"*When the tea hits the fan*"

Role of governance and institutions in rooibos and honeybush production systems

Rhoda Malgas

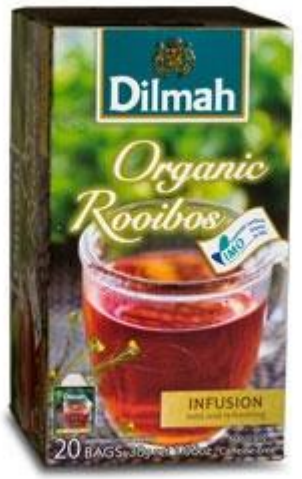
Department of Conservation Ecology and Entomology

Stellenbosch University

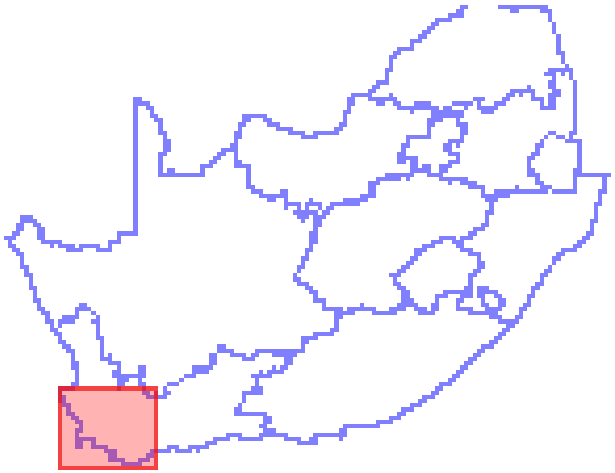
South Africa

@PECS 2015 2-5 November 2015

Rooibos we know and love



Fynbos Vegetation of South Africa



- Fynbos covers about **59 282km2** (5%) of SA's land surface
- It is home to just under **9 000** species, 80% of which is endemic
- Rainfall varies from **200 - 3 000 mm.yr-1**, depending on elevation
- **Winter rainfall area**; western and south western distribution along interior of coastal belts

TOYOTA

Rooibos and honeybush on the map

Unique to South Africa

Endemic to world-renowned Fynbos Biome – biodiversity hotspot *(Dahlgren 1988; Donaldson, 2012)*

Highly adapted to "poor" agroecological conditions *(Dahlgren 1988; Alsopp 1995)*

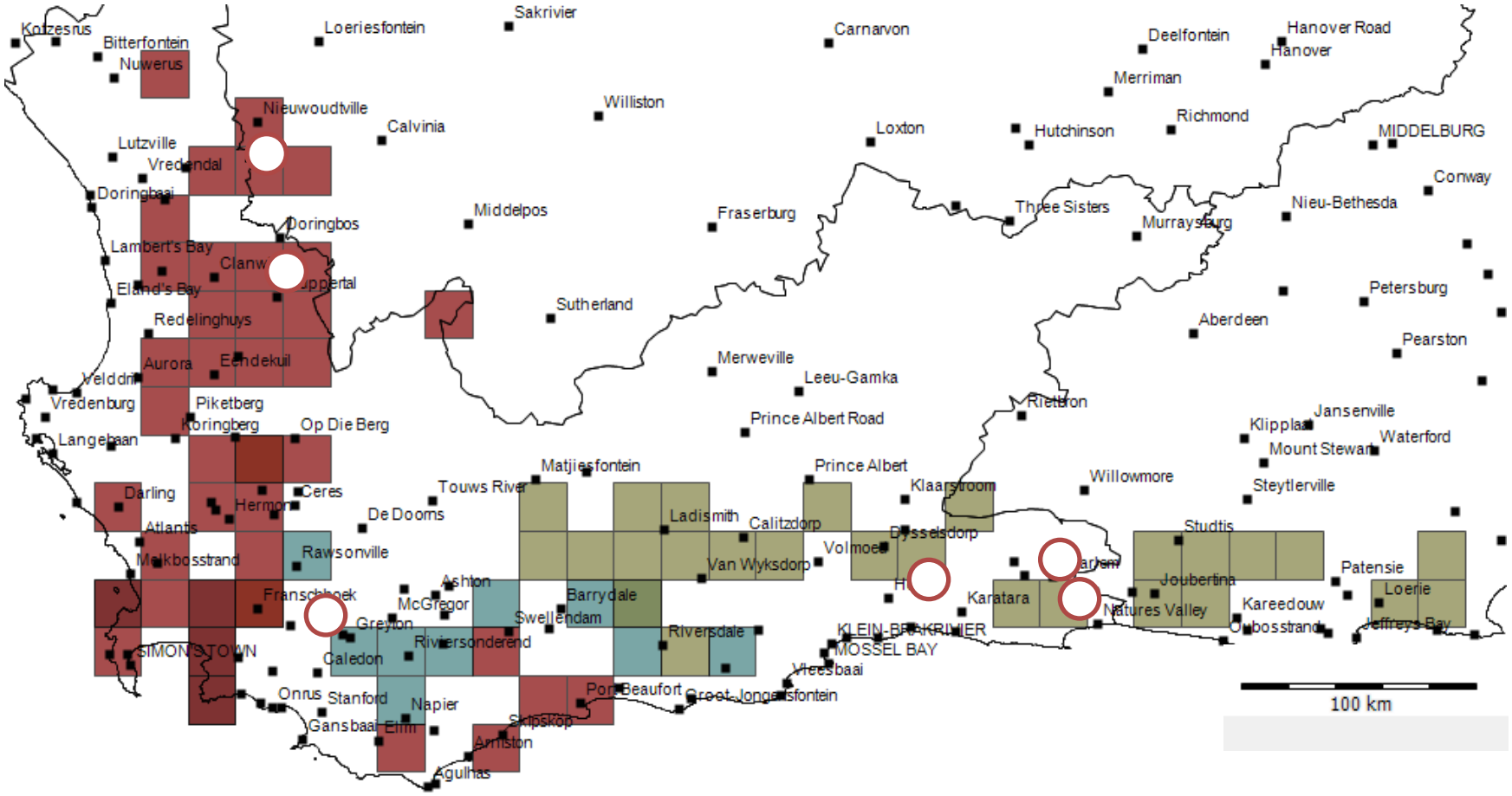
Livelihood options for rural communities *(Koelle, 2012; Van Staden et al. 2008)*

