

A Preliminary Assessment of the harvest impact on the medicinal plant *Pelargonium sidoides* (DC) in South Africa and Lesotho.

- Although a large industry little known about the impact of harvest on survival of species.
- Aim of assessment was to gather baseline data to assess harvest risk



Methodology

- Early on found that there are no management plans for harvest
- This study hence was not a detailed resource assessment but concentrated on gathering specific data that allowed assessment of harvest risks
 - Adaptive research methods



Training and Support

- In some cases no training in harvest or post-harvest treatment provided – wastage occurs, decreasing price, increasing harvest
- In other cases basic training provided e.g. preventing fungus infections.



Socio-economics

- History of traditional use – exists for treatment of stomach complaints
- Volume of traditional use - low compared to export trade
- Multiple uses, indicating extra harvest – yes, local use and export trade.
- Existence of traditional harvest techniques – Very little but in main has had ltd impact due to low harvest.



Compare local use of 1 or 2 roots at a time vs. commercial collection

Life History

- *P. sidoides* is a long-lived species that reproduces by seed and cuttings.
- Little known about reproduction from seed, but,
- Re-sprouting in wild and storage bags is strong if kept under conditions not leading to dehydration.



Confiscated plants resprouting in police custody

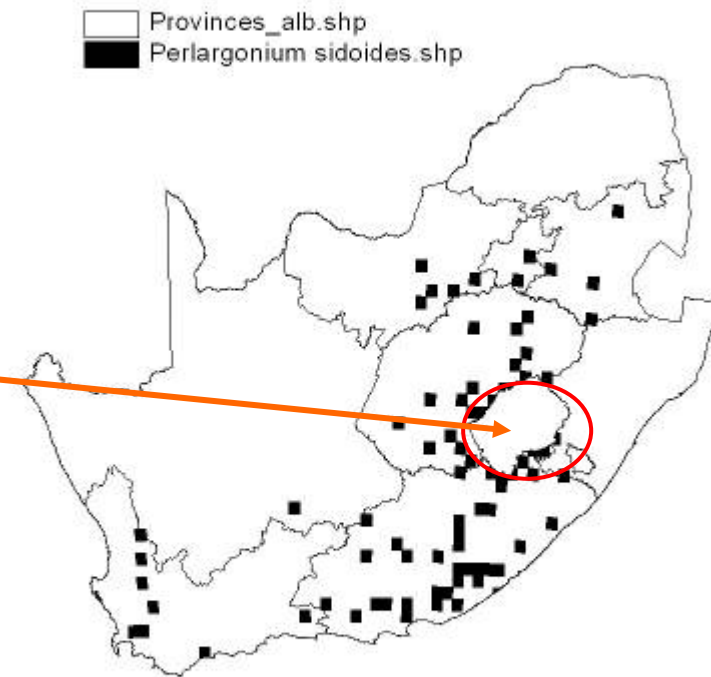
Ecological adaptability

- *P. sidoides* appears highly adaptable in:
- Variety of soil types – sand to clay and stoniness,
- Range of temperatures from direct sun to snow, and
- Rainfall from 200 to 800mm/ annum.



Population status and Distribution

- Unknown population levels.
- Wide distribution throughout South Africa and Lesotho but little known about latter country.



Importance of Plant Part used

- Only ligneous root/ underground stem used for traditional and commercial medicine.
- Mainly destructive harvesting in wild



Pickaxe used to tear root out of hard clay soil



Regeneration Ability and Potential

- Although most of the root and underground stem is removed, resprouting occurs within two weeks to one year depending on growth season.



**Two stems regenerating from remnant stems/ rootstocks.
Hole created by harvest is clearly visible**

Legal means vs. actual protection

- All harvest of South Africa at time of study regarded as illegal I.t.o current laws.
- Illegal harvest continues and no formal monitoring.
- All harvest in Lesotho regarded as illegal and no form of monitoring



Approximately one ton confiscated *P. sidoides* at Alice Police Station

Positive ID of Target Species

- Clear ID for accurate assessment of harvest impact
- This sounds obvious, but in this case there are two species that look very similar and are harvested interchangeably, namely:
 - *P. sidoides*, and
 - *P. reniforme*



Volume of Material Harvested

- Volume harvested in SA based on estimates
- Volume harvested in Lesotho unknown
- Volume traded in Europe largely undocumented

Source	Wet Volume <i>P. sidoides</i> (kg)	Wet Volume <i>P. reniforme</i> (kg)	Total Wet Volume (kg)	Total Dry Volume (kg)
Traditional healers	-	288	288	
Extrapolated from Harvester data	37,800	4,200	42,000	14,000
Extrapolated from Trader interviews.	9,000	1,000	10,000	3,300
Extrapolated from Factory owner transport data.	43,200	4,800	48,000	16,000
Exports of 50,000 kg (dry weight) reported by factory owner as exports over three years.	45,000	5,000	50,000	16,700
Extrapolated from confiscated material, Alice Police Station.	28,800	3,200	32,000	10,700

