

Community Health and GIS: Using GPS and GIS for Fetal Alcohol Syndrome Education and Outreach in the Bergriver Municipality in the Western Cape, South Africa

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Map Africa 2010

Acknowledgements

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- Research Team: Di-anne Oktober; Elmarie Nel, Medical Research Council; Nontobeko R. Jacobs ,University of Cape Town School of Public Health and Family Medicine; Adlai Davids, Human Sciences Research Council; Dr. Kirstie Rendall-Mkosi, University of Pretoria School of Health Systems and Public Health; Dr. Leslie London, University of Cape Town School of Public Health and Family Medicine .

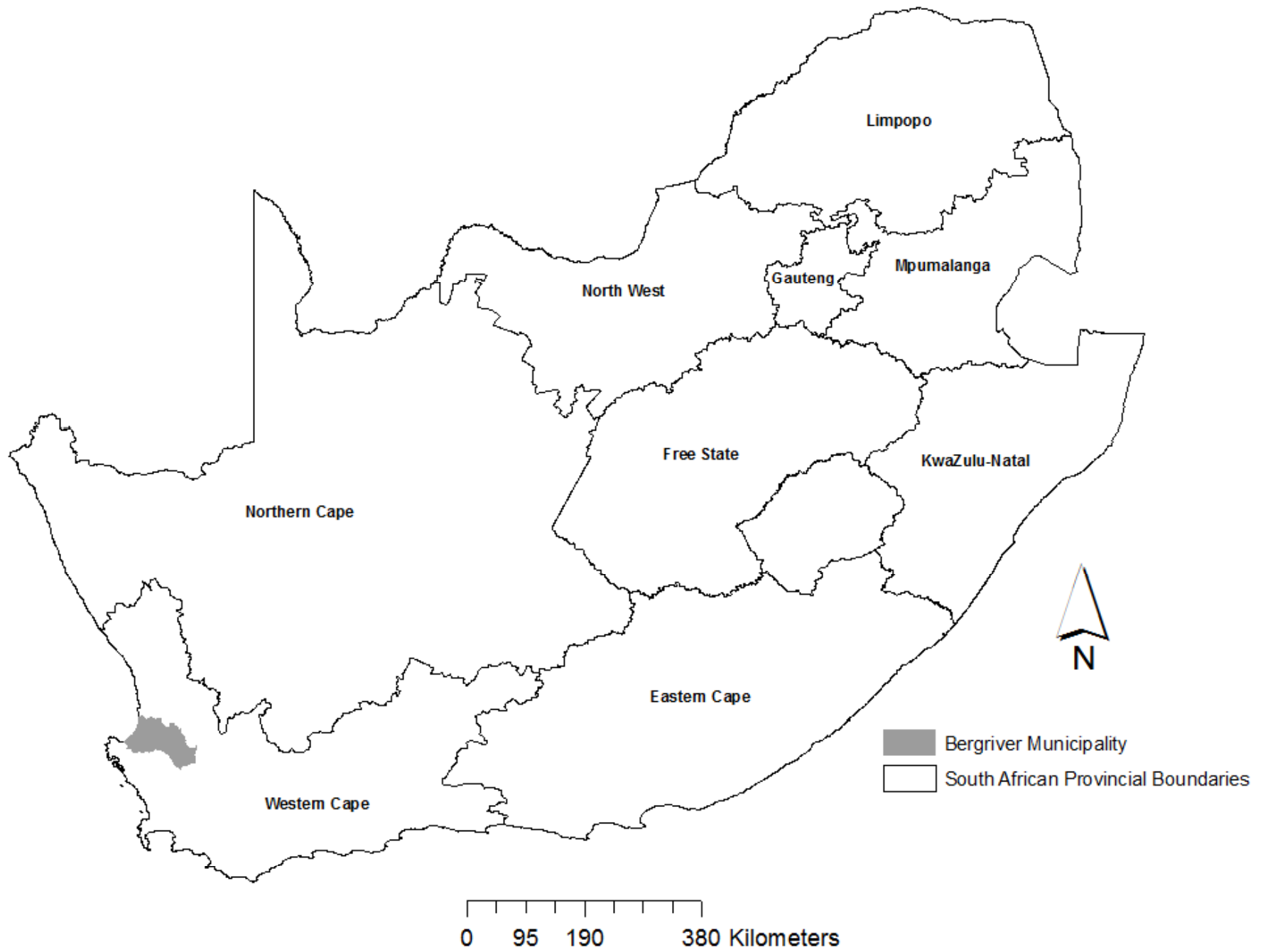
At any given time 500,000 South
Africans are suffering from Fetal
Alcohol Spectrum Disorders*