Base product for cosmetic and functional foods *SRC, 2012; Joubert 2012)*

Well known for health-promoting properties *(Joubert et al. 2011)*

Second-fastest growing of four tea subsectors in SA (11.7%) *(Wesgro 2013)*

Natural distribution of rooibos and honeybush in the Cape Floristic Region



Known locations for different ecotypes of rooibos (*Aspalathus linearis*) (red squares) and different species of honeybush (*Cyclopia spp.*) (blue squares; green squares) spanning the CFR across the Northern Cape, Western Cape and Eastern Cape provinces.

Results from previous LEK studies

Species name	Local name	Life history	Location	Wild/cult
A. linearis	Maktee	Rs	Suid Bokkeveld, NC	Cult
A. linearis	Landtee	Rs	Wupperthal, WC	Cult
A. linearis	Bossietee; veldtee	Sp	Suid Bokkeveld, NC	Wild
A. linearis	Rankiestee	Sp	Wuppethal, WC	Wild
A. linearis	Langbeentee	Rs	Wupperthal, WC	Cult
A. linearis	Boomtee	Sp	Wupperthal, WC	Wild
C. maculata	Vleitee; bergtee	Rs	Genadendal/ Greyton (WC)	Cult; wild
C. genistoides	Kustee	Sp	Agulhas Plain (Elim/Bredasdorp) (WC)	Cult; wild
C. subternata	Vleitee	Rs	Langkloof (WC/EC)	Cult; wild
C. intermedia	Bergtee	Sp	Langkloof (WC/EC)	Cult; wild

Production schedule – rooibos vs honeybush

RB	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Ma	Apr	May	Jun	Jul
Yr1	Plant	Weed	Thin	Weed	-	Pests	Pests	Pests	Pests	-	-	-
Yr2	Top	Top	Top	-	Harv (cult)	Harv (cult)	Harv (cult)	Harv (wild)	Harv (wild)	-	Soil prep	Soil prep

HB	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
Yr1	Plant	Maint	Maint	Maint	Maint	Pests	Pests	Pests	Pests	-	-	-
Yr2	Harv	Harv	Harv	Harv	Harv	Harv	Harv	Harv	Harv	Harv	Harv	Harv

•Plant – either from seed or with seedlings
•If planted from seed – seed scarification to remove hard seedcoat (done in various ways)
•If seedlings planted – sometimes root is cut

•Topping – removal of the apical stem of year old plants to encourage lateral growth (areal biomass growth becomes more dense). Dependent on rainfall – during a wet winter, wait for drier conditions to avoid fungal infection.

