

RISK ASSESSMENT AND MANAGEMENT

1. Risk factors and mitigations measures (max. 2 pages)		
<p><i>Please describe financial, technical and operational, social and environmental and other risks that might prevent the project/programme objectives from being achieved. Also describe the proposed risk mitigation measures.</i></p> <p>For probability: High has significant probability, Medium has moderate probability, Low has negligible probability For impact: High has significant impact, Medium has moderate impact, Low has negligible impact</p>		
Selected Risk Factor 1		
Category	Probability	Impact
Technical and operational	Medium	Medium
Description		
<p>Destructive vegetation fires. . In years when rainfall is higher than usual, fuel loads in the landscape can be larger due to higher rainfall. , particularly in the State of South Kordofan.. Such fires could have a major impact on the land restoration and reforestation activities of the project and may also sweep into farmers agroforestry plots.</p>		
Mitigation Measure(s)		
<p>Thankfully, measures to mitigate this risk are already in place. The State Ministries of Agriculture and the agencies falling under its responsibility (Agriculture, FNC and RPA) have developed a close coordination mechanism with the Localities to prevent destructive vegetation fires. FNC, in its role as one of the two Executing Entities for the project has budget line for opening fire lines to protect government forest reserve, which it manages directly. When high fuel loads threaten to cause fire problems across the region, tractors, cars, vehicles and some of these resources are pooled together with those of the State Ministries of Agriculture and the respective localities in the project area. Staff are then deployed and local communities mobilized as the need arises to open fire lines early in the dry season in high risk areas, to prevent destructive fires from damaging restoration sites and/ or entering into agroforestry fields... The residual risk would be low.</p>		
Selected Risk Factor 2		
Category	Probability	Impact
Technical and operational	Low	Medium
Description		
<p>Tree locust plagues. This risk applies to all three Kordofan States. The tree locus is bigger than the desert locust that regularly attacks crops in the project area and occurs and travels to shorter distances. But although tree locust outbreaks have become rare in the last years due to the effective control measures often carried jointly by the Plant Protection Department, FNC and the local communities, they can be highly destructive. A major tree locust plague could defoliate large areas of gum tree stands, causing reduced gum yields or even tree death in the case of young trees, such as would be established under the project's restoration activities.</p>		
Mitigation Measure(s)		
<p>Thankfully, measures to mitigate this risk are already in place. The State Ministries of Agriculture have funds in reserve to deal with any tree locust outbreaks, so that they can be controlled at the hatching stage before they do any real damage. Local communities are aware that they need to report any tree locusts to FNC and Plant Protection (PP) Officers at State level, and there is a good coordination among FNC, PP and the State Ministries of Agriculture to prevent any major outbreaks from occurring. The overall residual risk would be low.</p>		
Selected Risk Factor 3		
Category	Probability	Impact

Governance	Medium	Medium
Description		
Recurrence of civil conflict: Many parts of Sudan have seen violent conflict over the past two decades, including in the South of South Kordofan State, close to the project area. The origins of these conflicts are complex and vary according to the location, but they do include conflicts over natural resources (water, pasture) between farming and pastoralist communities. While the eleven Localities covered by the project have been less conflict-ridden, the risk of conflict occurring or recurring is not negligible.		
Mitigation Measure(s)		
The project is located in a part of Sudan that has been less affected by violent conflict. Furthermore, the locations where field activities will take place will be carefully chosen with conflict risk in mind. Perhaps most importantly, the project will actively reduce the risk of conflict through supporting participatory land use planning processes, including the demarcation and equipment of livestock corridors, and the establishment of mobile stock route co-management teams in which both farming and pastoralist communities will have a voice. The residual risk of the project being impacted by violent conflict would be low.		
Selected Risk Factor 4		
Category	Probability	Impact
Governance	Medium	Low
Description		
Challenges to cross-sectoral coordination of land use sectoral agencies. The project will require effective coordination and collaboration between the Forestry National Corporation and the Rangeland Department, as well as three State governments and eleven Locality administrations to be successful. Despite the above-quoted examples of successful coordination to combat fire and locust risk, more broadly speaking, cross-sectoral coordination in the land use sectors (agriculture, livestock, forestry, water) has been a major challenge in Sudan, and is highlighted in the country's INDC as a major barrier to reducing land use emissions. In November 2018, the Government decided to combine all productive sectors including agriculture in all the States under one Ministry of Production and Economic Resources (MPER), which could help to address this challenge.		
Mitigation Measure(s)		
FAO has extensive experience in supporting cross-sectoral coordination in Sudan, both at federal and at State and field level. In its role as Executive Entity, FAO will minimize the risk of misunderstandings between the various agencies involved, or misalignment among their respective interventions, by engaging all MPER stakeholders at State level – even those not directly associated with the project – through frequent information sharing and transparent communication at all levels during the inception and implementation phases. In addition, capacity-building activities for government staff will include as many people as possible. The residual risk is low.		
Selected Risk Factor 5		
Category	Probability	Impact
Technical and operational	Medium	Low
Description		
Pressure to reduce government expenditure. Sudan's economy has suffered from the loss of most of its oil resources after the split with South Sudan in 2010, and from the prolonged international sanctions that have isolated the country's financial institutions. The negative trade balance puts further pressure on government expenditure. While the main partner for the implementation of the project, the Forestry National Corporation (FNC) is a revenue-generating agency and therefore somewhat insulated from ups and downs in government finances, this state of affairs may have a negative impact on the capacity of local government agencies to work alongside the project as planned.		

