



# Zambia's Economic Overview and the Agricultural Sector

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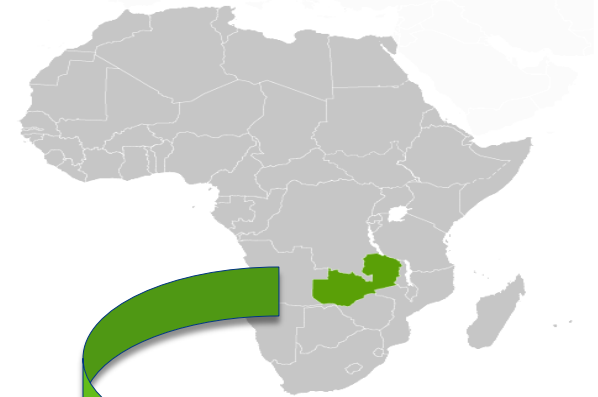
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**Pretoria, South Africa**

# Economic Overview

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- ❑ Size: 752, 612 sq.km (4.5% arable)
- ❑ population: 13 mn. 2010, (60%-in rural areas)
- ❑ GDP: \$ 20bn; > 6% growth p.a. last 5 years
  - ✓ Agriculture: contributes 20% to GDP; employs > 85% of the population
- ❑ Currency: Zambian Kwacha (ZMW)
- ❑ Exchange rate: 1 US D = 5.3 ZMW  
1 ZAR = 0.65 ZMW
- ❑ GDP per capita (PPP) : \$1,700 (2012)
- ❑ Inflation; 6.5% (2012)



Sources: CIA (2013), CSO/FSRP

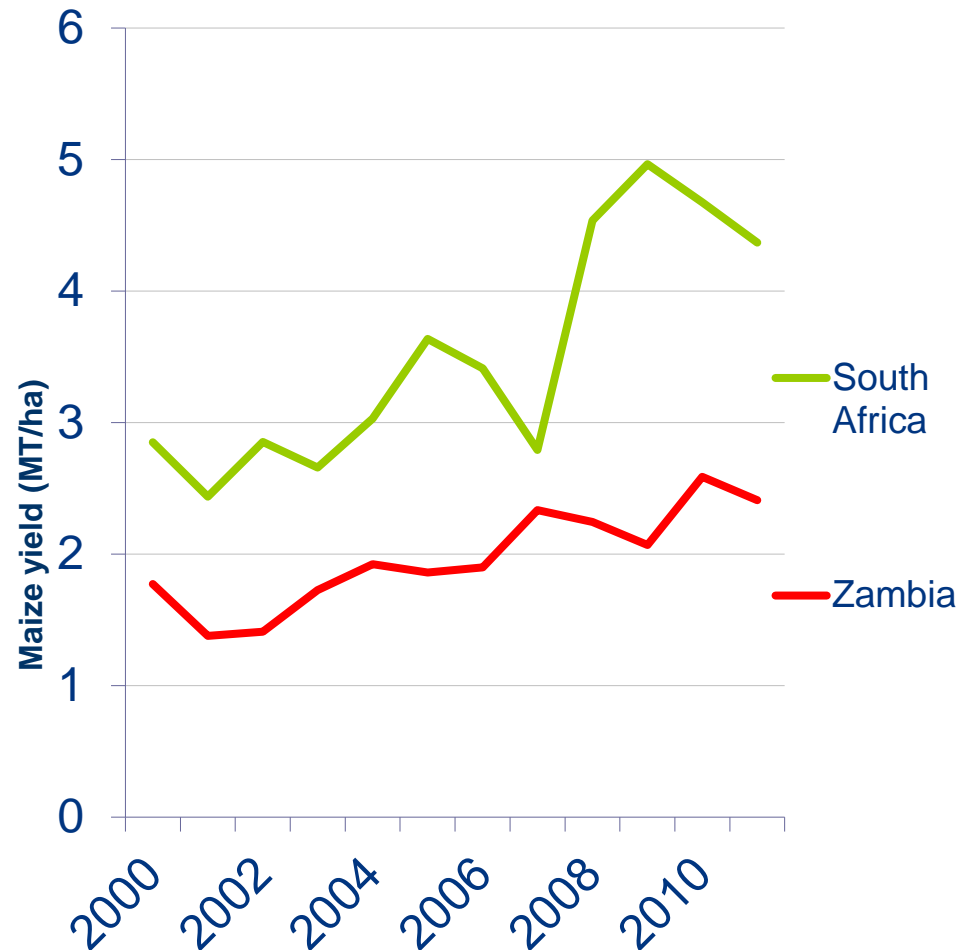
# Agricultural Sector

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□ Dual ag. sector; composed of commercial farmers & smallholder farm households (SHH\*, >1.2million)