Lessons Learned

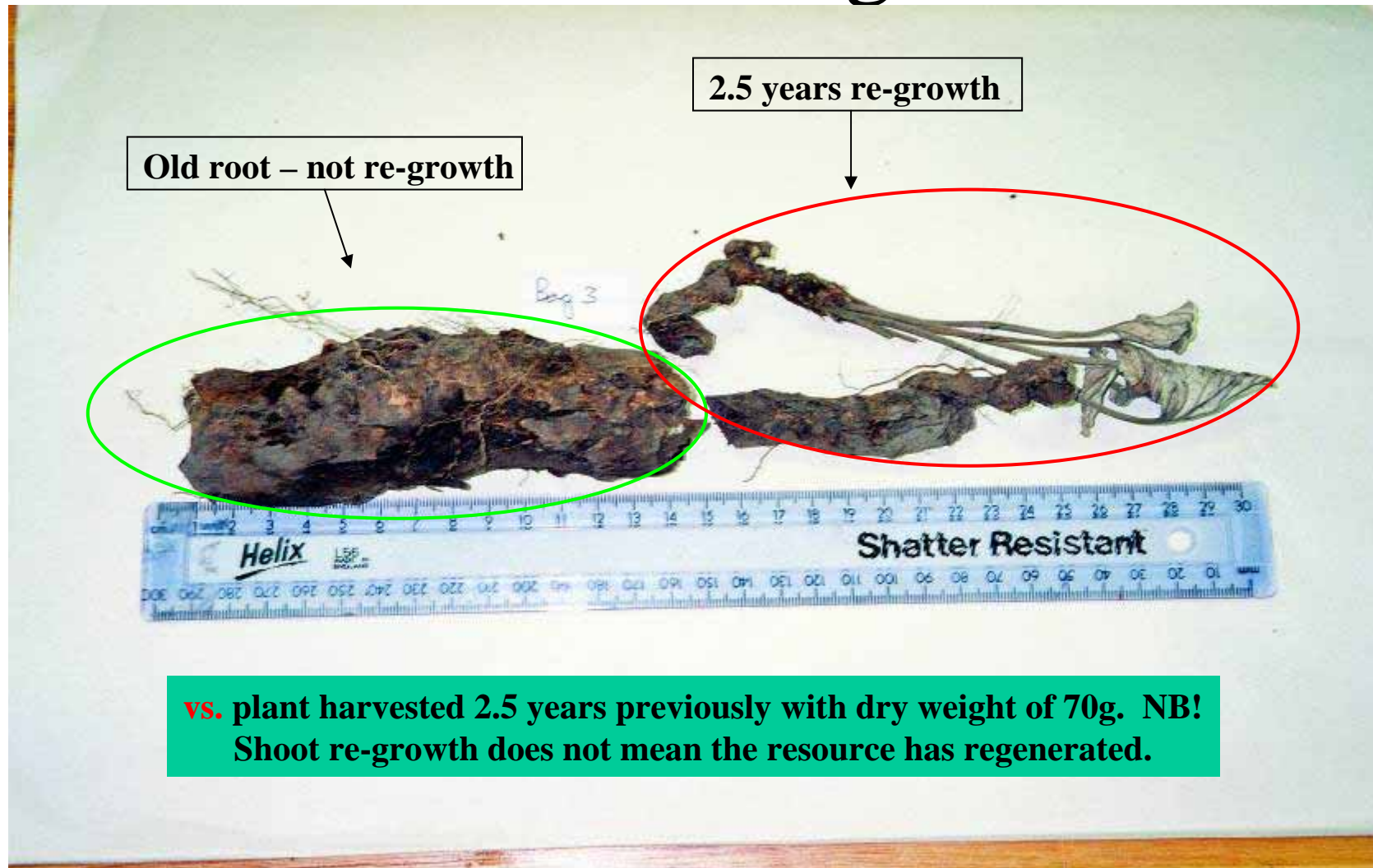
At Resource Level:

- Flexible or adaptive methodology to enable gathering of basic data pertinent to measuring impact of harvest and to enable management and future research decision-making.
- In this manner ID'd re-harvest as issue



Grahamstown commonage – plant 1st
time harvest (158 g dry weight) **vs.**

Lessons Learned – Return harvesting



Lessons Learned – Management and Monitoring

- Monitoring – Survey of EU trade volumes for comparison to harvest data.
- Establishment of monitoring and management structures in SA and Lesotho



More systematic monitoring required