Mitigation Measure(s)		
The focus of the project on building the climate change adaptation planning and implementation capacity of local communities, and on building the technical and organizational capacity of Gum Arabic Producer Associations (GAPAs) to restore gum agroforestry systems and engage in contract farming partnerships for the production of export-quality gum reduces the dependence on government finances for the continuation of investments and activities after the end of the project. The livestock corridors activities of the project are somewhat more dependent on continued government investment in cross-sectoral coordination. The residual risk is low to medium.		
Selected Risk Factor 6		
Category	Probability	Impact
Technical and operational	High	Medium
Description		
The project's restoration activities could be hindered by moisture stress and drought , which are frequent phenomena in the project area. In fact, it is highly unlikely that there would be no dry years during the five years of project implementation. In many parts of the project area, water for human consumption is scarce especially during the dry season, so watering trees, shrubs and grasses planted and/or seeded with support from the project may not be possible.		
Mitigation Measure(s)		
The project will use a number of well-established measures to improve the survival rate of plant cover re-established by the project, including: (i) water harvesting techniques in and around restoration sites to make maximum use of existing rainfall and surface run-off; (ii) use of good quality seeds and seedlings from well-adapted varieties of native species; and (iii) using lower-cost restoration methods such as direct seeding before the start of the rainy season whenever possible. The residual risk is low to medium, depending on the quality of the execution of restoration operations.		
Selected Risk Factor 7		
Category	Probability	Impact
Technical and operational	Low	Medium
Description		
Maladaptation. One key risk to consider is whether any of the proposed project activities run the risk of causing maladaptation of the livelihoods of the beneficiaries vis-à-vis expected future climate change. The people of Sudan – and the planet as a whole – are moving into novel territory in terms of biological system responses to increasing temperatures. Little is known, as there has been no reason previously to experiment with species responses to extreme temperatures. Generally speaking, we know a lot more about the precipitation range of species, than about non-analog temperature range.		
Mitigation Measure(s)		
That said, the GAMS project has been carefully designed to avoid the risk of maladaptation through the selection of resilient plant species and production models. The ICRAF tree database places the upper temperature range for the main tree species used in the agroforestry restoration and reforestation activities, <i>Acacia senegal</i> , at 48 C, which is well above the expected future temperatures for the Kordofan states of 30.8 C annual average temperature. ¹ One issue to consider is whether, even if <i>Acacia senegal</i> is able to survive higher temperatures, will it still be able to provide nitrogen fixation benefits to the annual crops it is intercropped with, through the formation of root nodules in symbiosis with nitrogen fixing bacteria such as <i>Rhizobium</i> . Specific studies note a reduction and cessation of nodule formation by <i>Rhizobium</i> bacteria at 38 and 42 C respectively, but this effect was not permanent: once temperatures were lowered nodules were again able to form and higher temperatures did not reduce the population of <i>Rhizobium</i> bacteria in		

¹ See http://db.worldagroforestry.org/species/properties/Acacia_senegal

the soil.² The interference with nodule formation would likely result in lowered growth, which is consistent with the general findings globally that forest productivity begins to decrease as average annual temperature surpass 30-32 C.³ Less is known for the rangeland systems, but many tropical grasses are thought to be quite tolerant to heat. The residual risk would be low-medium.

2. AML/CFT* and Prohibited Practices compliance due diligence assessment (max. 1 page)

Category	Probability**	Impact***
Select	Select	Select
Select	Select	Select
Select	Select	Select
Select	Select	Select

*Anti-Money Laundering/Countering the Financing of Terrorism

**H: High (has significant probability), M: Medium (has moderate probability), L: Low (has negligible probability)

*** H: High (has significant impact), M: Medium (has moderate impact), L: Low (has negligible impact)

¹ Money Laundering/Terrorist Financing

² Sanction prohibitions of the United Nations, or other relevant sanctioning authorities (including the World Bank Debarred List)

³ In the context of Money Laundering/Terrorist Financing and Prohibited Practices

⁴ Abuse, Conflict of Interest, Corrupt, Retaliation against Whistleblowers or Witnesses, as well as Fraudulent, Coercive, Collusive, and Obstructive Practices

The project will monitor closely the use of funds transferred through letter of agreement, and in line with the MS 507.

3. Other potential risks on the horizon

None

² Only three temps were tested 38, 40 and 42 C. <https://academic.oup.com/femsec/article/28/1/63/434743>

³ See <https://science.sciencemag.org/content/368/6493/869/tab-pdf>