

Northern Gulf NRM Plan (2016-2021) - Climate change risk assessment- LAND RESOURCES

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Key				
Probability (P)	UC- Uncertain	P- Possible	L- Likely	Almost Certain- A.C
Consequences (C)	UK- Unknown	L- Low	Mod- Moderate	M- Major
Risk rating (R)	L- Low	Mod- Moderate	H- High	Cr-Critical

Climate Hazard	Grazing	Soil degradation	Agriculture	Dryland Salinity
Increased incidence of destructive wild fires	<p>Increase in pasture growth (2) PCR - LLM</p> <p>Decrease in surface cover (2) PCR- ACMCr</p> <p>Increase in beef per head due to flush of green feed of higher quality (2) PCR - UCModMod</p>	<p>Potential degradation of top soil, could be exacerbated if followed by heavy rainfall (9) PCR - PModH</p>	<p>High frequency or intensity of fires may reduce soil organic matter (13) PCR - ACModH</p>	<p>Little impact</p>
Increased intensity of high rainfall events (flood and cyclones)	<p>Decrease in pasture growth of flood effected areas (2) PCR- LModH</p> <p>Decrease in surface cover (2) PCR- ACMCr</p> <p>Decrease in beef per head (2) PCR- LModH</p> <p>Increase in locusts could cause production losses (4) PCR - UCModL</p>	<p>Risks of rising ground waters and land degradation could occur (5) PCR - PModH</p> <p>Poorly drained sandy soils may easily erode during high rainfall events (5) PCR - LMCr</p>	<p>Possible degradation risk to soils due to high erosion if exposed (5) PCR- ACMCr</p> <p>Water logging of some soils can impact on agricultural productivity through leaching of nutrients or rising saline ground waters (5, 7) PCR- LModH</p> <p>Water logging can impact on agricultural production by</p>	<p>Increase in dryland salinity Locally catastrophic but very small footprint in whole NG region (9, 11) PCR- ACModH</p>

			<p>limiting machinery access (5) PCR- LLMod</p> <p>Cyclone damage to crops, particularly banana, mangos and avocados (6) PCR- ACMCr</p> <p>Increase the pressure of weeds, pest and disease on agricultural production (12) PCR - LMCr</p> <p>Some agricultural production on alluvial land may be impacted (13) PCR- ACModH</p> <p>Increased leaching of soils can reduce nutrient and therefore low agricultural productivity (13) PCR- LLMod</p>	
Longer dry seasons	<p>Reduction in livestock carrying capacity (1) PCR- ACMCr</p> <p>Reduced livestock weight gains (2) PCR- ACMCr</p> <p>Reduction in pasture growth (2) PCR- ACMCr</p>	<p>Decrease in surface cover (2) PCR- ACMCr</p>	<p>Variability in stream flow could threaten irrigated agricultural production due to unreliability of irrigation water (7) (L: P, P: Mod, R: M). Loss of land productivity (8) PCR- LModH</p> <p>Potential failure or intensive agricultural development</p>	<p>Reduction in dryland salinity (9, 11) (L:L, P:L, R: M). Changes in prices and yields of agricultural produce may reduce farm productivity which may limit the capacity of farmers to implement salinity management (11) (L:P, P: L, R: M).</p>

2. Northern Gulf NRM Plan (2016-2021) - Climate change risk assessment- LAND RESOURCES

	<p>Decrease in beef per head (2) PCR- LModH Long-lived perennial pasture and tree species may have reduced survival during long drought periods (2) PCR- ACMCr</p> <p>Rains that break drought periods cause increase in Locust plagues (4) PCR- LModH</p>		<p>due to unreliability of rainfall (10) PCR - PModMod</p>	
<p>Continued warming of temperature, including more hot days</p>	<p>Decrease in forage production and reduction in livestock carrying capacity (1, 2) PCR- ACModH Decrease in surface cover (2) PCR- ACMCr</p> <p>Decrease in beef per head (2) PCR- LModH</p> <p>Possible increase in outbreaks of some diseases such as bluetongue (3) PCR - UCMoDL</p>	<p>Decrease in surface cover (2) PCR- ACMCr</p>	<p>Reduced yields in some crops on some soil types (5) PCR- LModH</p> <p>Loss of land productivity (8) PCR- LModH</p> <p>Potential failure of intensive agricultural development due to high evaporation rates of stored water (10) PCR - ACModH</p>	<p>Reduction in deep drainage and therefore reduction in threat of dryland salinity (9, 11) PCR - ACModH</p>

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