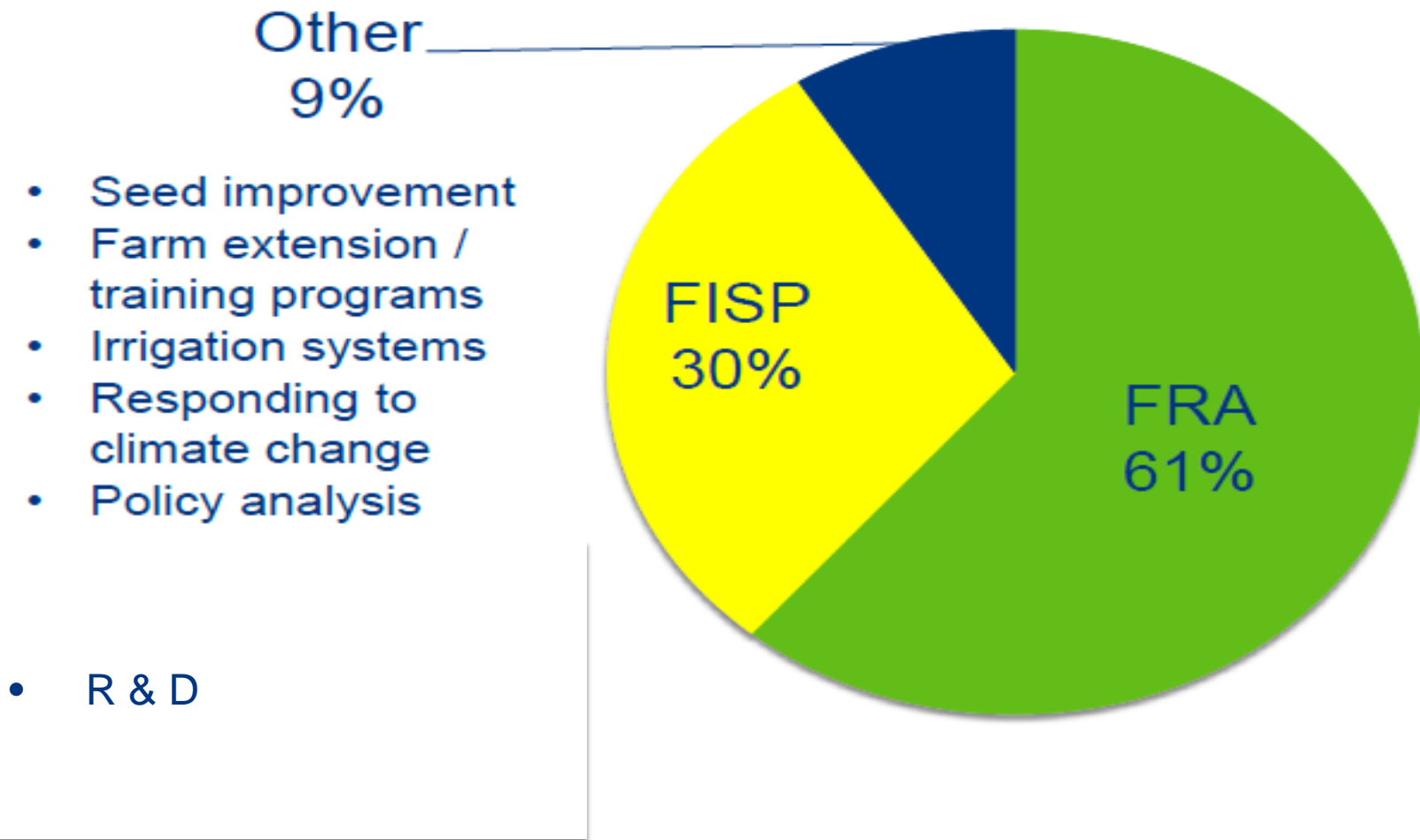
- Maize main staple produced by > 80% of the SHF;
- Production estimated at 2.3 million MT in 2012
- Maize yields average 2 MT/hectare over last 5 years

