



LAND, ASSET AND

LIVELIHOOD

IMPACT ASSESSMENT AND MANAGEMENT STRATEGY

Prepared by Earth Systems
for Grande Côte Operations SA

May 2010



EARTH SYSTEMS
Environment - Water - Sustainability

GRANDE CÔTE OPERATIONS SA (GCO)

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IMPACT ASSESSMENT AND MANAGEMENT STRATEGY**

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GRANDE CÔTE MINERAL SANDS PROJECT

MAY 2010

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<i>Project Name:</i> Grande Côte Mineral Sands Project (GCP)	
<i>Client:</i> Grande Côte Operations SA (GCO)	<i>Project Code:</i> GCO0945
<i>Project Manager:</i> Mr Nigel Murphy	<i>Project Director:</i> Mr Nigel Murphy
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EXECUTIVE SUMMARY

Introduction

1. The Grande Côte Project (GCP) outline has been modified since 2007 and subsequently Grande Cote Operations SA (GCO) a subsidiary of Mineral Deposits Limited (MDL) initiated the preparation of a *Land, Asset and Livelihood Impact Assessment and Management Strategy* to assess the potential impacts to land, assets and livelihood to a feasibility standard for the current 10 year mine plan, as well as providing a preliminary management strategy and compensation assessment for the GCP.
2. It is intended that this Report will be used a basis for developing a Resettlement Action Plan (RAP) and Social Development Plan (SDP) following completion of the Definitive Feasibility Study (DFS) process.
3. Land, asset and livelihood baseline information presented in this report and used as the basis for impact assessment and development of a proposed social management strategy for the GCP is based on the Land, Asset and Livelihood Baseline established by our field investigations of March / April 2007. This information has been updated using aerial photography of the Grande Cote Project Development Area (GCPDA) captured in January 2008 and recent ground truthing conducted by GCO staff under the instruction of Earth Systems. The GCPDA is defined as a broader project impact area encompassing the current proposed mining area and associated 50 m buffer zone, the Mine construction camp, Mineral Separation Plant and all other associated project facilities.
4. The assessment of land, assets and livelihood within the GCPDA under the current 10 year mine plan comprised of:
 - a. A detailed assessment of years one to ten of mining based on the 2007 Baseline Study data, visual interpretation 2008 aerial photography and recent ground truthing conducted by GCO staff.
 - b. A desktop assessment of the area of the proposed dredge path that were not covered by the 2007 Baseline Study (ie. Sections of years five, six and ten of mining) based on visual interpretation of 2008 aerial photography and recent ground truthing conducted by GCO staff.

Impact Assessment

Settlement

5. Settlement areas and infrastructure within the proposed mining area are expected to be fully impacted if the mine path remains as designed. In some circumstances this infrastructure may be able to be moved to nearby areas resulting in reduced impact on the society.

6. Infrastructure identified inside the proposed mining area for the current 10 year mining period included 134 huts and 37 buildings with a metal roof. 48 other buildings were also identified within the proposed mining area. Infrastructure within the buffer zone comprises of a total of 77 huts, 25 buildings with a metal roof and 34 other buildings. Community infrastructure identified within the GCPDA included a small Arabic school and other cultural sites including cemeteries.
7. Under the first ten years of mining inside the proposed mining area, the GCP is likely to necessitate the relocation of 38 settlements belonging to the villages of Foth, Diogo, Diourmel, and Thiakmat containing 159 households, approximately 897 persons within the proposed mining area. A further 50 households, approximately 270 persons will potentially be impacted within the 50 m buffer zone.
8. There is unlikely to be any direct impacts on settlements outside of the proposed mining area and buffer zone. Indirect impacts may include disturbance to social and cultural associations held with directly impacted settlements.
9. All assets and community infrastructure impacted by the GCP will require compensation at full replacement cost.
10. Persons identified within the GCPDA will require relocation. Where possible, and if livelihood can be maintained, this should be to nearby areas outside the GCPDA within their village lands. Resettlement to new areas is likely to be required if livelihood cannot be maintained. Community and government consultation will be required with all affected parties to identify the preferred strategies for each affected household.
11. The implementation of a Resettlement Action Plan (RAP) and Social Development Plan (SDP) developed with appropriate community and government consultation prior to construction will reduce the significance of potential livelihood and resettlement impacts.

Land Use

12. Impacts on land use will primarily be associated with the disturbance of land for mining activities within the proposed mining area and buffer zone. Under the current 10 year mine plan, the GCP has the potential to impact approximately 2,222 ha of land within the proposed mining area, including 907 ha of herbaceous, scrub and wood land, 944 ha of revegetated dune areas and 115.5 ha of land suitable for agricultural use (comprises of 37.8 ha of active agricultural areas, 77.7 ha of fallow agricultural land).
13. A further 676 ha will potentially be impacted within the 50 m buffer zone, including 282 ha of herbaceous, scrub and wood land, 254 ha of revegetated dune areas and 54 ha of land suitable for agricultural use.
14. There is likely to be negligible direct impact on land outside of the GCPDA assuming no adverse effects to groundwater resources particularly in the Niayes adjacent to the GCPDA.

15. The extent to which active / inactive agricultural areas are likely to be adversely or favourably impacted by potentially elevated groundwater levels associated with dredging activities is still to be confirmed by GCO.
16. Settlements which will experience the most significant land loss will be those located inside the proposed mining area, including those belonging to Foth, Diogo,, Diourmel and Thiakmat. There is also potential for hinterland and coastal settlements to own land assets located inside the GCPDA.
17. An assessment of land and assets that will potentially be affected by the siting of other project facilities (i.e. proposed roads and railway) will need to be undertaken prior to construction.
18. Direct impacts on land loss will require mitigation through measures such as providing compensation for or replacement of agricultural land, maximizing local employment and alternative livelihood development activities.
19. Impacts on forest resource use will require mitigation through measures such as progressive rehabilitation of the proposed mining area and prohibition of unauthorized collection of forest resources by project staff.

Water Use

20. Hydrological modelling for the passage of the dredge past adjacent horticultural areas is not yet fully completed. Subsequently, the assessment of potential impacts of dredging on groundwater levels and agricultural areas are only preliminary.
21. Groundwater is of vital importance to the livelihood of the local communities and represents the principal source of water within the GCPDA. It is extensively used for crop irrigation, stock watering and domestic use.
22. Groundwater harvested from shallow wells, is used by settlements for agriculture, household consumption (eg. washing, cooking, etc), and stock watering. Groundwater is usually transported by hand to irrigate adjacent agricultural areas. Mechanically driven boreholes, varying in depth from a few metres to over 20 metres can also be found in niayes areas.
23. Under the current ten year mine plan, Project development will result in the loss of approximately 609 community water sources located within the proposed mining area. A further 283 water sources may be impacted within the buffer zone.
24. Other potential impacts on water resource use associated with the GCP include potential for changes in the availability of groundwater, risk of surface water and groundwater contamination, potential impacts of changes in groundwater levels on agricultural areas (particularly in the Niayes) and the livelihoods of local communities within the GCPDA and in nearby areas.
25. Implementation of site specific management and mitigation measures including installation of a series of groundwater monitoring bores, provision of alternative water sources and

appropriate compensation where community assets are impacted are expected to minimise the potential impact of the GCP on groundwater and the livelihood of water users.

Economy and Employment

26. The GCP is likely to be of benefit to the local community through the creation of economic and employment opportunities associated with project development. Employment requirements for the GCP are likely to be largely associated with construction of the GCP and less so with permanent operations. Local communities are likely to benefit most from employment opportunities during the operations phase of the GCP as the majority of the construction workforce is likely to be sourced from Dakar or regional centres (i.e. Thiès). Rehabilitation activities associated with project development are also likely to provide some scope for employment of local people, particularly those on the littoral dune.
27. Successful implementation of a preferential recruitment policy that favours those people whose land is directly impacted by the GCP will ensure that local residents are given priority and communities on the littoral dune and in hinterland areas are considered equally. This policy will need to be consistent with regulations and practices in Senegal.
28. The broad economic and employment impact is expected to be positive, although ensuring minimal impact on groundwater and agriculture as well as implementation of livelihood restoration measures will be important to ensuring that the GCP has a beneficial impact on local communities surrounding the GCP.
29. Monitoring of employment statistics and continuous consultation with local communities will ensure that the potential employment opportunities are realised and the preferential recruitment policy is effective. Establishment of a Community Development Program designed to support community development initiatives and alternative livelihood opportunities will also help to maximise the social benefits associated project development.

Cultural Values and Heritage

30. Dredging activities associated with the GCP will directly impact at least two cultural sites located within the proposed mining area. These include one cemetery and one small Arabic school associated with Diogo hamlets. One cemetery associated with Diourmel hamlets is located within the buffer zone. Implementation of appropriate management and mitigation measures will ensure that potential impacts on these sites are minimised where possible.
31. The remainder of the cultural sites associated with settlements within the proposed mining area and buffer zone are located outside the GCPDA and are not likely to be directly disturbed by dredging activities.
32. No detailed assessment of cultural values and heritage has as yet been undertaken for Thiakmat hamlets.

Community Health, Safety and Amenity

33. The primary potential impact on community safety is likely to be from accidents along project supply routes. Uncontrolled crossing of haul roads by people or livestock could result in potentially serious accidents involving vehicles using the roads.
34. Other community health and safety concerns include the potential spillage or release of any hazardous materials along supply routes, unauthorised access to project facilities, disease introduction (e.g STIs) or exacerbation of existing diseases, and indirect impacts on health through increased pressures on food security associated with in-migration.
35. The potential risks of community exposure to radioactivity above natural background levels associated with mineral products and waste streams are expected to be negligible under GCO's current process design.
36. A variety of education programs and management measures will be required to ensure that risks to community health and safety due to the GCP are effectively minimised.
37. Potential impacts on the social amenity of local communities from noise and dust emissions as well as disturbance to visual amenity are not likely to be significant provided appropriate management and mitigation measures are successfully implemented.