•Harvesting of cultivated rooibos – mid-summer; harvesting of wild rooibos – late summer to early autumn; Honeybush: throughout the year

Common challenges

- Agroecological conditions for rooibos and honeybush production are geographically limited to species' habitat zones *(for rooibos, see Lotter and le Maitre, 2014; for honeybush see Joubert et al. 2011)*
- Rooibos production tripled in one decade from 1997, with 40 000ha under cultivation by 2007 *(Waarts and Kuit, 2008).*
- Rooibos production identified as a major threat to biodiversity in the production region *(Raimondo et al., 2009)*
- Increased concerns over the unsustainable harvesting and management of wild honeybush populations *(Du Toit, 1998; Joubert et al. 2012)*,
- and limited knowledge support for sustainable production *(pers. comm., Van der Merwe, S. and Fereira, G., 2013)*

Typology of honeybush and rooibos producers

Large-scale	Small-scale	Wild harvesters
• Between 200 – 6 000 ha • Usually closer to town centres • About 300 farmers • Usually secure land-tenure	• Between 0.5 – 200 ha • Usually remote areas • About 250 farmers • Usually insecure or variable land tenure	• Highly variable land tenure (usually not land-owners) • Some are small-scale farmers themselves • Communal

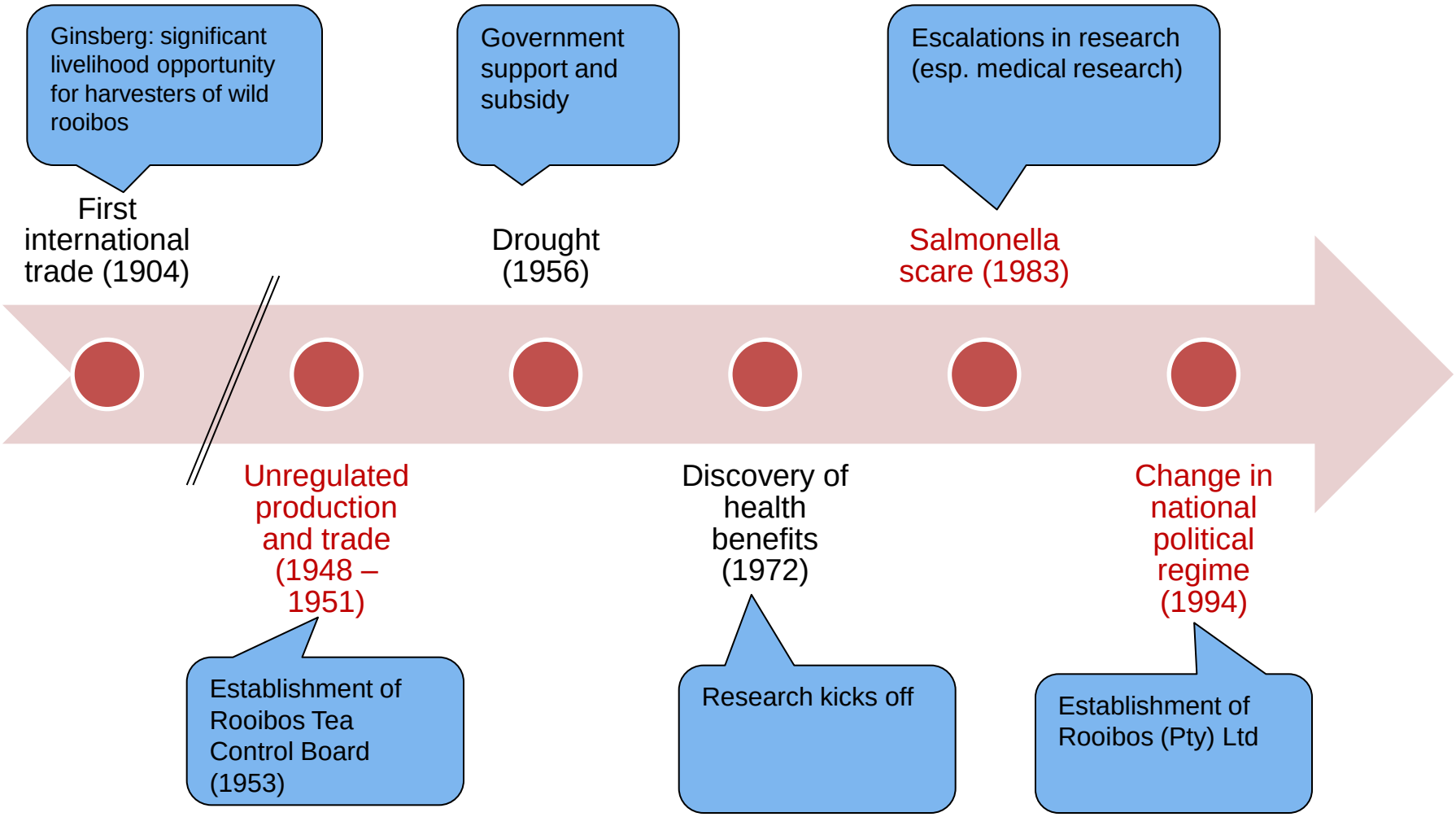
A tale of two industries

Table 1: Comparison between rooibos and honeybush sectors