□ Maize production subsidized by FISP



Source: Mukuka (2013)

# Public expenditures to agriculture in 2010



# Agricultural sector continued

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- ❑ Maize marketing is highly influenced by Food Reserve Agency (FRA)
  - ✓ Sets uniform farm gate prices \$260/MT (e.g. 2012)
    - ✓ > market & regional prices
  - ✓ Buys > 80% of marketed maize
- ❑ Ag. Season Oct –April
- ❑ Marketing season May-Sept



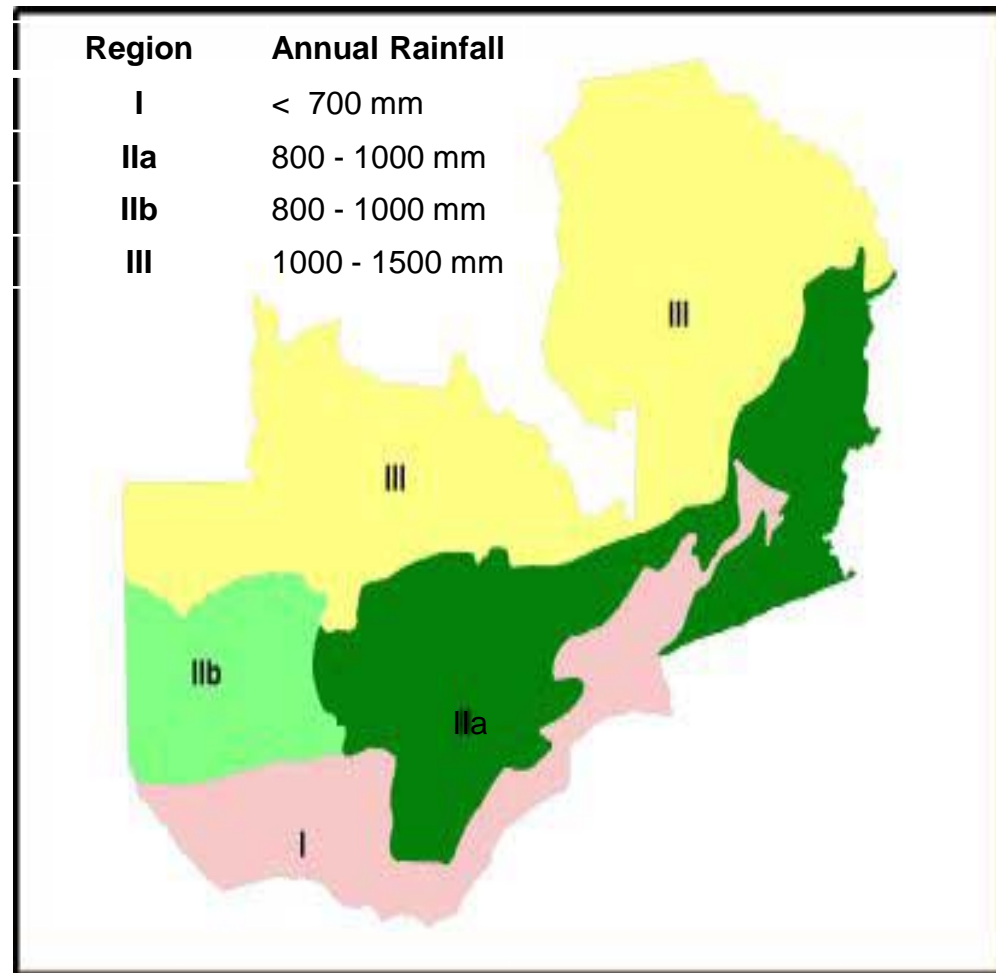
# Maize production areas

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- ❑ Maize production is most suitable to agro-ecological zone IIa.