Accessibility and Transport

38. The GCP is likely to result in an increase in the overall traffic volumes along the project transport route. The increase in the use of project roads may result in a concomitant minor increase in the risk of road accidents, which can impact community safety and increase the risk of spills of hazardous materials such as hydrocarbons. These risks will be minimised through careful management of transport operators and contractors, traffic safety measures and ongoing monitoring and adaptive management of accident rates, vehicle behaviour and noise and air quality along the Project roads.
39. GCO is considering several options for project-related transport at Diogo to alleviate the traffic congestion and maintain a high level of safety for villagers, including a bypass for Diogo and adjacent villages. Rail transport is expected to reduce the number of trucks transporting product to Dakar and may well be used to transport fuel to the MSP site.

Population and In-Migration

40. In-migration into the GCP area is likely once construction begins, particularly for hinterland villages such as Diogo which has more developed public infrastructure and greater commercial activity compared to the settlements located on the dune. In-migration also has the potential to increase pressure on land and water resource use, livelihood and impact on health.
41. Management of in-migration will require liaison with the government and local community. GCO's recruitment policy will discourage an influx of people to the area and, therefore, minimise adverse impacts. During closure, a net out-migration may occur, as people leave to seek other employment opportunities.

Mine Closure / Completion

42. Mine completion or closure in the context of the GCP refers to the time when the dredge path has passed through a particular area and mining in that area has been completed. This has been defined as ongoing closure where ongoing rehabilitation is required. Final closure refers to the cessation of all mining activities within the GCPDA.
43. Key ongoing closure issues that will need to be considered include (i) careful planning to avoid relocating villagers, replacement land and assets, and undertaking rehabilitation in areas that will potentially be impacted by future dredge passes, (ii) minimising the long term impact of the GCP on the livelihoods of the local community, and (iii) minimising the potential long-term impacts of changes in groundwater levels on agricultural areas and potential changes to groundwater quality.
44. The development and successful implementation of a site-specific RAP, SDP and rehabilitation plan for the GCP, as well as other management and mitigation measures, is expected to reduce the residual impact of the GCP on the local communities and their land, assets and livelihoods to acceptable levels.

Proposed Social Management Strategy

45. Development of a strategic framework for social management at the GCP is a key management measure for the GCP and will form the basis for the development and implementation of a detailed RAP and SDP.
46. The social management strategy includes the identification of procedures and processes at the strategic level to avoid, mitigate and manage the adverse impacts to persons arising from project development as it pertains to the need for physical displacement, and the loss of land, livelihood and assets.
47. An important initial step will be the development of implementation procedures to ensure that key stakeholders (i.e. community, government and GCO) are able to effectively refine and deliver the social management strategy. Consultation amongst stakeholders will be required for finalisation. Implementation procedures will be documented in a RAP and SDP.
48. Preparation and implementation of a well resourced RAP will outline in detail the procedures and actions that GCO will take to mitigate adverse effects, compensate losses and provide development benefits to persons and communities affected by the GCP. Preparation of a SDP will provide a comprehensive strategy for the re-establishment and security of the livelihood of project affected people.
49. Social impact monitoring will be required to identify and quantify the direct and indirect impacts of the GCP on the local community. Social monitoring will also ensure that existing management and mitigation measures are effective, and will identify the need for improved or additional measures.

Cost Estimates

50. Four (4) compensation categories have been defined to assist in the understanding of likely compensation scenarios: (i) Permanent Loss; (ii) Semi-Permanent Loss, (iii) Temporary Loss; and (iv) Temporary Disturbance.

- a. Permanent loss is when lands and/or assets are permanently transformed from their pre-mining use. When permanent loss is agreed, the land and/or asset owner is to be offered either the financial “replacement cost value”, a land swap of equal or greater productivity, or assets of equal or greater value at the time that the property is resumed by the Project. The financial “replacement cost” will be sufficient to actually replace lost land and assets with land of equal productivity, or assets of equal value/quality/size.
- b. Semi-permanent loss may occur when temporary loss of land occurs over a prolonged period such that the transformation of land from its pre-mining state may be considered ‘semi-permanent’ (i.e. the proposed mining area). Semi-permanent loss of land for any period greater than three years (and potentially up to 10 years) is likely to provide justification for replacement land to be provided. Semi-permanent loss of land has therefore been assessed in the same manner as permanent loss. However, the time period of semi-permanent loss will vary significantly depending on the type of land to be disturbed (eg. agricultural, scrub land, revegetation areas, etc). Further definition of the time period of semi-permanent loss will need to take into account the results of rehabilitation trials and the outcomes of community and government consultation.
- c. Temporary loss may occur when land is resumed during mine construction, though returned during the mine operational phase. The Landowner is offered a “rental (or subsistence) allowance” for the period of loss. The “rental allowance” is equivalent to the lost productive value of the land at the local market value for the year in which the compensation is paid.
- d. Temporary disturbance may occur in areas adjacent to construction activities, where the owner will still enjoy access and use of their property, though that access and use may be disturbed by Project activities. Depending on the severity of disturbance, the land owner may be offered a “disturbance allowance” for the period of disturbance. The “disturbance allowance” would be sufficient to cover the economic loss incurred by the disturbance.

51. Compensation procedures and entitlements are proposed in this report for disturbance to housing, property assets, agricultural land, community land, and livelihood restoration.

Resettlement and Compensation

52. The indicative resettlement and compensation estimate under the current 10 year mine plan is approximately US\$2,714,855. Costs per household vary from approximately US\$5,000 to US\$20,000 depending on the type of housing and agricultural assets of a household. Twenty seven percent (27%) of this cost is attributable to the settlement cluster of Foth, 9%

to Diogo hamlets, 21% to Diourmel hamlets, 18% to Thiakmat hamlets and 25% to other land and assets within the GCPDA.

53. These costs are those required for livelihood compensation and restoration and do not include costs for restoration of land surfaces disturbed by mining.

Indicative Rehabilitation Costs

54. For the purposes of this cost estimate, it is assumed that a reasonable replacement cost for revegetated dune areas is approximately US\$1,000 per hectare (this is in line with current Senegalese Forestry Department internal actual costs). Detailed benchmarking and consultation will be required to establish more definitive costs.
55. This cost does not include the reshaping of land after mining.
56. The indicative costs of rehabilitating revegetated dune areas potentially disturbed by the GCP have been estimated at US\$1,197,365.

Budget for Social Management and Monitoring

57. The indicative budget for social management and monitoring for the GCP has been estimated at approximately US\$11,821,220, which represents an operating cost of approximately US\$1,128,222 per year over the 10 year mine plan.
58. This includes US\$2,714,855 for resettlement, compensation and livelihood restoration costs, US\$425,000 for post-funding management plans and studies, US\$4,050,000 for management and monitoring and US\$3,320,000 for administrative costs of the Community Relations Department.

RECOMMENDATIONS

It is recommended that GCO undertake the following social management activities as detailed in Section 4.9 prior to the commencement of the GCP:

- Update household livelihood surveys undertaken as part of the 2007 Land, Asset and Livelihood Baseline Study;
- Undertake household livelihood surveys of all new settlements located within the GCPDA since the 2007 Land, Asset and Livelihood Baseline Study;
- Prepare a detailed inventory of all project affected land and assets at the household, village and community level;
- Establish a cut-off date for resettlement and compensation eligibility;
- Establish a population census in the township of Diogo, Ngoye Wade and Ndoye Beye in advance of project operations to be used as a baseline for assessing the extent of project related in-migration;
- Establish a health baseline within the GCPDA which includes an assessment of the capacity of local authorities to manage health problems, both existing and potential;
- Undertake extensive consultation with government, local authorities and PAPs regarding management and mitigation of potential project impacts, resettlement options and alternatives, livelihood restoration options and development opportunities, and compensation measures;
- Prepare a Resettlement Action Plan (RAP) and a Social Development Plan (SDP) based on the outcomes of stakeholder consultation; and
- Prepare a Public Consultation and Disclosure Plan (PCDP) that details the methodology for conducting stakeholder consultation and documenting the results of consultation activities.

It is also recommended that GCO:

- Conduct a detailed cultural values and heritage baseline study for the Thiakmat hamlets impacted by the prior to the commencement of the GCP; and
- Confirm the extent to which agricultural areas are likely to be adversely or favourably impacted by potentially elevated groundwater levels associated with dredging activities.

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1. INTRODUCTION

Earth Systems has been asked by Grande Côte Operations SA (GCO) to prepare a 'Land, Asset and Livelihood Impact Assessment and Management Strategy' in connection with the proposed Grande Côte mine.

This Report is a supporting document for the Definitive Feasibility Study (DFS) currently being prepared by GCO for the Grande Côte Mineral Sands Project (GCP) and has been prepared in conjunction with the 'Land, Asset and Livelihood Baseline Study'. It provides an assessment of potential impacts to land, assets and livelihood to a feasibility standard within the Grande Côte Project Development Area (GCPDA) under the current 10 year mine plan, as well as providing a preliminary management strategy and compensation assessment for the GCP. It is intended that this Report will be used a basis for developing a Resettlement Action Plan (RAP) and Social Development Plan (SDP) following completion of the DFS process.

In September 2004, Mineral Deposits Limited (MDL), an Australian based resources company, was selected by the Government of the Republic of Senegal (GRS) to develop the Grande Côte Project (GCP). MDL and the GRS established a Senegalese operating company, Grande Côte Operations SA for local management and operation of the project.

The GCP will involve dredging coastal dunal heavy mineral deposits within the lease area which starts about 45 km north east of Dakar and extends northwards for more than 100 km (Figure 1.1). The mineralised dune system averages about two km in width with some areas extending to up to four and a half km wide, and contains very large sand masses. The main resource areas for the GCP currently are: Diogo, Fass Boye, Mboro, and Lompoul. These areas are all covered by the company's 445 km² lease area pursuant to the Grande Côte Mining Convention. Under the current 10 year mine plan, dredging activities will encompass the Diogo, Fass Boye and Lompoul deposits (Figure 1.2).



Figure 1.1 Project locality.

1.1. Objectives

The specific objectives of this Report are to:

1. Identify and describe the nature and extent of potential impacts on land, assets and the livelihood of villages within the GCPDA that may result from project development.
2. Develop a preliminary management strategy that will be used as a basis for developing detailed management plans and which identifies a schedule of implementation for priority actions to be completed in advance of mine construction.
3. Propose a methodology to evaluate the “replacement cost” of land and assets either lost, or to which access is lost, as a result of project-related land acquisition.
4. Prepare initial compensation cost estimates for the “replacement” of land and assets under the current 10 year mine plan.