Industry characteristic	Rooibos	Honeybush
Commercial use of wild harvested material	Since 1904 (Morton, 1983)	Unknown
Cultivation trials	Since 1930's (Stassen, 1989)	Since 1980's (De Lange, 1994)
Establishment of regulatory body	1953 (Rooibos Tea Control Board)	2003 (South African Honeybush Tea Association)
Research focus	Health properties, medical research, cultivation, niche marketing (Bek), limited focus on ecology (Malgas et al., 2010; Hawkins et al.,, (2011)	Health properties, medical research, flavour, Agronomy (Mgocobolo et al., 2013); limited focus on ecology
Certification	Organic, fair-trade (Van Oord, 2014)	Organic; fair-trade (Van Oord, 2014)
Estimated number of large-scale commercial farmers	350 – 550 (DAFF, 2012a; Waarts and Kuit, 2007)	23 (DAFF, 2012b; Hortgro, pers. Comm.)
Number of commercially used species	1 (*Aspalathis linearis*) (Malgas et al. 2010)	4 (*Cyclopia intermedia; C. genestoides, C. maculata, C. subternata*) (Joubert, 2012)
Estimated annual production	12 000 tonnes (DAFF, 2012a; STATS SA, 2011)	139 - 220 tonnes (DAFF, 2012b; Pers. Comm. Bunting-Venter, 2014)
Estimated area under cultivation	79 000 ha (Pretorius, 2009)	230 ha (DAFF 2012b)
Estimated area of wild population distribution	3 000 ha (DAFF, 2012a)	< 48 000 ha (Pers. Comm. Reeves, 2013)
Estimated complement of wild harvested biomass	2 – 5% (Oettle, 2012)	70 – 80% (SAHTA, 2012)

