Bush to Feed Opportunity: A Techno-Economical Technology Review

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BUSH RESEARCHER

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- Factors impacting Techno-Economy of bush feed:
- Season of bush feed production
- Milled bush quality
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What is bush to feed?

- Biological Expense

- Biological Profit

Factors impacting Techno-Economy of bush feed

Milled bush quality

- Wet/Dry

Season of bush feed production

Productivity variables

- Number of operators

- Type of machine

Tested machine example (JF 2D)

Type of bush	Number of operators	Time operated	Throughput measure (kg/h)	Estimated fuel consumption (l/h)	Total mass-produced (kg)
Gabba Bush	2	85 minutes 44 seconds	38.52	0.7	55
Acacia mellifera	1	44 minutes 24 seconds	27.42	1.01	20.3

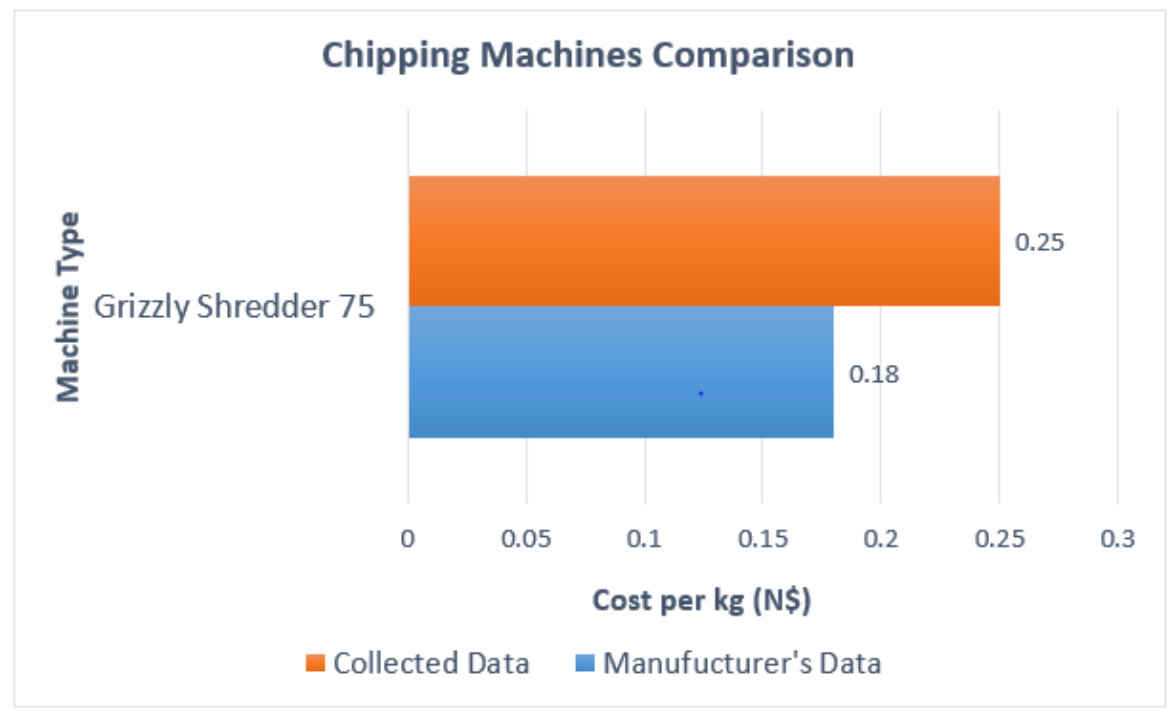
Productivity and machine maintenance

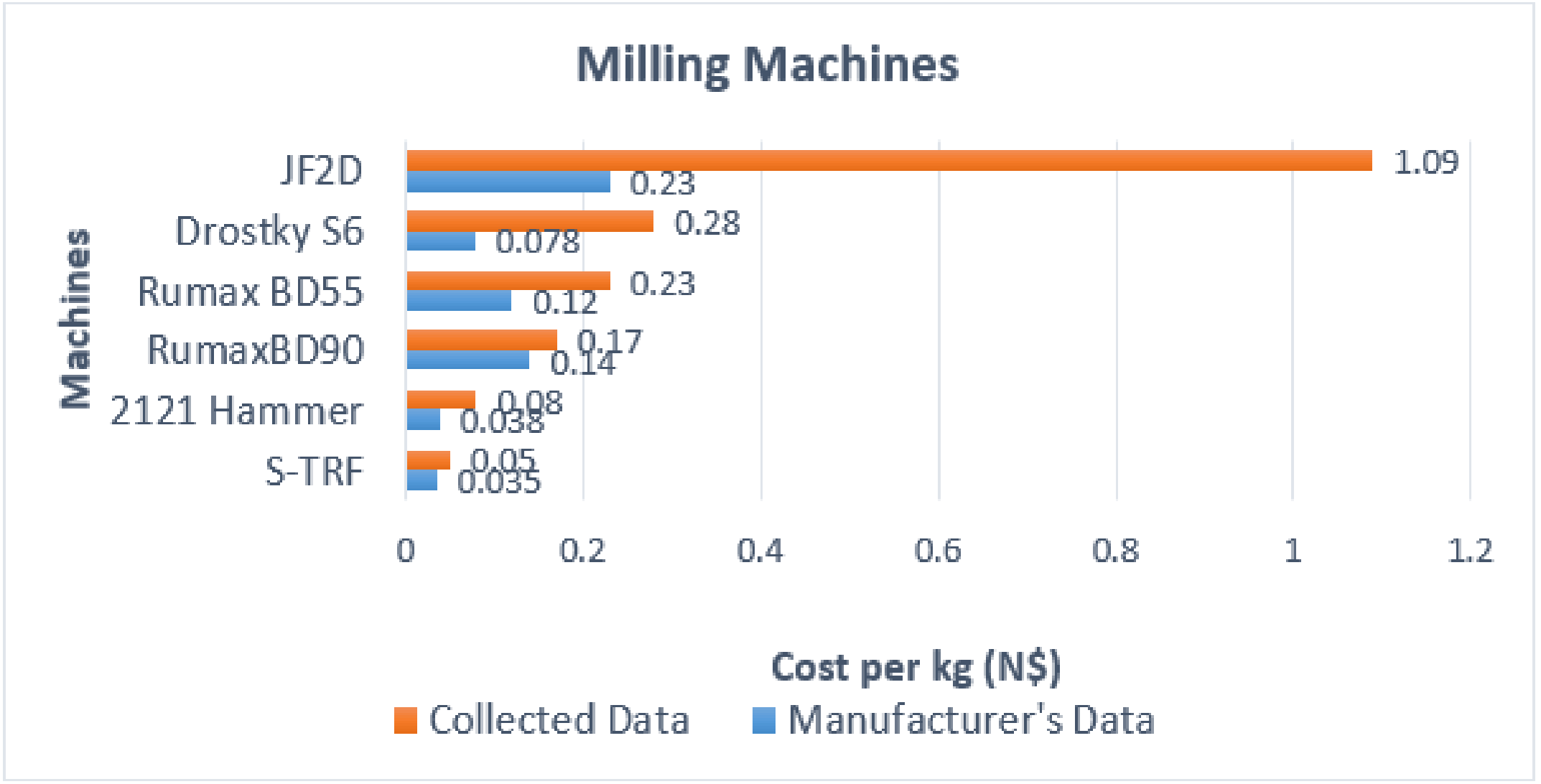
Farmers are advised to purchase machines that yield higher bush feed volumes with minimum operational costs.