1.2. Scope of Work

The scope of this report is based on updated project information provided by GCO including the modified GCP outline which has changed since the 2007 Baseline. This has resulted in some changes to the land and assets that are potentially impacted. Based on the aerial photography and the GCO ground truthing, it is considered unlikely that there has been a significant change in the Land, Asset and Livelihood Baseline and the impacts assessed from this Baseline between the field survey work in 2007 and the timing of this report. However field verification would be required for confirmation of this assumption. Such verification is scheduled to take place initially at an early stage in the GCP development, and at intervals as required thereafter during the operations phase. Ground truthing and field verification will be required for areas of the dredge path which falls outside the boundaries of the 2007 Baseline Study.

Land, asset and livelihood baseline information presented in this report and used as the basis for impact assessment and development of a proposed social management strategy for the GCP is based on the Land, Asset and Livelihood Baseline established by our field investigations of March / April 2007. This information has been updated using aerial photography of the GCPDA captured in January 2008 and recent ground truthing conducted by GCO staff under the instruction of Earth Systems. The assessment of land, assets and livelihood within the GCPDA under the current 10 year mine plan comprised of:

- A detailed assessment based on the 2007 Baseline Study data, visual interpretation 2008 aerial photography and recent ground truthing conducted by GCO staff.
- A desktop assessment for areas of the dredge path not covered by the 2007 Baseline Study (ie. Sections of years five, six and ten of mining) based on visual interpretation of 2008 aerial photography and recent ground truthing conducted by GCO staff.

1.3. Definitions of Key Terms

Definitions for a number of key terms that are used throughout this report:

Baseline Study:

The ground study to be undertaken by the Company at a specific point in time prior to the commencement of the Construction Works, which will identify and catalogue all man made improvements on or to the GCP Lands

Permit Area:

As described by the Grande Côte Mining Agreement, the Government of Senegal will give the Company rights of access to, use and possession of designated land contained within the Permit Area. The Permit Area is to be sufficient to enable the Company to exercise its rights and perform its obligations under the Mining Agreement.

Proposed Mining Area

The area of mineralisation located within the Permit Area which GCO intends to dredge under the current 10 year mine plan.

Buffer Zone

A 50 m buffer zone around the current proposed mining area has been defined as an area that may experience project related impacts and is likely to be required for community safety.

Note that a 250 m buffer zone was used in the 2007 Baseline Study which has subsequently been refined to 50 m in the 2009 update.

Grande Côte Project Development Area (GCPDA)

A broader project impact area encompassing the current proposed mining area and associated 50 m buffer zone, the Mine construction camp, Mineral Separation Plant and all other associated project facilities.

2007 Survey Area

The area encompassing the study villages surveyed during the 2007 Baseline Study.

Project Affected Persons:

Project Affected Persons (PAPs) are those persons and families affected or impacted by the Project, who have land, assets or derive some livelihood in those areas to be handed over to the GCO, temporarily or indefinitely. It is these PAPs who may be entitled to any applicable compensation.

2. LEGAL AND POLICY BASIS

The significant legal and policy drivers for the impact assessment and compensation processes for the Grande Côte Project are listed below:

- GCO agreements and policies
- Government of Senegal legislation and policies
- World Bank / IFC guidelines and performance standards
- African Development Bank safeguard policies.

2.1. MDL Policies

MDL is committed to developing a beneficial partnership with the local community that maximises the sustainable benefits of the GCP for all stakeholders, and makes a positive contribution to the development and prosperity of the Senegalese people through employment and training opportunities. The Company seeks to win global high regard for social and environmental compliance as well as technical, safety, and human resources excellence.

The core elements of MDL's community relations and development strategy include: a land and asset compensation program; resettlement planning; a livelihood restoration program; a community infrastructure development program; a community awareness and education program; and a disclosure and consultation program.

2.2. Grande Côte Mining Convention

MDL executed a Mining Convention for the GCP with the Government of Senegal (GRS), which was formally decreed in September 2004. The Agreement defines the general, legal, financial, fiscal, economic, administrative and specific corporate conditions under which MDL shall undertake its operations within its mining area. The following is a summary of commitments stipulated in the Mining Convention that are relevant to land occupation and compensation management:

- The State guarantees MDL access, occupation and use of all lands, inside and outside the area, necessary for the exploration and mining works on the deposit or deposits which are respectively the object of the mining permit in the context of this agreement and in accordance with the provisions of the Mining Code. (Article 32.3)
- At the request of MDL, the State will proceed with the relocation of residents whose presence on the land impedes the mining works. (Article 32.5)

- However, MDL shall be required to pay an equitable indemnity to the said residents as well as for all other losses, privations of use or damages that result from its activities. (Article 32.6)
- In the absence of an amicable settlement, the State agrees to undertake an action for public expropriation on behalf of MDL. (Article 32.7)

2.3. Government Legislation and Guidelines

Key laws and regulations of the GRS that are relevant to land administration and compensation are listed in Table 2.1.

Table 2.1 National legislation and regulations relevant to land administration and compensation assessment

Title (English)	Title (French)	Date
Mining Code	Loi no. 2003-35 du 24 novembre 2003 portant Code minier	2003, updated 2005
Decree No. 2004-647 (May 17, 2004) – Application of the Mining Code	Le décret No. 2004-467 du 17 mai 2004, portant application du Code minier.	2004
Law No. 64-46 (June 17, 1964) concerning the national domain	La loi n° 64-46 du 17 juin 1964 relative au domaine national	1964
Decree No. 64-578 (July 20, 1964), Application of the Law on National Domain	Le décret No. 64-578 du 20 juillet 1964, portant application de la loi n° 64-46 du 17 juin 1964 relative au domaine national	1964
Law No. 76-66 (July 2, 1976) pertaining to the State Code	La Loi n° 76-66 du 2 juillet 1976 portant Code du Domaine de l'Etat	1976
Civil Code and the Decree of July 26, 1932	Le Code civil et le décret du 26 juillet 1932	1932
Law No. 76-77 (July 2, 1976), Expropriation Applicable for Public Works	La Loi no. 76-67 du 2 juillet 1976 relative a l'expropriation pour cause d'utilité publique aux autres opérations foncières d'utilité publique.	1976
Decree No. 77-563 (July 3, 1977) Expropriation Applicable for Public Works	Le décret No. 77-563 du 3 juillet 1977, portant application de la loi no. 76-67 du 2 juillet 1976 relative a l'expropriation pour cause d'utilité publique aux autres opérations foncières d'utilité publique.	1977
Decree No. 88-074 (January 18, 1988), Price Scale for Land Applicable upon the Expropriation for Public Works	Le décret No. 88-074 du 18 janvier 1988, abrogeant et remplaçant le décret no 85-906 du 28 aout 1985 portant barème du prix des terrains nus et des terrains bâtis applicable en matière de loyer et d'expropriation pour cause d'utilité publique.	1988
Circular no. 2237/DGPA (October 7, 1974), Price Scale for Calculation of Compensation in Case of Destruction of Plantations and Cultivation or Delocalisation from the National Domain	Le circular no. 2237/DGPA le 7 octobre 1974, barème de prix pour l'estimation des indemnités a payer en cas de destruction de plantations et de culture ou de déguerpissement du domaine national.	1974

The **Mining Code (2003)** is the primary legislation regulating the mining industry in Senegal. Sections of the code that are relevant to land administration and compensation include:

- Title VIII, Article 55, 'Equalisation and Support' – Ensures that a portion of income from the mining operation is set aside as a fund for the local communities.
- Article 73, 'Land Occupation' – Holders of mining titles are required to request authorisation from the mining authorities to occupy lands that are necessary for their mining operations, whether such land is located either inside or outside the perimeter of their mining titles.

Within the perimeter of the mining title, the holders of mining titles can be granted right to occupy lands necessary to their mining activities and related facilities or infrastructures, to fell timber, and to use and manage surface waters. Outside the perimeter of the mining title, holders of mining titles are permitted to perform auxiliary activities including transportation and emergency works.

- Article 55, 'Equalisation and Support Funds' - One part of the fiscal resources perceived from mining operations is deposited in an equalisation fund destined to local communities.

Article 92 of the **Mining Code Application Decree, No. 2004-647**, states that all mining title holders must duly compensate the appropriate party, such as the land owner or the state, for any loss or damages caused by compulsory acquisition resulting from mining activities being carried out on their land by either the mining company or any contractors working on the mining company's behalf. Article 93 states that compensation is required for two types of land:

- For registered land, agreement is struck between the mining title holder and the land owner.
- For public land, an agreement is struck between the mining title holder and the local government concerned, or in the absence of such an agreement, by a commission comprised of: the Prefect of the Department concerned; the regional Mines Service; the regional Water Resources and Forestry Service; the Agricultural Service; the regional Land Titles Office; the regional State Lands Department; the Department for the Environment; local government concerned; the mining titleholder.
- If for whatever reason, in six months following the date on which the decree or the administrative order came into force authorizing the occupation of the lands, an agreement has not been reached between the holder of the mining title and holders of the land rights or the rural communities concerned, the beneficiary of the authorisation for occupation shall be authorised by the Minister for Mines to occupy the concerned lands in exchange for the deposit into the account of a public accountant of provisional compensation.

The June 1964 land reform anticipated the creation of the communautés rurales to act as a framework for the application of **Law No. 64-45 on the National Domain**. On April 19 1972 Law No. 72-75 was passed, establishing the rural institutions responsible for managing public lands.

This made rural councils responsible for democratic land management, under the control of the administrative authorities representing the State (governors, préfets and sous-préfets).

2.4. World Bank/IFC Guidelines and Performance Standards

IFC Performance Standard 5 – Land Acquisition and Involuntary Resettlement (April 30, 2006), applies wherever land, housing or other resources are taken involuntarily from people. It requires the consideration of feasible alternative project designs to avoid or minimise physical or economic displacement while balancing environmental, social and financial costs and benefits. This Performance Standard is attached as Appendix A.

The overall objectives of the IFC's performance standard on land acquisition and involuntary resettlement are to:

- a. Avoid or at least minimize involuntary resettlement where feasible by exploring alternative project designs.
- b. Mitigate adverse social and economic impacts from land acquisition or restrictions on affected persons' use of land by: (i) providing compensation for loss of assets at replacement cost; and (ii) ensuring that resettlement activities are implemented with appropriate disclosure of information, consultation, and the informed participation of those affected.
- c. Improve or at least restore the livelihoods and standards of living of displaced persons.
- d. Improve living conditions among displaced persons through provision of adequate housing with security of tenure at resettlement sites.