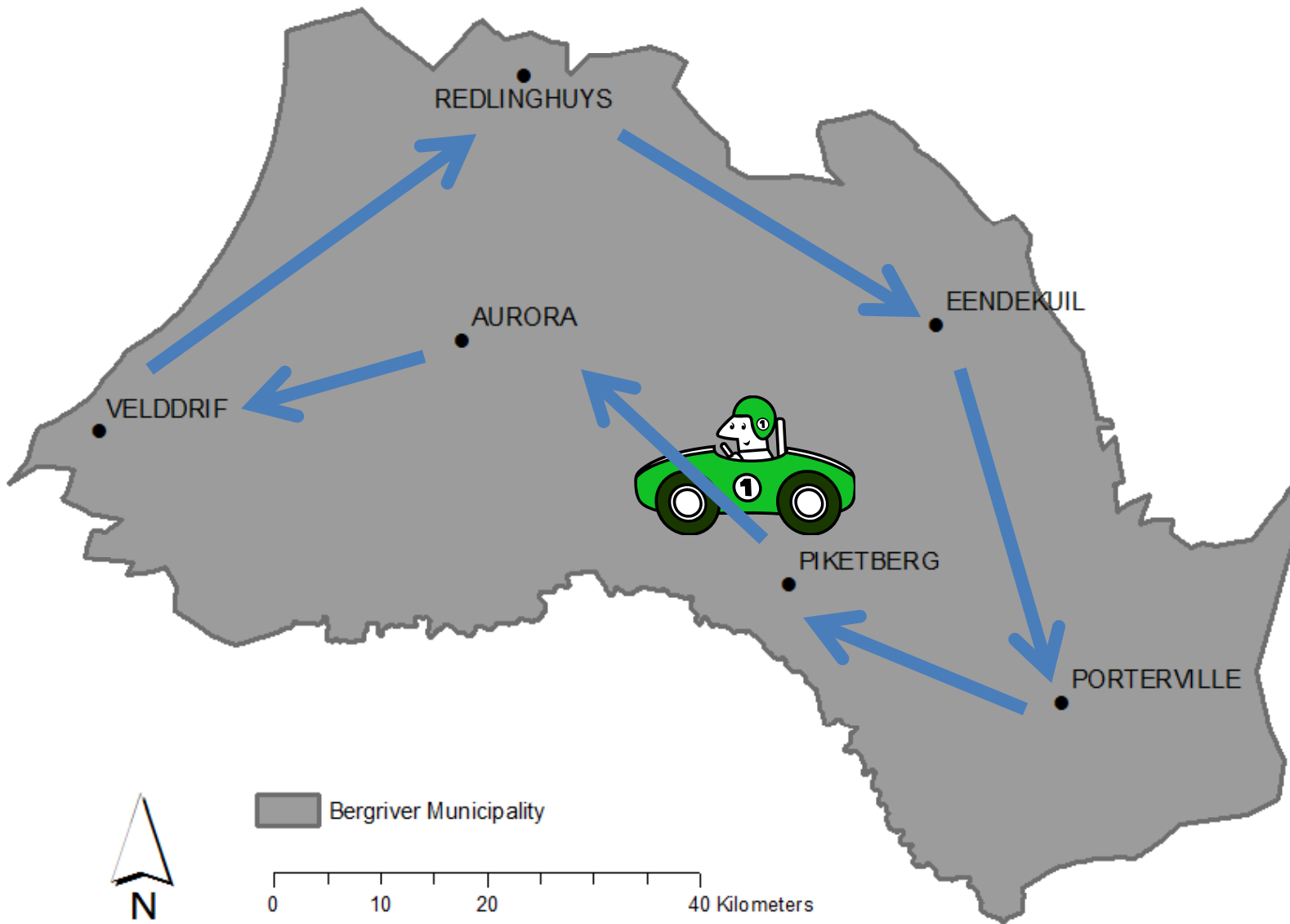
*Viljoen 2006

Purpose

- Map legal and illegal alcohol vendors in the Bergriver Municipality.
- Use data to support the association between alcohol accessibility as an indicator of consumption and FAS.
- Use data to analyze the Western Cape Liquor Act, No. 4 of 2008.