## Zone IIa characteristics

- ✓ 800-1000mm of rainfall p.a.
- ✓ Ag. Season spans Oct- April
- ✓ Clay soils generally





# Typical Smallholder farmer

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- ❑ Majority own < 2ha of land (64%)
- ❑ Mixed crop and livestock production systems
- ❑ Tillage methods include;
  - ✓ Animal draught power , mechanized & hand hoe
  - ✓ Conservation farming practices are also common
- ❑ Mostly rain fed
- ❑ Majority of land is under customary tenure (89%)
- ❑ Highly heterogeneous SHF



# Disparities within Smallholder Agriculture, 2011

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	N=	Farm size (ha)	Ha farmed (ha)	Gross rev., maize sales (US \$)	Gross rev., crop sales (US \$)
Top 50% of maize sales	78,384 (5.2%)	<b>4.3</b>	3.0	1,620	1,720
Rest of maize sellers	499,530 (33.2%)	<b>3.4</b>	2.0	260	340
Households not selling maize	927,971 (61.6%)	<b>2.2</b>	1.2	0	40

Source: Jayne and Hichaambwa (2013)

Indaba Agricultural Policy Research Institute



# Drivers and challenges of Smallholder Agricultural Productivity growth in Zambia

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## Drivers

Investment in R&D especially by the public sector.

Use of smart subsidies that facilitate private sector participation

Promotion of irrigation technologies

Increased use of improved seed and fertilizers

Highly competitive Maize seed certification and production system

## Challenges

Limited access to inputs; poor targeting by govt. subsidies programs

High dependence on rain-fed agriculture leaves production at risk to weather variability

Limited public investment and expenditure in agriculture R & D

Limited access to extension services among small scale farmers

Focus on maize-centric policies at the expense of crop diversification

Unpredictability of govt. agricultural policies

# Maize Cost of Production

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- There is a dearth of nationally representative Cost of Production (CoP) estimates.
  - ✓ Prompted MACO, CSO & FSRP to use the Crop Forecast Surveys (CFS) for 2009/10 season (targets 13,600 farmers nationally)

Downloadable at <http://fsg.afre.msu.edu/zambia/wp50.pdf>

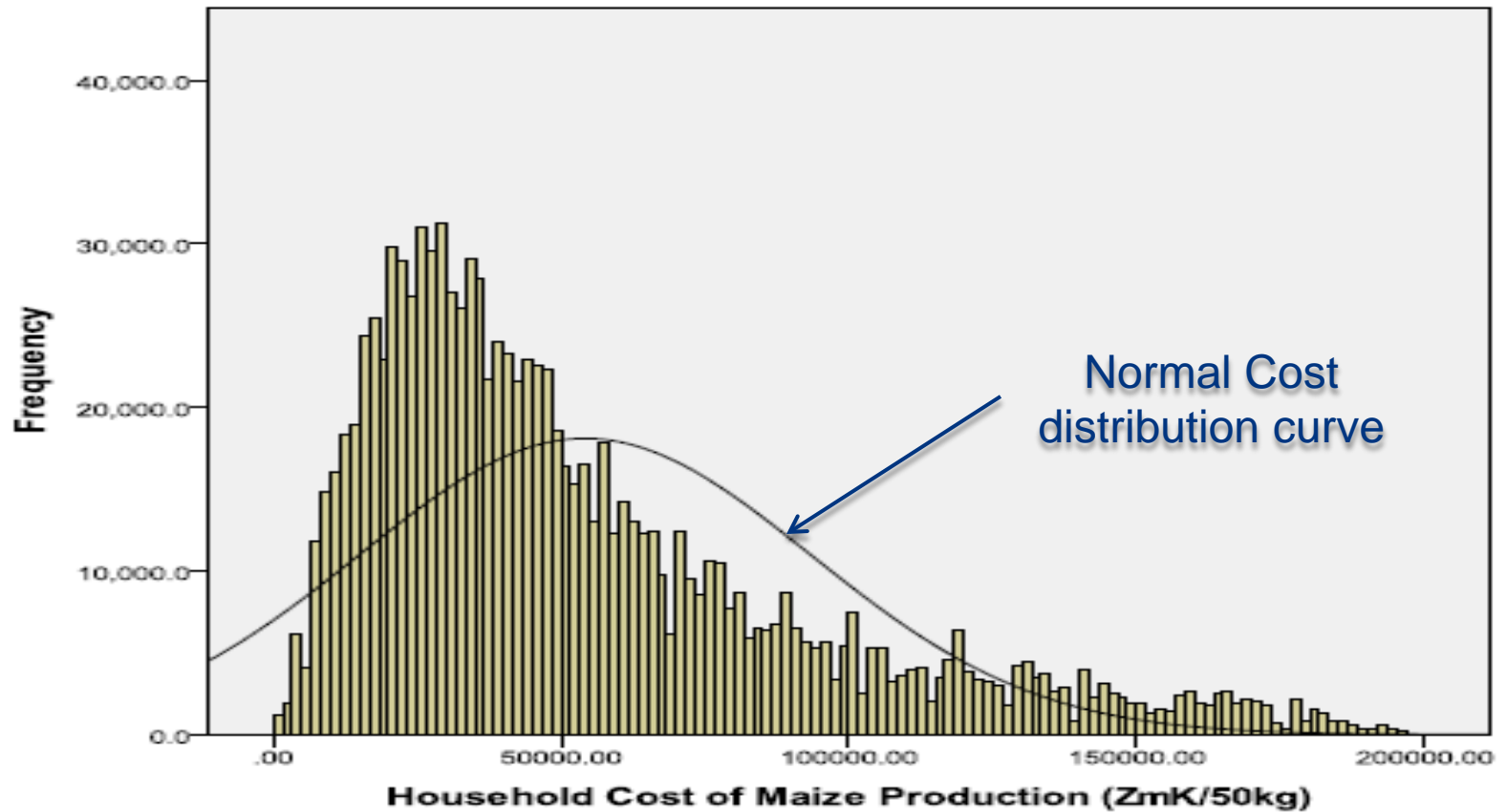
- They estimated;
  - ✓ Cash expenditures for inputs such as hired animals or laborers, fertilizer, seed, herbicides, and transportation
  - ✓ Household costs; own labor, assets etc.
  - ✓ Land value estimated using rental value