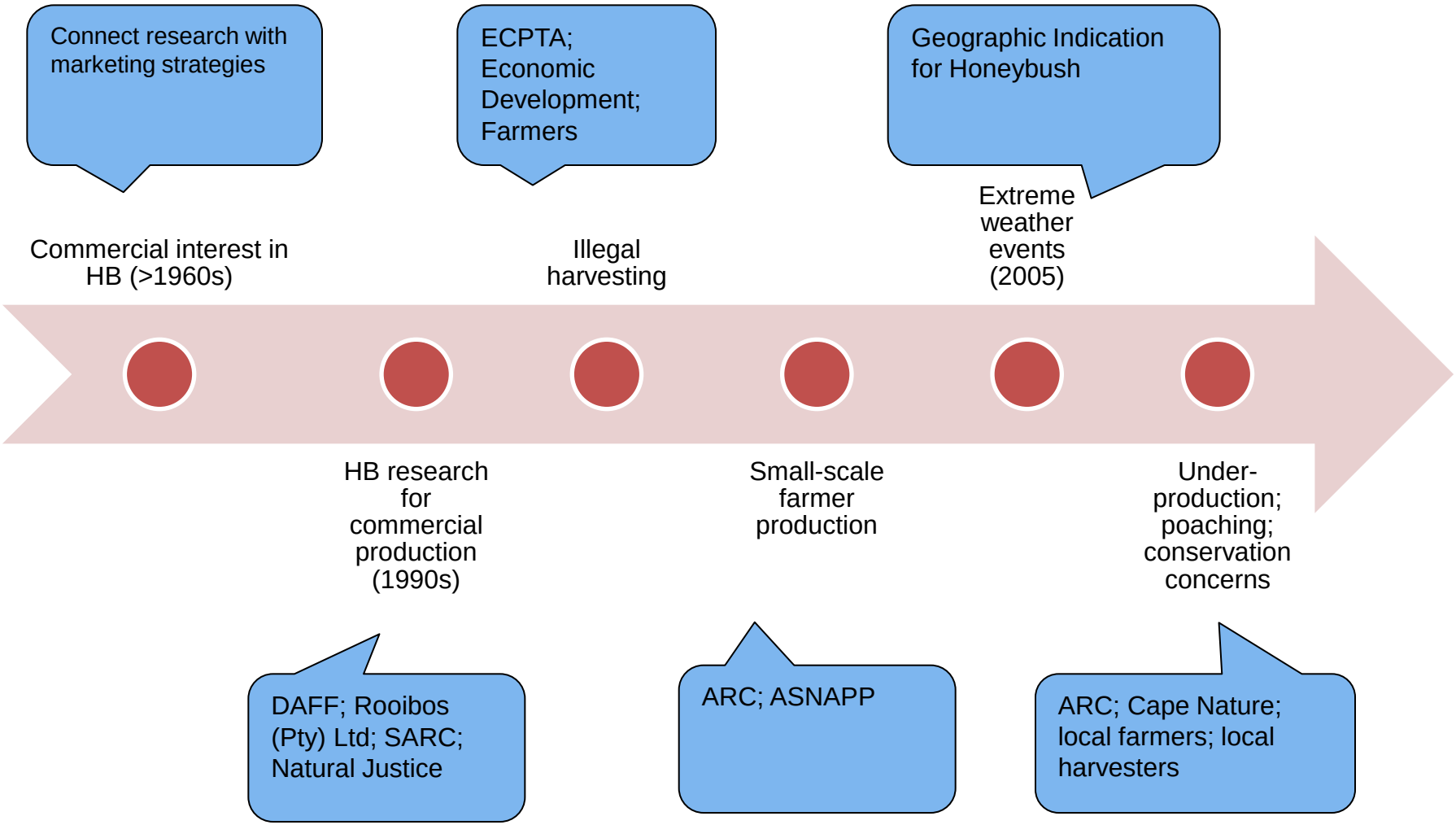
* The history of the use of the teas amongst indigenous peoples of SA and their descendants are also similar. See Morton, 1984 and Du Toit, 1998 for comparisons between HB and RB traditational production practices.

When the tea hit the fan: historical shocks and surprises for rooibos



Cheney and Schultz (1963); Morton (1982); Joubert et al. (2011)

When the tea hit the fan: recent shocks and surprises for honeybush



Cheney and Schultz (1963); Morton (1982); Joubert et al. (2011)