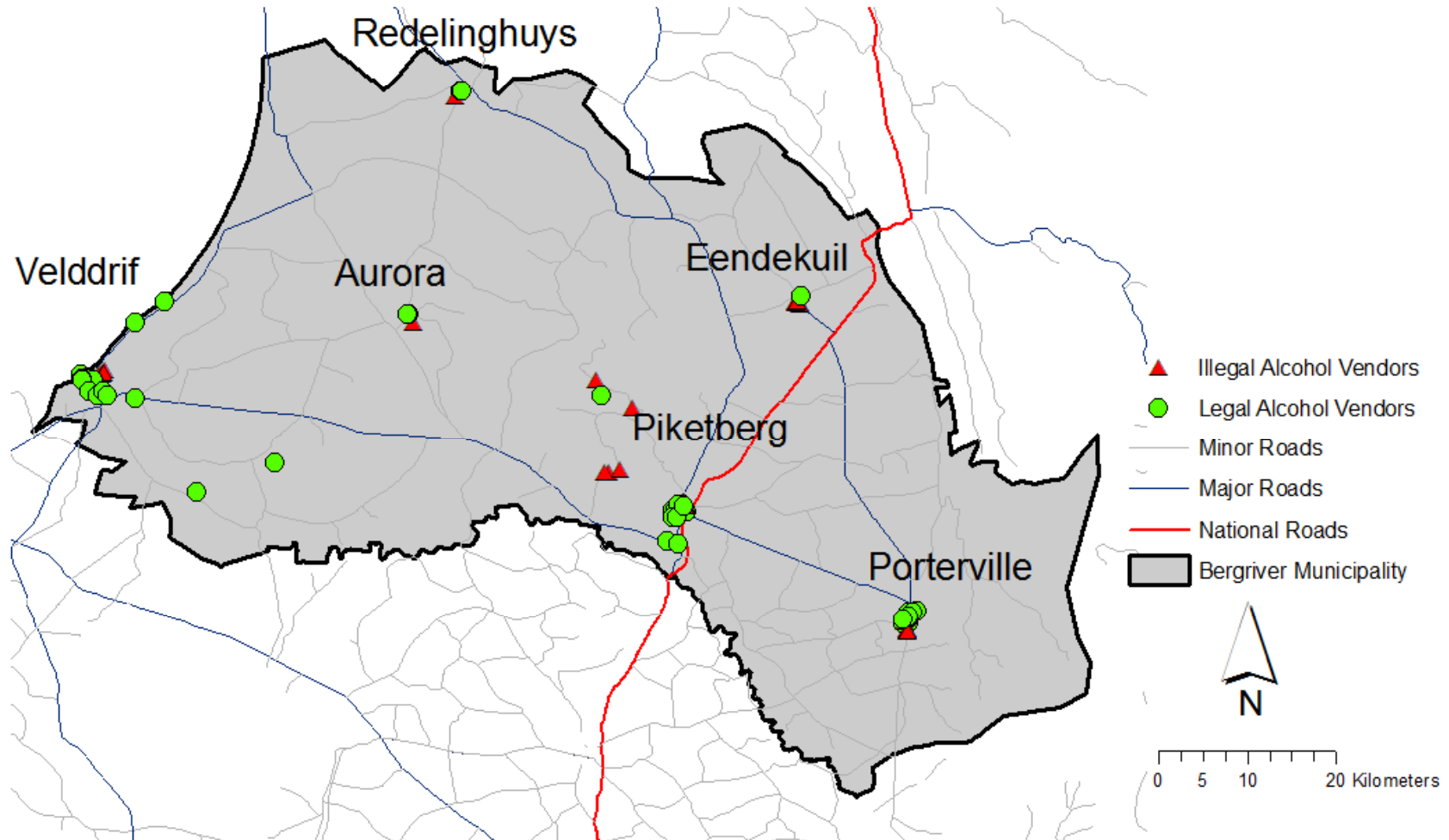
Methodology

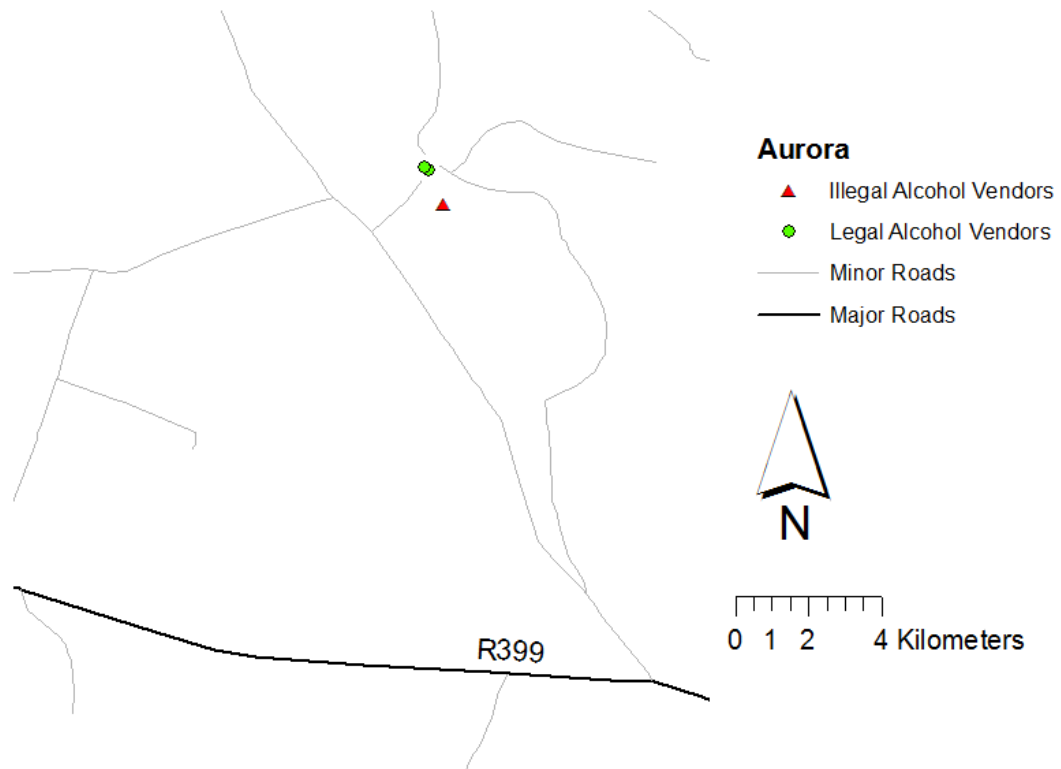