# Maize Production Cost by Quintiles for 2009/10 Season

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	Total Cost Quintile (ZMW/50kg maize)			Cost (US \$/MT)	
	1 31.4%	2 27.1%	5 8.7%	farmer mean	Per MT mean
Share of total maize production (%)					
Costs of production (ZMW/50kg)					
Hired animal use	0.28	0.52	1.76	3.57	2.10
Hired machine/tractor use	0.02	0.06	0.10	0.30	0.38
Hired labor	1.49	2.66	6.62	14.85	13.48
Basal dressing	1.31	2.48	4.42	11.50	13.67
Top dressing	1.29	2.59	4.63	12.02	14.02
Fertilizer transport to homestead	0.04	0.11	0.22	0.55	0.76
Transport cost to FRA depot	0.35	0.61	0.21	1.46	2.99
Transport cost to private buyer	0.19	0.37	1.00	2.07	8.02
Herbicides	0.02	0.02	0.05	0.13	0.24
Seeds	1.42	2.84	8.48	16.73	17.39
<b>Total cash expenditures</b>	<b>6.41</b>	<b>12.24</b>	<b>27.48</b>	<b>63.18</b>	<b>73.06</b>
Family labor	8.27	15.38	87.10	139.76	77.43
Own animal use	0.87	1.43	4.29	9.29	9.04
Own machine use	0.04	0.03	0.08	0.14	0.24
<b>Expenditures + household labor and assets (excl. land)</b>	<b>15.57</b>	<b>29.08</b>	<b>118.95</b>	<b>212.36</b>	<b>159.76</b>
Land annual rental	3.36	4.84	15.10	30.66	18.51
<b>Total Cost (incl. land cost)</b>	<b>18.93</b>	<b>33.91</b>	<b>134.06</b>	<b>243.02</b>	<b>178.27</b>

# Distribution of households by Cost of Production



# Conclusions and WAYFORWARD

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- ❑ A unique “cost of production” for all Zambia does not exist
  - ✓ Costs vary regionally, and from farmer to farmer (no two alike)
- ❑ The *BIG* question is

“How do we select representative smallholder farmers that will take into account the heterogeneity across farmers to estimate representative ‘costs’ of producing maize in Zambia?”



# Thank You!!!

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