General requirements of the Performance Standard are presented in Box 2.1.

Box 2.1 – Insert from IFC Performance Standard 5Displacement

14. Displaced persons may be classified as persons: (i) who have formal legal rights to the land they occupy; (ii) who do not have formal legal rights to land, but have a claim to land that is recognized or recognizable under the national laws¹; or (iii) who have no recognizable legal right or claim to the land they occupy². The census will establish the status of the displaced persons.

15. Land acquisition for the project may result in the physical displacement of people as well as their economic displacement. As a result, requirements for both physical displacement and economic displacement may apply.

Physical Displacement

16. If people living in the project area must move to another location, the client will: (i) offer displaced persons choices among feasible resettlement options, including adequate replacement housing or cash compensation where appropriate; and (ii) provide relocation assistance suited to the needs of each group of displaced persons, with particular attention paid to the needs of the poor and the vulnerable. Alternative housing and/or cash compensation will be made available prior to relocation. New resettlement sites built for displaced persons will offer improved living conditions.

17. In the case of physically displaced persons under paragraph 14 (i) or (ii), the client will offer the choice of replacement property of equal or higher value, equivalent or better characteristics and advantages of location, or cash compensation at full replacement value where appropriate.³

18. In the case of physically displaced persons under paragraph 14 (iii), the client will offer them a choice of options for adequate housing with security of tenure so that they can resettle legally without having to face the risk of forced eviction. Where these displaced persons own and occupy structures, the client will compensate them for the loss of assets other than land, such as dwellings and other improvements to the land, at full replacement cost, provided that these people occupy the project area prior to the cut-off date for eligibility. Compensation in kind will be offered in lieu of cash compensation where feasible. Based on consultation with such displaced persons, the client will provide relocation assistance sufficient for them to restore their standards of living at an adequate alternative site. The client is not required to

¹ Such claims could be derived from adverse possession or from customary or traditional law.

² Such as opportunistic squatters and recently arrived economic migrants who occupy land prior to the cut-off date.

³ Payment of cash compensation for lost assets may be appropriate where: (a) livelihoods are no land-based; (b) livelihoods are land-based by the land taken for the GCP is a small fraction of the affected asset and the residual land is economically viable; or (c) active markets for land, housing, and labor exist, displaced persons use such markets, and there is sufficient supply of land and housing. Cash compensation levels should be sufficient to replace the lost land and other assets at full replacement cost in local markets.

compensate or assist those who encroach on the project area after the cut-off date.

19. Where communities of Indigenous Peoples are to be physically displaced from their communally held traditional or customary lands under use, the client will meet the applicable requirements of this Performance Standard, as well as those of Performance Standard 7 (in particular paragraph 14).

Economic Displacement

20. If land acquisition for the project causes loss of income or livelihood, regardless of whether or not the affected people are physically displaced, the client will meet the following requirements:

- Promptly compensate economically displaced persons for loss of assets or access to assets at full replacement cost.
- In cases where land acquisition affects commercial structures, compensate the affected business owner for the cost of re-establishing commercial activities elsewhere, for lost net income during the period of transition, and for the costs of the transfer and reinstallation of the plant, machinery or other equipment.
- Provide replacement property (e.g., agricultural or commercial sites) of equal or greater value, or cash compensation at full replacement cost where appropriate, to persons with legal rights or claims to land which are recognized or recognizable under the national laws (see paragraph 14 (i) and (ii))
- Compensate economically displaced persons who are without legally recognizable claims to land (see paragraph 14 (iii)) for lost assets (such as crops, irrigation infrastructure and other improvements made to the land) other than land, at full replacement cost. The client is not required to compensate or assist opportunistic settlers who encroach on the project area after the cut-off date.
- Provide additional targeted assistance (e.g., credit facilities, training, or job opportunities) and opportunities to improve or at least restore their income-earning capacity, production levels, and standards of living to economically displaced persons whose livelihoods or income levels are adversely affected. Provide transitional support to economically displaced persons, as necessary, based on a reasonable estimate of the time required to restore their income earning capacity, production levels, and standards of living.

21. Where communities of Indigenous Peoples are economically displaced (but not relocated) as a result of project-related land acquisition, the client will meet the applicable requirements of this Performance Standard, as well as those of Performance Standard 7 (in particular paragraphs 12 and 13).

2.5. African Development Bank Safeguard Policies

The African Development Bank Group Involuntary Resettlement Policy (November 2003) has been developed to cover involuntary displacement and resettlement of people caused by a Bank financed project and it applies when a project results in relocation or loss of shelter by the persons residing in the GCPDA, assets being lost or livelihoods being affected. This Involuntary Resettlement Policy is attached as Appendix B.

The overall goal of the Bank's policy on Involuntary Resettlement is to ensure that when people must be displaced they are treated equitably, and that they share in the benefits of the GCP that involves their resettlement.

Guiding principles relevant to the design and implementation of a compensation and resettlement program include:

- The borrower should develop a resettlement plan where physical displacement and loss of other economic assets are unavoidable⁴. The plan should ensure that displacement is minimized, and that the displaced persons are provided with assistance prior to, during and following their physical relocation. The aim of the relocation and of the resettlement plan is to improve displaced persons former living standards, income earning capacity, and production levels. Project planners should work to ensure that affected communities give their demonstrable acceptance to the resettlement plan and the development program, and that any necessary displacement is done in the context of negotiated settlements with affected communities.
- Additionally, displaced persons and host communities should be meaningfully consulted early in the planning process and encouraged to participate in the planning and implementation of the resettlement program.
- Particular attention should be paid to the needs of disadvantaged groups among those displaced, especially those below the poverty line, the landless, the elderly, women and children, and ethnic, religious and linguistic minorities; including those without legal title to assets, female-headed households. Appropriate assistance must be provided to help these disadvantaged groups cope with the dislocation and to improve their status.
- Resettlers should be integrated socially and economically into host communities so that adverse impacts on host communities are minimized.
- Displaced persons should be compensated for their losses at "full replacement" cost prior to their actual move or before taking of land and related assets or commencement of project activities, whichever occurs first; and

⁴ The borrower will be required to prepare a full resettlement plan for any project that involve a significant number of people (200 or more persons) who would need to be displaced with a loss of assets, or access to assets or reduction in their livelihood. For any project involving the resettlement of less than 200 persons, an abbreviated resettlement plan will be released together with the environmental annex of the Bank's Appraisal Report.

- The total cost of the GCP as a result should include the full cost of all resettlement activities, factoring in the loss of livelihood and earning potential among affected peoples. This attempt to calculate the “total economic cost” should also factor the social, health, environmental and psychological impacts of the GCP and the displacement, which may disrupt productivity and social integration. The resettlement costs should be treated against economic benefits of the GCP and any net benefits to resettlers should be added to the benefit stream of the GCP.
- The borrower will be required to prepare a full resettlement plan for any project that involve a significant number of people (200 or more persons) who would need to be displaced with a loss of assets, or access to assets or reduction in their livelihood. For any project involving the resettlement of less than 200 persons, an abbreviated resettlement plan will be released together with the environmental annex of the Bank’s Appraisal Report.

3. IMPACT ASSESSMENT

3.1. Settlement

3.1.1. Issues and Findings

The GCPDA is inhabited by populations of the Peul and Wolof ethnicities. The Peul communities are the principal inhabitants of the littoral dune and thus project development has the potential to expose these groups, more than coastal and hinterland communities, to greater risks and severity of impacts.

Family structure is patrilineal. An extended family typically comprises more than one household and is represented by a chief (chef de concession) who is typically the eldest male. Households within the same extended family normally live within a common compound (or concession). Resources such as food, access to land, equipment and cash income can be shared by households within the concession. This interdependency strengthens individual resource security, especially in times of hardship. Polygamy (or more specifically polygyny) is common; almost 40% of adult men in the 2007 Survey villages have more than one wife.

For the settlements located within the proposed mining area, the average household size is approximately 5 to 8 persons. Upwards of 50% of the population within the 2007 Survey Area is below the age of 16 years and less than 10% is above the age of 50.

Project development under the current 10 year mine plan, is likely to necessitate the relocation of settlements belonging to the villages of Foth, Diogo, Diourmel and Thiakmat. Table 3.1 provides a summary of potential impacts to these settlements.

Other project components such as the MSP and Mine Construction Site are unlikely to require resettlement, although in some instances, positioning of these components is yet to be finalised. A summary of the households, population and assets of the potentially affected villages is provided below.

Table 3.1 Settlements in the proposed mining area and buffer zone for the current 10 year mine plan.

Settlement ID	Potential Resettlement Requirements		% of habitation area disturbed	% of community land disturbed	
	No. Households	Population			
Foth Settlements					
FoH01	2	15	100	32	
FoH16	7	46	100		
FoH27	10	88	100		
FoH28	7	74	100		
Sub-total	26	223	100		
Diogo Hamlets					
DgH1	5	55	100	44	
DgH2	3	8	100		
DgH3	6	28	100		
DgH4	1	7	100		
Sub-total	15	98	100		
Diourmel Hamlets					
DiV01^	2	10	100	19	
DiH01^	13	42	100		
DiH04^	8	42	92		
DiH5 ^{#, ^^}	6	32	38		
DiH06	1	8	100		
DiH10^^	6	17	61		
DiH11	7	39	100		
DiH12	5	15	100		
DiH13	7	34	100		
DiH15 and DiH16^^	6	41	29		
DiH18	2	16	100		
DiH19	4	27	100		
DiH22^	4	7	100		
DiH23	8	28	100		
DiH24^	4	15	100		
DiH33 [#]	4	25	100		
Sub-total	87	397	88		
Thiakmat					
TiH01^^	4	18	24		7
TiH02 [#]	2	11	100		
TiH03 [#]	16	88	100		
TiH13 ^{#, ^^}	11	60	64		
TiH14 ^{#, ^^}	2	11	<1		
TiH15 ^{#, ^^}	3	18	4		
TiH16 ^{#, ^^}	8	46	14		

Settlement ID	Potential Resettlement Requirements		% of habitation area disturbed	% of community land disturbed
	No. Households	Population		
TiH17 ^{#, ^}	4	25	100	
TiH18 ^{#, ^}	8	42	100	
TiH19 ^{#, ^}	4	25	100	
TiH20 ^{#, ^^}	3	14	85	
TiH21 ^{#, ^}	3	14	100	
TiH22 ^{#, +, ^^}	14 [#]	81	99	
Sub-total	81	449	78	7

* 2007 Baseline Study data adjusted for the current mine plan. Population does not include any new households or persons located within the GCPDA post the 2007 Baseline Survey.