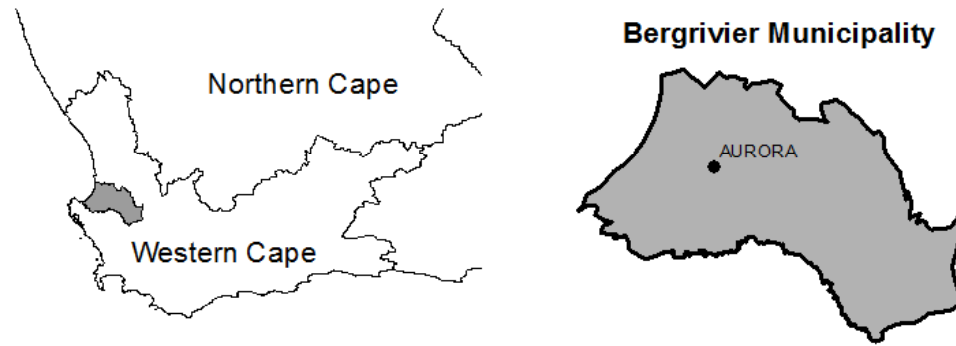


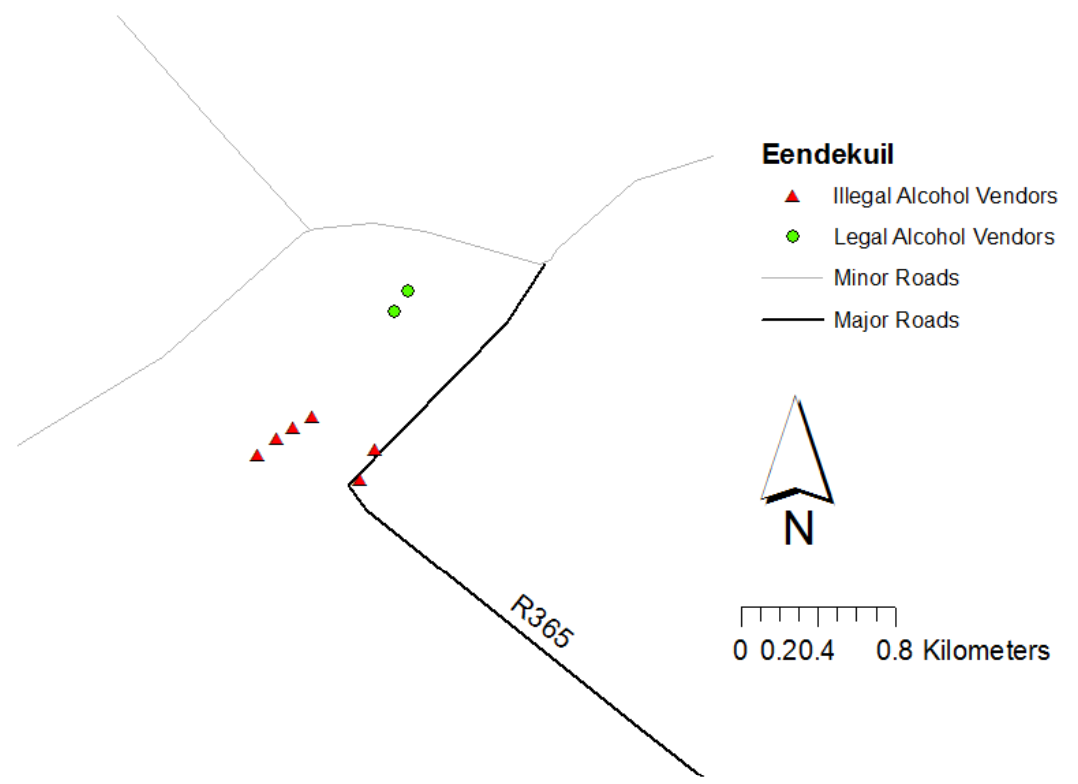
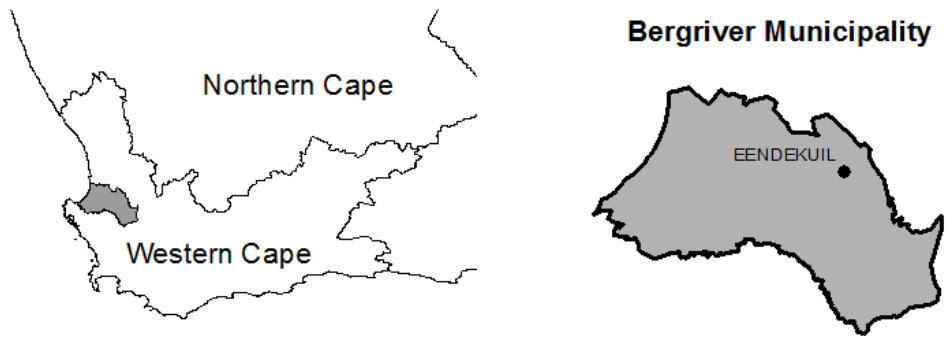


