of farmers' organization, co-operatives with other farmers)
- Degree of allocation of resources (e.g. Capital, land and labour)
- Households characteristics (e.g. age, gender, education, resource endowment (land size))
- Institutional services (extension, credit, market information)
- Inputs, equipment and technology
- Income (off-farm)

Production decision issue informed by ability and willingness to participate in the market

Market access
- Transaction costs (e.g. cost of searching for trading partners, screening potential candidates, obtaining and verifying market information, bargaining, transfering the product (e.g. transport, storage, distance, access to roads and their condition), communication infrastructure.

Channelling (reducing the impact of factors that hinder market access)

Market participation
- Proportion of crop produce sold
- Diversification or specialization practises
- Increased quality of the produce
- Value addition
- Compliance with market requirements

Phase 1 (farmers participate in the market. Is the objective achieved?)

Smallholder market access: the problem

- In SA, the majority of smallholding farming were established as a results of the "separate development" policies = dualistic sector
- Adverse impact of dualistic agricultural sector on market access by smallholder farmers
- SA smallholders face a number of challenges, which have been very well documented in literature

Smallholder market access: the problem

- "The problem of market access is linked to the following constraints: price risk and uncertainty, difficulties of contract enforcement, insufficient numbers of middlemen, cost of putting small dispersed quantities of produce together, inability to meet standards. Other compounding problems relate to physical market access like physical infrastructure – roads, market facilities, power and electricity". (Magingxa & Kamara, 2003)

Smallholder market access: measuring & tracking

- NAMC proposes that the Smallholder Market Access Tracker (SMAT) Index be developed as a measure of progress in the achievement of the market access goal for smallholders in South Africa.

- This will be developed with the guidance of a Reference Group consisting of experts, public and private practitioners

Smallholder market access: measuring & tracking

Methodological approach to the construction of the SMAT Index

	Construction steps	Methodological choice for the SMAT Index
1	Theoretical framework	"Market access": participation in both in (agricultural) input and output markets as influenced by farm/farmer characteristics, prevailing physical and institutional infrastructure, and macro and sectoral policies (Amrouk, et al., 2013). In line with South Africa's BATAT marketing drive (VanRenen, 1997), market access will comprise the following six components: • Production and factor endowment • Input and output market channels • Value addition • Physical infrastructure (market facilities, roads, storage, telecommunication) • Market information • Training and advisory services
2	Data selection	Variables to be included in the SMAT Index will be categorized under the six components specified above. The proposed list appears in Table 2 below. The final list will be established following expert and stakeholder consultation.
3	Imputation of missing data	The choice of method to deal with missing data will be motivated by the desire to minimize standard errors. Possible methods will include case deletion, single, or multiple imputation.
4	Multivariate analysis	This will be a preliminary step designed to assess the suitability of the data and to prepare for further data weighting and aggregation. Principal component analysis (PCA), as the most used method (Mishra, 2007), is proposed for the analysis of the structure of the data. The final choice of PCA will be made following expert consultation.
5	Normalisation of indicators	Normalisation method will be chosen following expert consultation
6	Weighting and aggregation of the indicators	The "equal weighting" method is proposed pending expert advice and stakeholder consultation. Geometric aggregation is proposed as opposed to linear aggregation since the latter is useful in cases where all individual variables have the same measurement unit (OECD, 2008).
7	Robustness and sensitivity analysis	This step may not be applicable since SMAT is not an inter-country index
8	Decomposition into the underlying indicators	SMAT will be decomposed to analyse the contribution of its subcomponents
9	Links to other variables	Further analysis will be undertaken to link SMAT with other relevant indicators in order to test its explanatory power
10	Presentation and visualisation	Various methods of presentation will be used to report on SMAT (tabular, graphical, etc)

Smallholder market access: measuring & tracking

Proposed list of SMAT indicators

Sub-groups	Indicators
Production	• Crop tons/ha • Livestock tons/ha • Livestock product tons/ha • Gross margin/ha
Factor endowment	• Land (ha) • Capital formation (Rands) • Labour (man-days)
Input and output market channels	• Distance to nearest input market (km) • Distance to nearest output market (km) • Access to guaranteed output market (have/not have contract) • Proximity to town (km)
Value addition	• Value addition (add value/does not add value)
Physical infrastructure	• State of road to nearest market (ranking: 1-5) • Storage facility (have/not have on-farm facility) • Cell phone (have/not have cell phone)
Market information	• Market information (have/not have access)
Training and advisory services	• Extension service (have/not have access)

National Agricultural Marketing Council
Promoting market access for South African agriculture

Conclusions

- The SMAT initiative is desirable – there's a gap
- No similar initiative has been done before
- It will have its teething challenges
- The Reference Group will play a major role to guide the process
- The first results (baseline) are expected by March 2017
- The Index will be updated regularly (at least bi-annually)
- It will be used as a tool to communicate with policy makers and other stakeholders

Thank You