Population and household numbers have been estimated for settlements that were outside the scope of the 2007 Baseline Study, based on an average infrastructure/household and infrastructure/population ratio determined from 2007 survey data. Infrastructure was identified using from January 2008 satellite imagery.

^ Settlement area is located in both proposed mining area and buffer zone. Household and population data assumes that the entire population of a settlement intersected by the proposed mining area is inside the proposed mining area.

^^ Household population data assumes that the entire population of a settlement partially outside the buffer zone is within the buffer zone.

Within the ten year mine plan, a total 27 settlements are located within the proposed mining area, including four (4) Diogo hamlets, three (3) Foth settlements, thirteen (13) Diourmel hamlets and seven (7) Thiakmat settlements (Figure 3.1).

The proposed GCP is expected to directly influence approximately 159 households, containing 897 persons, residing inside the proposed mining area (Table 3.2). A further 50 households, approximately 270 persons, will potentially be impacted inside the 50 meter project buffer zone (Table 3.3).

As no detailed baseline has yet been undertaken for many of the Thiakmat settlements and one Diourmel settlement, the number of households in these settlements have been estimated based on the number of huts, buildings and other infrastructure (Table 3.2 and Table 3.3).

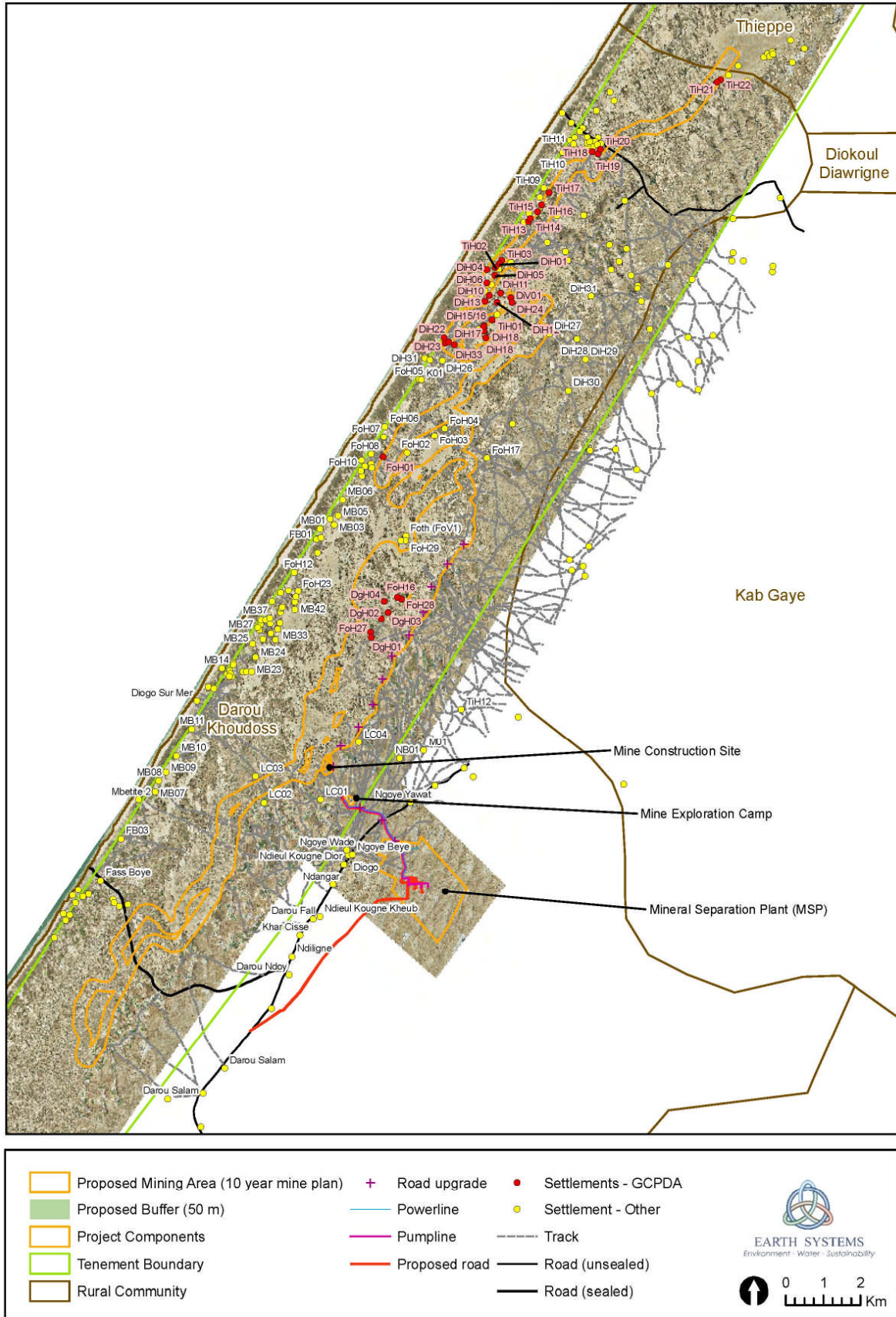


Figure 3.1 Map of Settlements within the GCP region.

Table 3.2 Population inside the proposed mining area for year 1 to 10 of mine development*.

Settlement Cluster	Hamlet Code**	No. of Households	Population	Ave. Household Size
Inside Proposed Mining Area				
Diogo	DqH01^	5	55	11.0
	DqH02^	3	8	2.7
	DqH03	6	28	4.7
	DqH04	1	7	7.0
	<i>Sub-total</i>	15	98	6.5
Diourmel	DiV01^	2	10	5.0
	DiH01^	13	42	3.2
	DiH04^	8	42	5.3
	DiH06	1	8	8.0
	DiH11	7	39	5.6
	DiH12	5	15	3.0
	DiH13	7	34	4.9
	DiH18	2	16	8.0
	DiH19	4	27	6.8
	DiH22^	4	7	1.8
	DiH23	8	28	3.5
	DiH24^	4	15	3.8
	DiH33#	4	25	5.6
	<i>Sub-total</i>	69	308	4.4
	Foth	FoH16	7	46
FoH27		10	88	8.8
FoH28		7	74	10.6
<i>Sub-total</i>		24	208	8.7
Thiakmat	TiH02#	2	11	5.6
	TiH03#	16	88	5.6
	TiH17#. ^	4	25	5.6
	TiH18#. ^	8	42	5.6
	TiH19#. ^	4	25	5.6
	TiH21#. ^	3	14	5.6
	TiH22#. *, ^^	14#	81	5.6
	<i>Sub-total</i>	51	284	5.6
Sub-Total Proposed Mining Area		159	897	5.6

* 2007 Baseline Study data adjusted for the current mine plan. Population does not include any new households or persons located within the GCPDA post the 2007 Baseline Survey.

** The location of each settlement is shown in Figure 3.2.

Population and household numbers have been estimated for settlements that were outside the scope of the 2007 Baseline Study, based on an average infrastructure/household and infrastructure/population ratio determined from 2007 survey data. Infrastructure was identified using from January 2008 satellite imagery.

^ Settlement area is located in both proposed mining area and buffer zone. Household and population data assumes that the entire population of a settlement intersected by the proposed mining area is inside the proposed mining area.

^^ Household population data assumes that the entire population of a settlement partially outside the buffer zone is within the buffer zone.

Table 3.3 Population inside the proposed buffer zone for year 1 to 10 of mine development*.

Settlement Cluster	Hamlet Code**	No. of Households	Population	Ave. Household Size
Inside Buffer Zone				
Foth	FoH01	2	15	7.5
	<i>Sub-total</i>	2	15	7.5
Diourmel	DiH5 [#] , ^^	6	32	5.6
	DiH10^^	6	17	2.8
	DiH15 and DiH16^^	6	41	6.8
	<i>Sub-total</i>	18	90	5.1
Thiakmat	TiH01^^	4	18	4.5
	TiH13 [#] , ^^	11	60	5.6
	TiH14 [#] , ^^	2	11	5.6
	TiH15 [#] , ^^	3	18	5.6
	TiH16 [#] , ^^	8	46	5.6
	TiH20 [#] , ^^	3	14	5.6
	<i>Sub-total</i>	30	165	5.4
Sub-Total Buffer Zone		50	270	5.4

* 2007 Baseline Study data adjusted for the current mine plan. Population does not include any new households or persons located within the GCPDA post the 2007 Baseline Survey.

** The location of each settlement is shown in Figure 3.2.

Population and household numbers have been estimated for settlements that were outside the scope of the 2007 Baseline Study, based on an average infrastructure/household and infrastructure/population ratio determined from 2007 survey data. Infrastructure was identified using from January 2008 aerial photography.

^^ Household population data assumes that the entire population of a settlement partially outside the buffer zone is within the buffer zone.

Under the current 10 year mine plan, the cumulative habitation area for settlements within the proposed mining area and buffer zone is 10.2 ha and 3.0 ha, respectively (Table 3.4). Note, that some habitation areas are located partly outside the GCPDA.

Table 3.4 Approximate habitation areas (ha) for settlements within the GCPDA

Settlement Cluster / ID	Inside Proposed Mining Area	Inside Buffer Zone	Sub-Total
Foth [^]	1.6	0.1	1.7
Diogo hamlets [^]	2.4	0.1	2.5
Diourmel hamlets [^]	4.0	1.3	5.9
Thiakmat	2.3	1.5	4.9
TOTAL	10.2	3.0	15.0

[^] Foth settlement cluster includes FoV1, FoH16, and FoH27 to FoH28. Diogo hamlets include DgH1 to DgH4. Diourmel hamlets include DiV01, DiH01, DiH04 to DiH06, DiH10 to DiH13, DiH15 to DiH16, DiH18 to DiH19, DiH22 to DiH24, and DiH33. Thiakmat hamlets include TiH01 to TiH04, and TiH13 to TiH22.