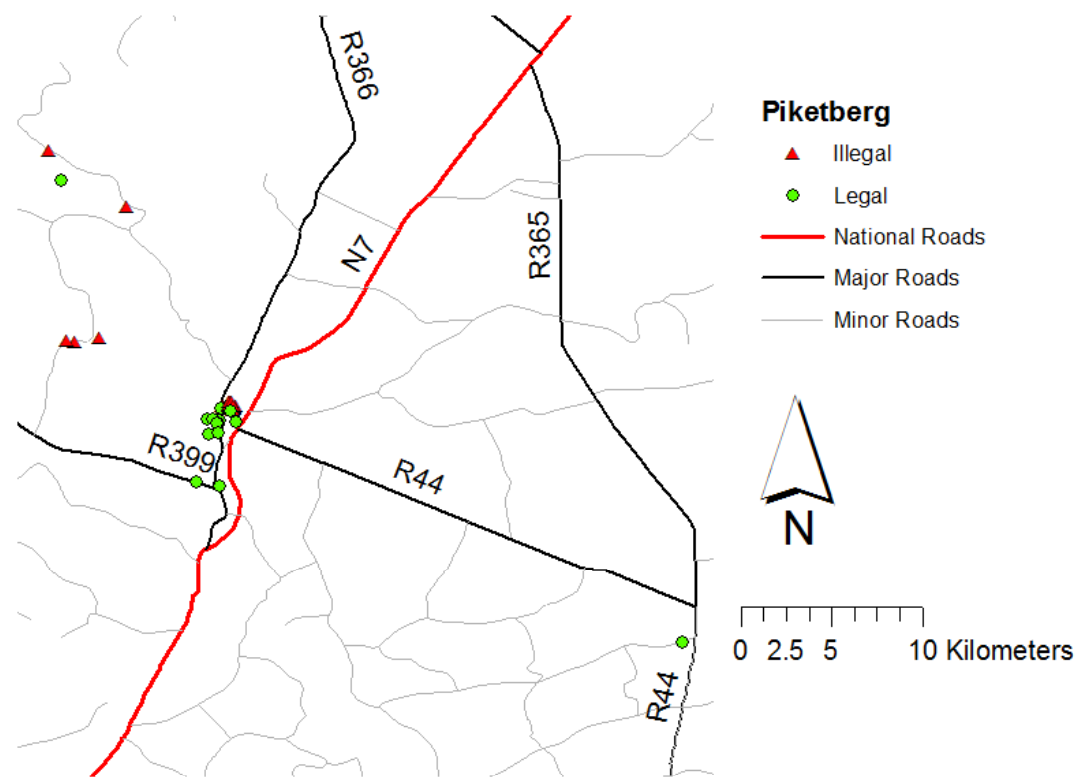
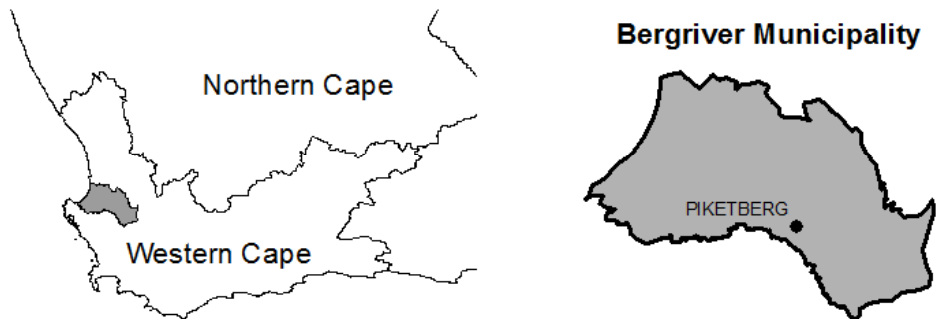
Results