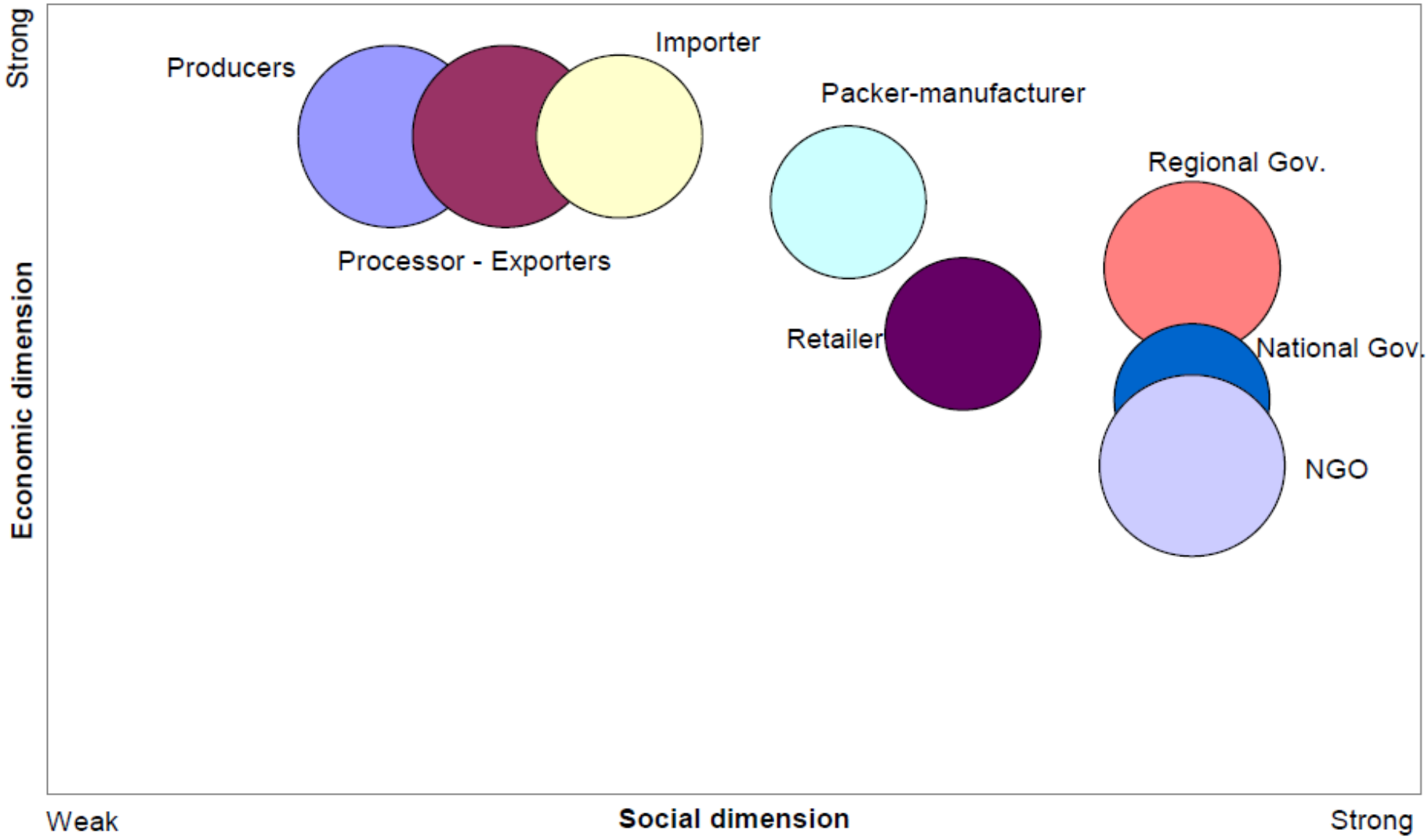


Figure 4: Bubble chart represents a qualitative estimate of stakeholder positions with regard to social, economic and environmental aspects of sustainable Rooibos production. Estimates are based on information gathered from interviews and positions from stakeholders in comparable value chains. A strong position on social or economic issues, relative to other stakeholders, indicates that this stakeholder is likely to put more emphasis on such issues than the others with a lower ranking. Larger bubbles represent more emphasis on environmental issues relative to other stakeholders and vice versa.

Institutional stakeholders

Table 1: Comparison between institutional stakeholders in the RB and HB sectors

Stakeholder institutions	Rooibos (Western Cape/Northern Cape)	Honeybush (Western Cape/Eastern Cape)
Producer (land-owners with access to wild plants)	Wild harvesters; small-scale farmers; large-scale farmers;	Wild harvesters; illegal wild harvesters; communal farmers;
Processors	2; well regulated	6; not regulated
Retailers	Supermarket chains; spaza shops; speciality shops; online orders	1 Retailer; local shops; speciality shops
Importers	One world shops; retail stores	One world shops; retail stores
National government	Agricultural Research Council (ARC); South African Rooibos Council (SARC); Rooibos (Pty) Ltd; Stellenbosch University; Right Rooibos Initiative; GCBC	Agricultural Research Council (ARC); South African Honeybush Tea Association (SAHTA); Stellenbosch University; NBI
Provincial government	Trade and Industry (DTI); Agriculture Forestry and Fisheries (DAFF); Prov. Depart Agriculture; Cape Nature; GCBC;	Trade and Industry; Depart Agriculture
Local government	WESGRO; DEADP (economic development & tourism); Cedarberg Municipality	WESGRO; ECPTA; Prov. Eden Local District Municipality;
NGOs	Indigo development & change; EMG; ASNAPP	ASNAPP; EMG

Concluding thoughts

- Fynbos knows no (socially constructed) boundaries: how do small-scale farmers contend with governance across provincial borders, municipal boundaries, tenure arrangements and climate variability?
- Decentralisation of resource management to local communities does not necessarily result in a tragedy of the commons - but only works where strong governance exists; this is not resource dependent.
- What about local networks and governance structures? How do they connect? What do they have to offer?
- Governance of species for livelihoods is topical in light of the latest provincial Biodiversity Economic Strategy (BES). ***Can a SES lens help?***

Good seeds for the Anthropocene... from the Fynbos?