Unless properly mitigated against, relocation will affect established production systems, livelihood and social cohesion, existing assets and community infrastructure. Social connections, particularly at the family level are an important aspect of social cohesion and will require a consultative approach to avoid impacts.

Residential structures with the GCPDA comprise huts constructed from wood, reeds and grass (Plate 3.1); and cement built houses, some with metal roofs (Plate 3.2). Infrastructure identified inside the proposed mining area for the current 10 year mining period included 134 huts and 37 buildings with a metal roof (Table 3.5). 48 other buildings were also identified within the proposed mining area. Residential infrastructure within the buffer zone comprises of a total of 77 huts, 25 buildings with a metal roof and 34 other buildings. Community infrastructure identified includes a small Arabic school, and cultural sites including cemeteries.



Plate 3.1 Huts in the GCPDA.



Plate 3.2 Houses in the GCPDA.

Table 3.5 Infrastructure baseline for the current 10 year mine plan*.

Settlement [^]	Hut	Building with metal roof	Approx. Area of Metal Roofing (m ²)	Community Infrastructure	Other Infrastructure ^{**}	Sub-Total
Inside Proposed Mining Area						
Diogo hamlets [^]	20	7	227	2	12	41
Foth hamlets [^]	32	6	230	0	8	46
Diourmel hamlets [^]	51	13	1,308	0	14	78
Thialmat hamlets [^]	31	11	159	0	14	56
Sub-total	134	37	1,924	2	48	221
Inside Buffer Zone						
Diogo hamlets [^]	3	0	0	0	3	6
Foth hamlets [^]	3	2	51	0	2	7
Diourmel hamlets [^]	36	8	359	0	8	52
Thialmat hamlets [^]	35	15	510	0	21	71
Sub-total	77	25	920	0	34	136
Total	211	62	2,844	2	82	357

* Infrastructure was identified using January 2008 aerial photography.

** Refers to infrastructure that was not classifiable based on visual interpretation of January 2008 aerial photography. Field work will be required to confirm the existence, type and currency of this infrastructure.

[^] Foth settlement cluster includes FoV1, FoH16, and FoH27 to FoH28. Diogo hamlets include DgH1 to DgH4. Diourmel hamlets include DiV01, DiH01, DiH04 to DiH06, DiH10 to DiH13, DiH15 to DiH16, DiH18 to DiH19, DiH22 to DiH24, and DiH33. Thiakmat hamlets include TiH01 to TiH04, and TiH13 to TiH22.

Table 3.6 provides the incremental infrastructure potentially disturbed by dredging activities. Key years in terms of potential disturbance to infrastructure are years three and four as well as years eight to ten when the dredge path passes through Foth, Diogo, Diourmel and Thiakmat settlement areas on the littoral dune.

Table 3.6 Incremental infrastructure potentially disturbed within the dredge path*

Asset Type	Mine Year										Sub-total
	1	2	3	4	5	6	7	8	9	10	
Huts	0	0	19	36	0	0	0	3	29	124	211
Building with metal roof	0	0	7	6	0	0	0	2	12	35	62
Community Infrastructure	0	0	1	0	0	0	1	0	0	0	2
Other Infrastructure	0	0	14	9	0	0	0	2	6	51	82
TOTAL	0	0	41	51	0	0	1	7	47	210	357

* Excludes cultural sites. Refer to Section 3.5.

The potential impact to community infrastructure and cultural sites is discussed in Section 3.5. Impacts to water sources located within the proposed mining area and buffer zone are covered in Section 3.3. Potential impacts to land and production systems are discussed in Section 3.2.

3.1.2. Avoidance, Mitigation and Management Measures

Settlement areas and infrastructure within the proposed mining area are expected to be fully impacted. In some circumstances this infrastructure may be able to be moved to nearby areas resulting in reduced impact on the society. If disturbance is unavoidable, settlements are likely to require relocation.

The implementation of a Resettlement Action Plan (RAP) and Social Development Plan (SDP) developed with appropriate community and government consultation prior to construction will reduce the significance of potential impacts associated with relocation. These plans will detail a suite of management and mitigation measures to be undertaken as well as a schedule of implementation to ensure appropriate mitigation of impacts. Detailed Government and community consultation will be required to fully define feasible relocation options. The successful rehabilitation of land potentially disturbed by the GCP would further mitigate against impacts associated with relocation.

Assets and community infrastructure associated with settlements are also likely to be directly impacted by project development. Compensation will be required for all asset and community infrastructure loss associated with the GCP.

3.1.3. Impact Assessment

Inside the proposed mining area, the GCP is likely to necessitate the relocation of 27 settlements belonging to the villages of Foth, Diogo, Diourmel, and Thiakmat containing 159 households, approximately 897 persons. A further 50 households, approximately 270 persons will potentially be impacted within the 50 m buffer zone.

There is unlikely to be any direct impacts on settlements outside of these areas. Indirect impacts may include disturbance to social and cultural associations held with directly impacted settlements.

Provided the appropriate compensation measures outlined above are successfully implemented, direct impacts on assets and community infrastructure are expected to be significantly reduced. The development and implementation of a Resettlement Action Plan (RAP) and Social Development Plan (SDP) prior to construction will also reduce the significance of potential impacts associated with relocation.

3.2. Land Use

3.2.1. Issues and Findings

The principal land use activities within the GCPDA include horticulture, agro-pastoralism, and timber forest-product harvesting. Local people have the right to use the land according to

customary practices under the jurisdiction of the Rural Community. The majority of land in the project development area is held under traditional forms of title, with the exception of some land parcels in the Niayes that are formally registered with the Rural Council.

The majority of adult men (92%) and women (58%) in the 2007 Survey Area identified agriculture as their principal occupation. Horticulture is the main dry season activity for both family consumption and commercialization. Horticulture is practiced in the dune depressions where groundwater is more readily accessible for irrigation (Plate 3.3). To overcome shortages in water, land and labour, farmers are introducing mechanised forms of irrigation, recruiting on-farm labour and using increasing quantities of chemicals.



Plate 3.3 Typical horticultural practice in the dune depressions.

The arable interdune depressions, known as 'niayes', are located on the eastern side of the dunes in the hinterland areas and are characterised by shallow basins, near-surface groundwater and soils often rich in humus and peaty sediments favorable for a wide range of horticultural crops (Touré and Seck, 2005). Due to their rarity and the favorable nature of their soils, the Niayes are densely occupied. The Niayes zone accounts for up to 80% of horticultural production in Senegal, 77% in the Louga Region and 80% in Saint-Louis and Thiès regions (IDRC 2001).

Some of the agricultural areas on the littoral dunes, which are also in depressions, are more marginal, often being further from the groundwater table and having less organic material in the soil.

Diversification of the agricultural sector between crops and livestock helps to provide an important form of livelihood security. More than 75% of the households in the 2007 Study Area raise either cows or small ruminants (goats and sheep) or poultry. Market gardening has enabled the intensification of animal raising in the form of waste crops providing a valuable source of animal feed, and manure a source of fertiliser (Plate 3.4). Horse and donkey are mainly used for animal traction and transportation.



Plate 3.4 Agro-pastoralism.

Land use will primarily be affected by the disturbance of land within the proposed mining area and buffer zone (Table 3.5). The GCP will result in both temporary and semi-permanent loss of access to land over the 10 year mine plan. Key potential impacts of land loss include:

- Livelihood and nutrition impacts from the loss of agricultural production.
- Impacts on access to agricultural land and community land.
- Loss of local community timber and non-timber forest resources.
- Loss of income and employment.

The loss of productive land and resources, along with residential structures and other community assets is one of the key impacts associated with the proposed GCP. Agricultural activities are the principle source of livelihood for settlements within the GCPDA and thus access to established production systems and forest resources are of critical importance in sustaining the livelihood of these settlements.

The period of loss will depend on the time taken for the rehabilitation and stabilisation of the dune following mine exploitation including fixation of dunes where these may be prone to wind erosion, the re-establishment of vegetation and the availability of groundwater for agricultural production. Successful rehabilitation may take several years and thus it will be some time before communities can return to the land.

Agricultural areas, in particular market gardens, are already subject to the inward migration of littoral dunes by wind erosion within the GCPDA. In recent years, several areas have been planted with eucalyptus and casuarinas (*filao*) in an effort to stabilise the dunes from wind erosion and encroachment onto market gardens (Figure 3.2 and 3.3). These plantations (or revegetated dune

areas) are administered by the National Forestry Commission. The last significant plantation within the GCO mining lease area was north of Lompoul, a 120 ha area of Eucalypts established in August 2009. Use of plantations as a source of timber by the local community is permitted under the control of the National Forestry Commission. Japan International Cooperation Agency (JICA) has also provided assistance in establishing plantations within the GCO mining lease area. Work undertaken in the area by JICA ceased at the end of 2005.

Potential disturbance of these 'fixed' areas by the GCP will need to be effectively managed to minimise the length of time the mined areas are exposed to erosion and thus limit the potential for sand encroachment into agricultural and habitation areas. As noted in EMRC (2009), a specific rehabilitation plan will need to be developed based on consultation with the government, local community and other stakeholders, that takes into account available baseline information (i.e. social, environmental, economic, etc), the results of proposed rehabilitation trials and as much as possible utilises local expertise and capacity building of existing local rehabilitation facilities (eg. nurseries). Employment and other opportunities associated with rehabilitation activities are likely to also be made available to the local community (see Section 3.4).

The potential for dredging activities to adversely affect the availability of groundwater for irrigation and stock watering may impact land use within the GCPDA and nearby areas. In particular, any elevated groundwater levels in agricultural areas within the Niayes could lead to productivity loss in these areas.