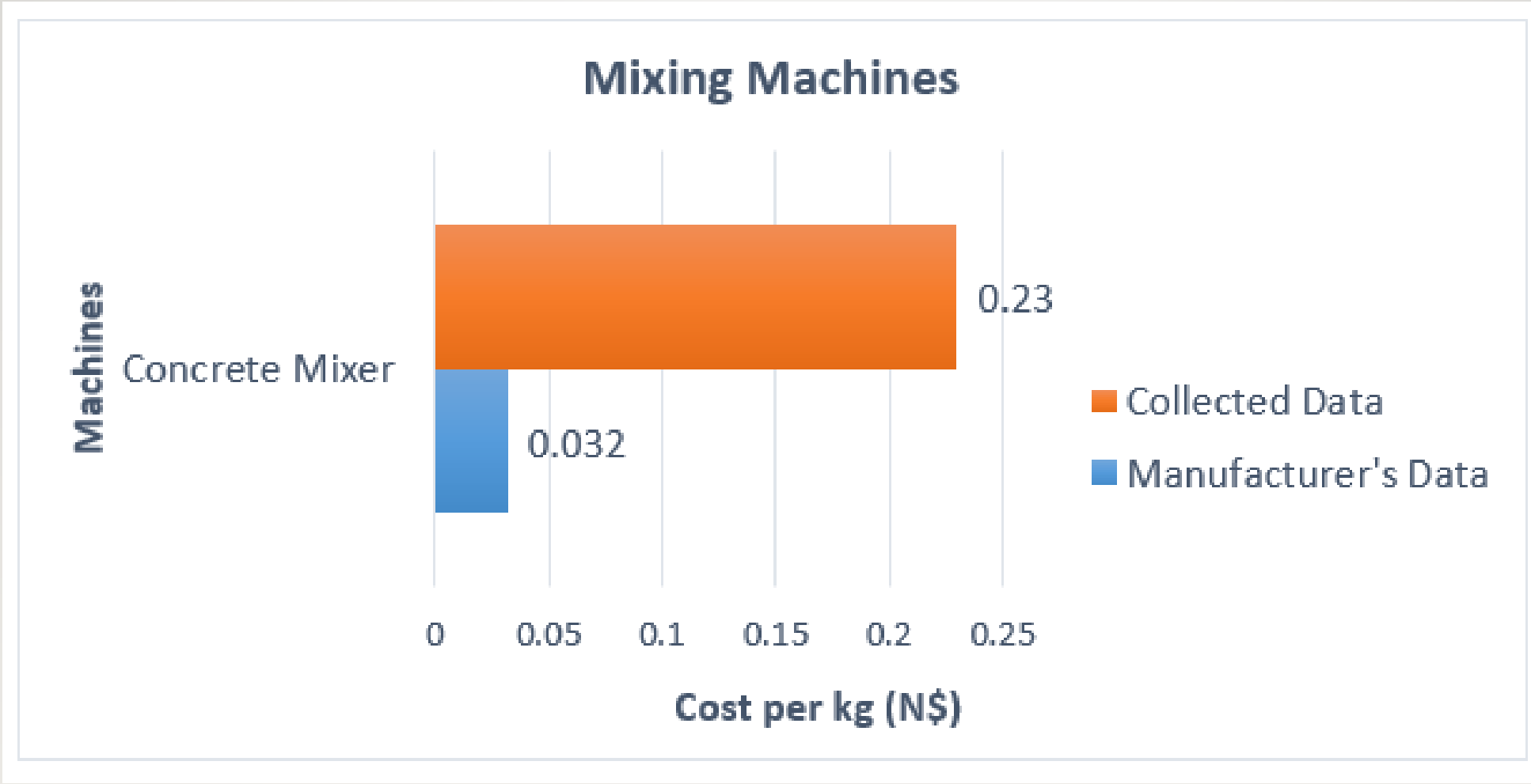
- Oil change and lubrication cost
- Labour
- Fuel cost
- Blades replacement cost
- Capital cost (machine price)

Machine selection: $\frac{Price\ of\ machine}{Bush\ Feed\ Volume\ Produced\ in\ 8\ Hours}$

Comparison between collected data and manufactures data




Milling Machines
Machines
JF2D
Drostky S6
Rumax BD55
RumaxBD90
2121 Hammer
S-TRF
1.09
0.23
0.28
0.078
0.23
0.12
0.17
0.14
0.08
0.038
0.05
0.035
0
0.2
0.4
0.6
0.8
1
1.2
Cost per kg (N$)
Collected Data
Manufacturer's Data


Mixing Machines
Machines
Concrete Mixer
0.23
0.032
Collected Data
Manufacturer's Data
0
0.05
0.1
0.15
0.2
0.25
Cost per kg (N$)

Conclusion

- ✓ Due to a change in rainfall patterns, farmers can no longer rely solely on grass.
- ✓ Namibia has unlimited supply of woody biomass.
- ✓ This can provide food security for animals and a relatively low cost.
- ✓ Results from the techno-economic study can be used by farmers informed decisions.


Thank You!