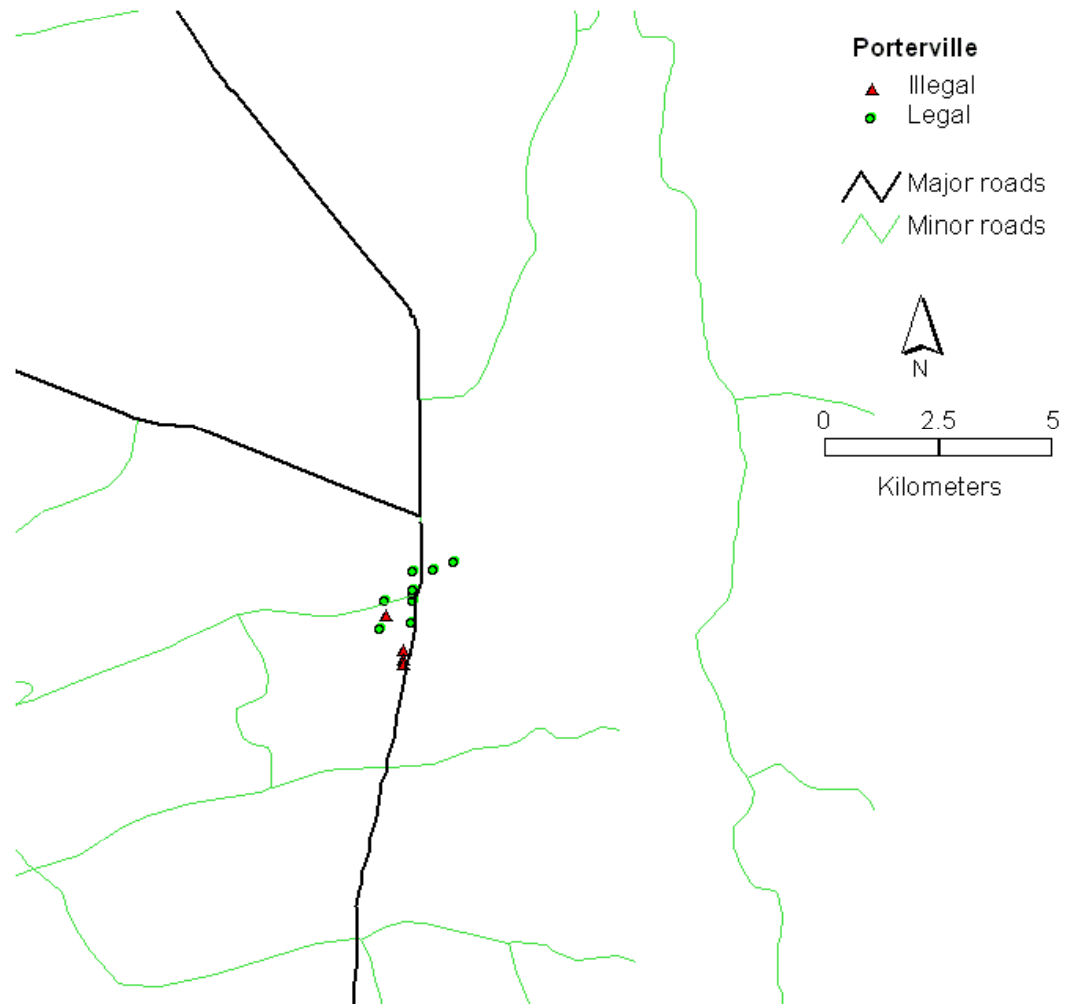
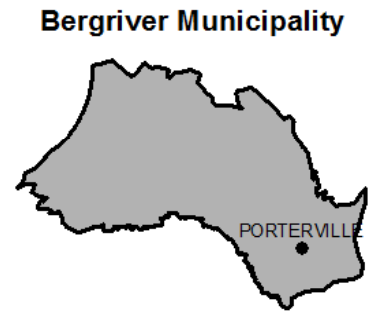
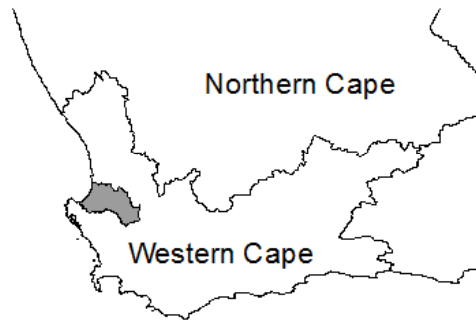
Legal and illegal alcohol vendors within the FAS study area within the Bergriver Municipality, South Africa.