A summary of the land assets within the proposed mining area and buffer zone potentially impacted by project development is provided below (Table 3.7). Land use within the proposed mining area and buffer zone is presented in Figure 3.2 and 3.3. Additionally,

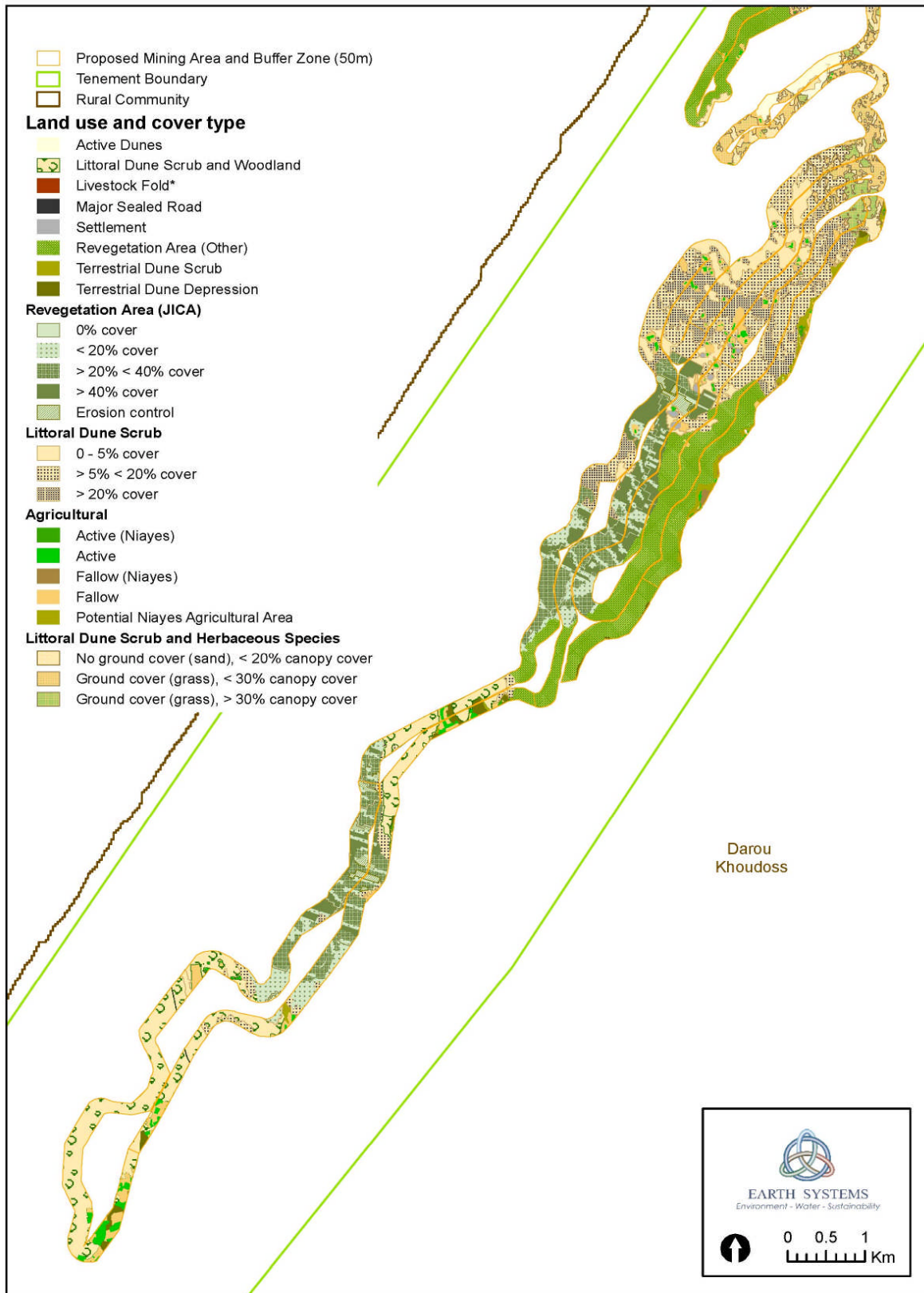


Figure 3.2 Land use and cover map of the proposed mining area and buffer zone for years one to seven of mining

*Note that livestock “folds” on the littoral dunes are temporary in nature. Animal management practices are usually integrated with agricultural systems.

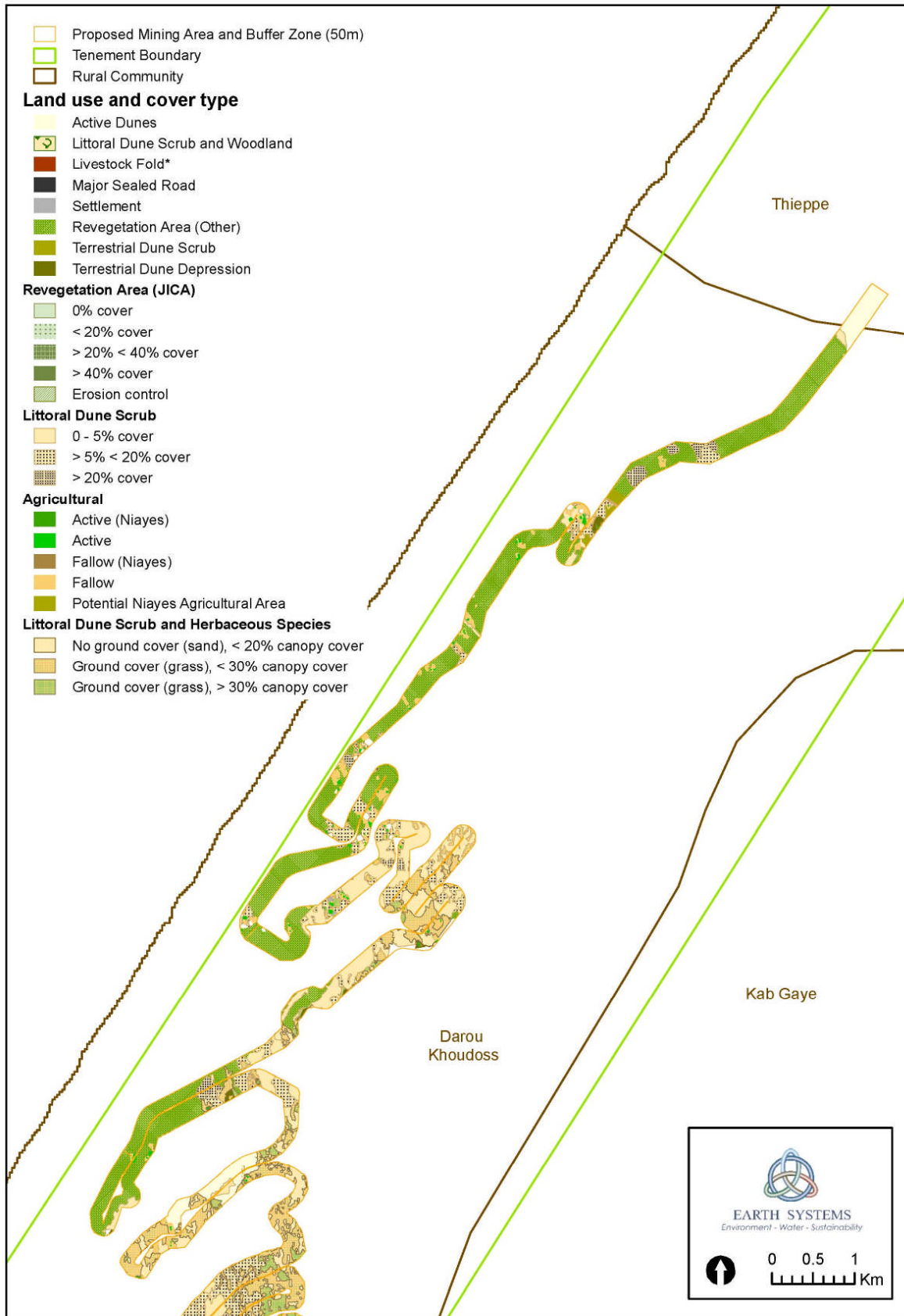


Figure 3.3 Land use and cover map of the proposed mining area and buffer zone for years eight to ten of mining

*Note that livestock “folds” on the littoral dunes are temporary in nature. Animal management practices are usually integrated with agricultural systems.

Table 3.7 Summary of land areas potentially disturbed by the proposed GCP*

Land Type	Proposed Mining Area	Buffer zone	Sub-total
Agricultural Land			
Active (Littoral Dune)	33.9	19.0	52.9
Fallow (Littoral Dune)	77.7	30.5	108.2
Potential Niayes Agricultural Area	3.9	5.0	8.9
<i>Sub-total (agricultural land)</i>	115.5	54.4	170.0
Pastoral Land			
Livestock fold**	0.05	0.02	0.07
Community Land			
Active Dunes	39.3	16.2	55.5
Littoral Dune Scrub and Herbaceous Species	204.4	73.5	277.9
Sand, < 20% canopy cover	57.9	19.3	77.2
Ground cover (grass), < 30% canopy cover	113.1	44.4	157.5
Ground cover (grass), > 30% canopy cover	33.5	9.8	43.2
Littoral Dune Scrub and Wood Land	214.8	92.5	307.4
Littoral Dune Scrub	661.6	140.4	802.1
0 - 5% cover	201.0	51.1	252.1
> 5% < 20% cover	308.3	65.6	374.0
> 20% cover	152.3	23.7	176.0
Revegetation Area (JICA)	381.1	84.2	465.3
0% cover	30.4	5.4	35.9
< 20% cover	98.9	26.7	125.6
> 20% < 40% cover	128.3	26.4	154.7
> 40% cover	106.9	24.1	131.0
Erosion control	16.5	1.6	18.1
Revegetation Area (Other)	563.1	169.4	732.5
Terrestrial Dune Depression	18.5	19.1	37.6
Terrestrial Dune Scrub	23.4	26.3	49.8
<i>Sub-total (community land)</i>	2106.3	621.6	2727.9
Road			
Sealed Road	0.4	0.2	0.6
TOTAL	2222.2	676.3	2898.6

* Excludes settlement areas (see Section 3.1). ** Note that livestock “folds” on the littoral dunes are temporary in nature. Animal management practices are usually integrated with agricultural systems.

3.2.2. Avoidance, Mitigation and Management Measures

Where disturbance is unavoidable, the development and implementation of appropriate and well resourced management and mitigation measures will be of key importance in minimising the potential impacts of disturbance to land use associated with project development.

Direct impacts on land loss will require mitigation through measures such as providing compensation for or replacement of agricultural land, maximising local employment and alternative livelihood development activities.

Prior to disturbance, compensation and/or replacement land will need to be provided for all land loss associated with the GCP in areas that are not currently owned by GCO or where no compensation agreement already exists. Extensive stakeholder consultation will be required to develop suitable compensation and replacement land options. Options may include replacement land on the littoral dune or in the hinterland areas. Further details regarding compensation are provided in Section 4.

