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Mitigating Climate Change in the Arid Lands of Namibia

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Mitigating Climate Change in the Arid Lands of Namibia
Namibia is the most arid country south of the Sahara, with scarce rainfall and perennial rivers only at its borders, > 80% of the area relies solely on groundwater. This has had devastating economic effects limiting opportunities for sustainable rural livelihoods that keep the population majority living below the World Bank poverty line (IFAD, 2013). A primary example of climatic variability which affects agrarian productivity is increased bush encroachment of Namibia's arid grazing land. The result has been a severe biodiversity loss, increased desertification and diminished water-use efficiency and underground water tables. Given these factors, Namibia's arid lands provide a unique opportunity to assess and test innovative / appropriate adaptation and mitigation strategies. Working toward sustainable management, restoration, and maintenance of balanced, resilient arid ecosystems in Namibia will also be a means to support and expand economic sectors incl. opportunities for job creation and potentially provide a model for similar arid regions.
Main vegetation zones are: desert (46%), savannah (37%), and dry woodlands and forests (17%), i.e. < 2% is arable. Also, government protected areas cover 13.8% of the land surface. Current climate models suggest that Namibia faces serious risks, e.g. increased temperatures, hyper-arid conditions, and more frequent and extreme weather events (Pamaccafrica, 2013). The Namibian government, civil society organizations, and the scientific community attempt to address these risks and a certain level of institutional and human capacities are already in place. However, overall climate variability appears significantly higher than current plans and policies take into account.
To improve livelihoods, reduce poverty, and food insecurity for rural Namibians in marginal/hyper-arid lands through sustainable climate change adaptation these objectives will be implemented:
1. Identify, assess and evaluate indigenous management strategies currently used by rural communities.
2. Capture and assess cultural and gender dimensions of management strategies within stakeholder groups using participatory approaches.
3. Determine science-based alternatives for adaptive land management strategies and test their acceptability to local communities and within the current policy framework.
4. Integrate identified indigenous knowledge with appropriate science and new emerging technologies to develop a training toolkit of effective strategies relevant to all stakeholders.
5. Utilize training sessions, education workshops, curriculum revisions, and appropriate information and communication technologies (ICTs) including social media outlets to disseminate the toolkit strategies.
6. Apply a modified logic model approach within a value chain analysis process to evaluate program effectiveness and impacts at both formative and summative levels.
7. Disseminate lessons learned, and results achieved to the international community through all recognized knowledge sharing outlets.
Goal and objectives - accomplished by implementation of a variety of integrated action steps each linked to specific performance impact measures that assess short, medium, and long-term impacts (modified logic model). Impact measures to be monitored using formative and summative techniques within a value chain analysis process. Improved teaching and training practices, research outputs and incorporation of value chain approaches will be tracked to capture trend data in these areas. New means of ongoing and interactive communication to be established with local communities incl. use of modern media. Management strategies need to include: 1) reduced bush encroachment and biomass conversion into electricity; 2) managing costs of water catchments; 3) improving rangeland management efficiencies; 4) improved provisions of water to off-farm economic needs; 5) contribute to provision of energy supply; 6) restore and protect biodiversity and; 7) providing employment.

IFAD (2013) Rural poverty Portal - Rural poverty in Namibia [http://www.ruralpovertyportal.org/country/home/tags/namibia#]
Pamaccafrica (2013) Namibia commits to fight desertification [http://pamaccafrica.blogspot.dk/2013/06/namibia-commits-to-fight-desertification.html]