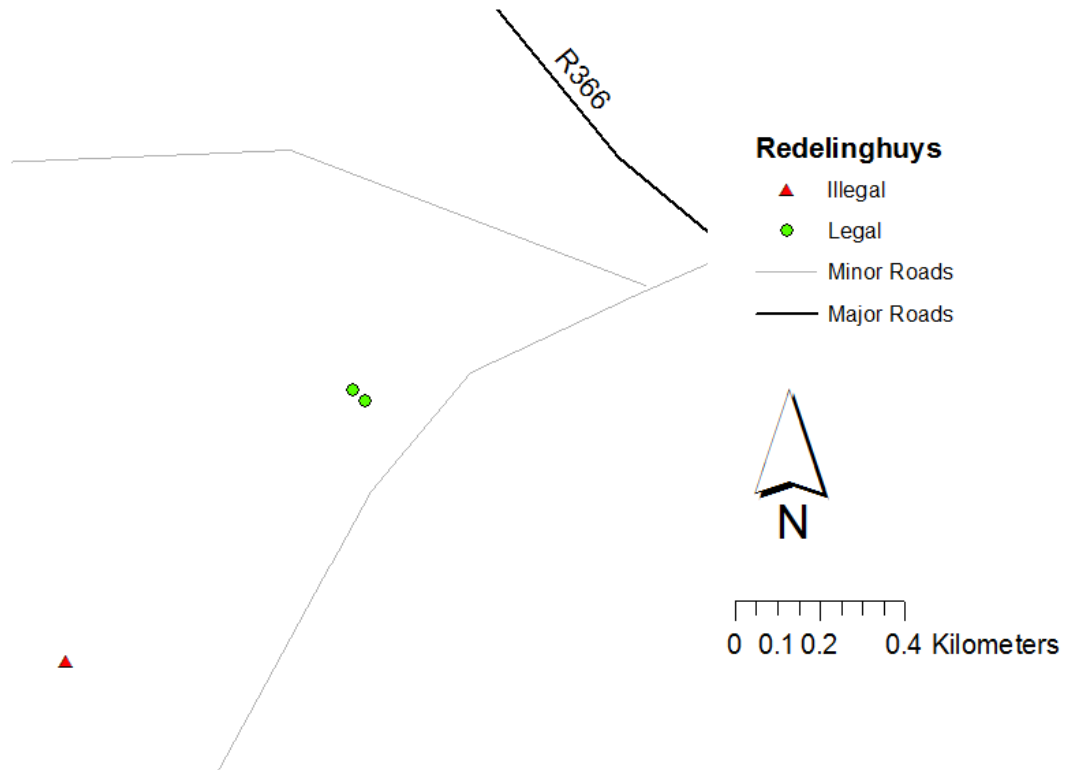
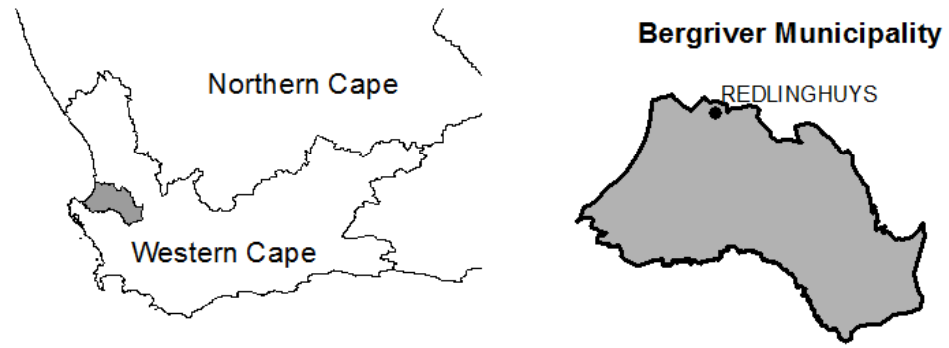


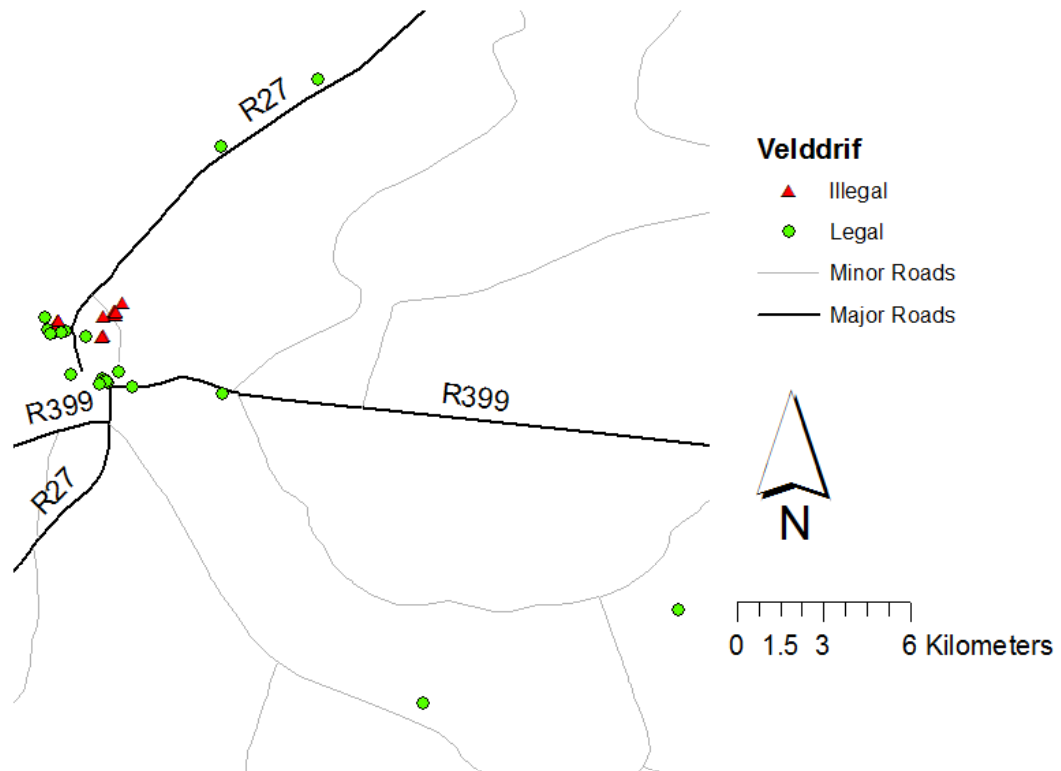
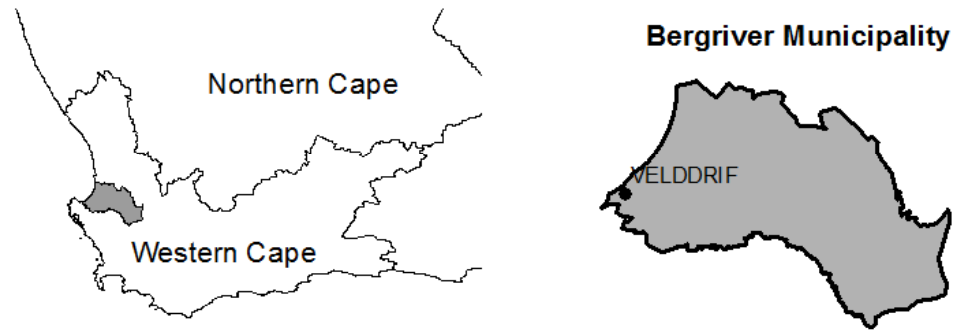












Town	Illegal	Legal	Total	Percent Illegal	Town Area (km2)	Total Population	Population Density	Alcohol Vendors/ 1000 Persons
Aurora	1	2	3	33.33	71.2	420	5.9/km2	7
Eendekuil	6	2	8	75	74.1	1000	13.5/km2	8
Piketberg	17	22	39	43.59	351	11900	33.9/km2	3
Porterville	6	13	19	31.58	278.2	7900	28.4/km2	2
Redelinghuys	1	2	3	33.33	67.7	840	12.4/km2	3.5
Velddrif	16	24	40	40	694.8	10700	15.4/km2	3.7
Total	47	65	112	41.96	1537	32760	21.3/km2	3.41

GIS and Legality

- Illegal shebeens represent 42% of the total data and are clustered together in a manner that makes alcohol use difficult to track, monitor, and regulate.
- Therefore, these area have the highest risk and highest need.

GIS and Health Implications

- GIS provides the evidence of accessibility and risk behaviors (ex. drinking while pregnant) that are associated with FAS.
- GIS offers a visual strategy for FAS monitoring, intervention, and regulation.

GIS and Community Health

- Study results are sensitive, and a map that allows vendors to be easily identified could create a converse effect where one may use the map to find or purchase alcohol.
- Alternatively, a map of vendors in relation to the frequency of FAS cases could be a powerful educational tool to change behaviors in the community.

Conclusion

- GIS is a useful tool that enhances public health outreach for FAS in the Bergriver Municipality by prioritizing where intervention is most needed.
- GIS provides spatial evidence of alcohol accessibility, especially in the rare documentation of illegal shebeens and risk behaviors of FAS.
- The study provides rare documentation of legal and illegal alcohol vendors before the Western Cape Liquor Act, No. 4 of 2008, and can also be used in future studies as a reference to compare.

Future Recommendations

- Continue to investigate health data at the scale of the study.
- Repeat the study in Bergriver to analyze the Western Cape Liquor Act, No. 4 of 2008.
- Communicate the results to the population within the study area with an intentional perspective of FAS education and efficacy.



Thank you

HAPPY THANKSGIVING