Development and implementation of a site-specific rehabilitation plan (see Section 3.2.1) will also be a key management measure in restoring the productive value of lost agricultural land and forest resources. As noted by Swabey (2009) and re-iterated in EMRC (2009), *the Environmental Impact Statement (EIS) (Tropica 2005) states that 'GCO intends to restore the various sites to their initial state or to a better state. GCO suggests two scenarios:*

- *A 'minimalist scenario for reconstitution of the landscape: plantations of fast growing species (Eucalyptus and Filao), using well known techniques; and*
- *An 'ideal scenario' for reconstitution of the landscape: rehabilitation based on local biodiversity, with local forest fruit species (Parinari, Aphania, Chrysobalanus) and other fodder species or species fertilising the soil (Acacia albida) or having pharmaceutical interests.*

As noted in EMRC (2009), GCO anticipates that rehabilitation will include both of the above options, where appropriate. GCO will adopt a progressive rehabilitation approach over the life of the mine.

Impacts on community land will need to be mitigated through measures such as the allocation of new community land at the village level where this is lost to the GCP. A once off restoration allowance will be required to compensate for temporary loss of land and forest access.

Suitable management measures to avoid and/or minimise potential project impacts include:

- Careful / iterative mine path design taking into account social / community and process requirements to limit disturbance in the first place.
- Update the baseline by conducting follow-up consultation with communities located in the GCPDA to confirm the ownership of their agricultural and community land use and subsequently the nature and extent of impacts to this land prior to the commencement of the GCP.

- In consultation with affected households and local government authorities, develop a Resettlement Action Plan (RAP) and Social Development Plan (SDP) which will detail appropriate compensation for land and livelihood impacts, including compensation for loss of economic timber within the proposed mining area.
- Implement appropriate erosion control and drainage management measures to minimise the potential land and water quality impacts associated with land clearance.
- Where access to land resources is disturbed, provide alternative access routes.
- Evaluation of options for the development of sustainable sources of domestic biomass fuel in the design of rehabilitation and social development programs, to compensate for the loss of dune biomass.

Provision of alternative employment by the GCP will also reduce the economic reliance on community land resources and improve natural resource management through education and skills transfer to the local communities. Impacts on forest resource use will also require mitigation through measures such as progressive rehabilitation of the proposed mining area and prohibition of collection of forest resources by project staff.

GCO could also mitigate potential negative impacts on agricultural land by assisting improvements in agricultural practices and “food security” (e.g. optimisation and intensification of non-impacted agricultural and other productive land) through a Community Development Fund (if established). GCO can assist local communities in developing alternative livelihoods to compensate for livelihood and land loss associated with the GCP.

3.2.3. Impact Assessment

Impacts on land use will primarily be associated with the disturbance of land for mining activities within the proposed mining area and buffer zone. Disturbance to plantation areas and the success of subsequent rehabilitation of these areas will be a key factor in determining the degree of potential impact on land use, particularly agricultural areas inside and within close proximity to the GCPDA.

Based on the current mine plan, the GCP has the potential to impact approximately 2,222 ha of land within the proposed mining area. A further 676 ha of land will potentially be impacted within the buffer zone. Other project components including the MSP, Mine Construction Site and lay-down area will also impact on land assets. GCO has been granted free-hold title for all the land within these areas.

Approximately 115.5 ha of potential active / inactive agricultural land located within the proposed mining area is likely to be impacted by project development. A further 54.4 ha of similar agricultural land located in the buffer zone may also be impacted. Agricultural areas are located in dune depressions where groundwater is accessible and the dunes themselves are relatively stable from erosive forces. Ownership of this land is likely to be associated with settlements located inside and outside of the GCPDA. Potential land loss in these areas is likely to impact on horticultural practices within the GCPDA.

The extent to which agricultural areas are likely to be adversely or favourably impacted by potentially elevated groundwater levels associated with dredging activities is still to be confirmed by GCO. Agricultural areas likely to be most at risk include the Niayes adjoining the littoral dune located along the eastern edge of the dredge path.

Within the proposed mining area, project development has the potential to result in loss of access to approximately 907 ha of herbaceous, scrub and wood land surrounding the settlements. In addition, approximately 944 ha of revegetated dune areas will potentially be impacted by project development within the proposed mining area under the current 10 year mine plan. A further 282 ha of herbaceous, scrub and wood land and 254 ha of revegetated dune areas will potentially be impacted within the buffer zone. These areas are used by the community for grazing livestock and provide a valuable source of timber and non-timber forest products. Loss of access to these areas may impact livelihoods in surrounding villages by reducing the availability of forest resources such as Non-Timber Forest Products (NTFPs).

With the successful implementation of management and mitigation measures outlined above, such as compensation, the development of alternative livelihood activities and progressive rehabilitation, the residual impact of the Project on land loss relating to agricultural land, community and forest resource use can be minimised to levels likely to be acceptable to community and government.

The settlements most affected by the potential land impacts associated with the current ten year mine plan within the GCPDA are the settlements of Foth (FoH01, FoH16, FoH27 and FoH28), Diourmel (DiV01, DiH01, DiH04 to DiH06, DiH10 to DiH13, DiH15 to DiH16, DiH18 to DiH19, DiH22 to DiH24 and DiH33), Diogo hamlets (DgH1, DgH2, DgH3 and DgH4) and Thiakmat hamlets (TiH01 to TiH03 and TiH13 to TiH22). The first ten years of project development will result in the potential loss of up to 33% of community land within Foth village boundaries, 44% for Diogo, 19% for Diourmel and 7% for Thiakmat. There is also potential for hinterland and coastal settlements to own land assets located inside the GCPDA.

Service infrastructure (i.e. access roads, powerlines, pipelines, etc) and the construction of the rail spur associated with the GCP will also impact on land assets, however, the positioning of some of these components is yet to be fully finalised. An assessment of land and assets that will potentially be affected by the siting of these project facilities will need to be undertaken prior to construction. There is likely to be negligible direct impact on land outside of these areas assuming no adverse effects to groundwater resources particularly in the Niayes adjacent to the GCPDA.

Indirect impacts from the Project will result from increased pressure on land and forest resources in the vicinity of the GCPDA associated with in-migration. Some degree of project-related in-migration to the surrounding area is likely to occur (eg. job seekers), even with effectively implemented management and mitigation measures. In-migration is most likely to occur in Diogo (main village). GCO initiatives in cooperation with the local community and the Rural Community of Darou Khoudoss and Thieppe, will help to minimise the potential impacts of increased population through measures such as structured employment policies and development of alternative livelihood activities.

3.3. Water Use

3.3.1. Issues and Findings

Initial hydrological modelling for the passage of the dredge past adjacent horticultural areas has been undertaken (PSM, 2010). This work has identified that bores will be located adjacent to the dredge to recirculate water to the dredge pond and to return groundwater levels to pre-mining levels away from the dredge pond. Make up water for the dredge pond will be derived from a deep aquifer that is not connected to the surface aquifer.

Subsequently, any impacts associated with the raising of the groundwater table associated with the dredge pond are expected to be limited primarily to the 50 metre buffer zone. The groundwater bores adjacent to the dredge path will allow active management of groundwater levels adjacent to the dredging operation.

Regionally, the dredging operation may lead to a small increase in groundwater levels that may have localised beneficial agricultural impacts.

Groundwater is of vital importance to the livelihood of the local communities within the GCPDA. A comparison of studies conducted in 1975 and 1994 suggest that groundwater level has been steadily dropping, which is likely to be due to the combined affects of long-term drought and increased groundwater use. GCO has been monitoring groundwater for almost 5 years through greater than 300 piezometers in the proposed mining path with similar indications.

For settlements on the littoral dune, groundwater is the key source of water. Groundwater harvested from shallow wells, is used by settlements for agriculture, household consumption (eg. washing, cooking, etc), and stock watering (Plate 3.5 to 3.7). Groundwater is usually transported by hand to irrigate adjacent agricultural areas. Mechanically driven boreholes, varying in depth from a few metres to over 20 metres can also however be found in niayas areas.



Plate 3.5 Typical private well with holding and distribution vessel in background.



Plate 3.6 Typical trench and pump configuration located in the Niayes.



Plate 3.7 Typical water pump.

Groundwater is also important for households within the GCPDA. Any reduction in the availability or quality of surface or groundwater associated with the GCP may thus directly impact household water usage.

Household investment for a well and borehole (not common at all on littoral dunes) is typically in the order of 70,000 FCFA and 700,000 FCFA respectively. Based on interpretation of aerial photography and 2007 Baseline Study data, there are an estimated 609 water sources within the proposed mining area of which 603 are wells and the remainder trenches (Figure 3.4). Of the 609 wells, 536 belong to the settlements of Foth, Diogo, Diourmel and Thiakmet, 13 to hinterland and coastal settlements and the remainder (60) were classified as *unknown*. A further 283 water sources are located within the current buffer zone (Table 3.8).

Table 3.8 Ground water infrastructure within the proposed mining area and buffer zone*.

Settlement Cluster	No. of Water sources inside Proposed Mining Area	No. of Water sources inside Buffer Zone
Diogo [^]	173	64
Foth [^]	46	11
Diourmel [^]	137	75
Thiakmat ^{^^}	180	84
Darou Salam [#]	1	1
MB1 [#]	12	14
TmH01 [#]	0	3
Unknown ⁺	60	31
Total	609	283

* Based on 2007 Baseline Study data and field verification of key uncertainties identified from visual interpretation of 2009 aerial photography. Data presented includes all active & inactive wells, trenches and bores, but excludes cement holding basins. Water sources have been grouped under settlement clusters identified in 2007 Baseline Survey. If settlement ownership unknown water sources have been grouped according to village boundaries.

[^] Based on approximate village boundaries determined during the 2007 Baseline Survey.

^{^^} Thiakmat village boundary estimated based on Diourmel boundary and Rural Community Boundary between Darou Khoudass and Thieppe.

[#] Village boundaries not known.

⁺ Includes water sources intersected by the proposed mining area and buffer zone not within a determined village boundary.

Additionally, Table 3.9 provides the incremental and cumulative area of water sources potentially disturbed by dredging activities.

Table 3.9 Incremental and cumulative land areas (ha) potentially disturbed within the dredge path

Asset Type	1	2	3	4	5	6	7	8	9	10	Total
Water sources	1	49	20	75	4	55	45	43	71	246	609

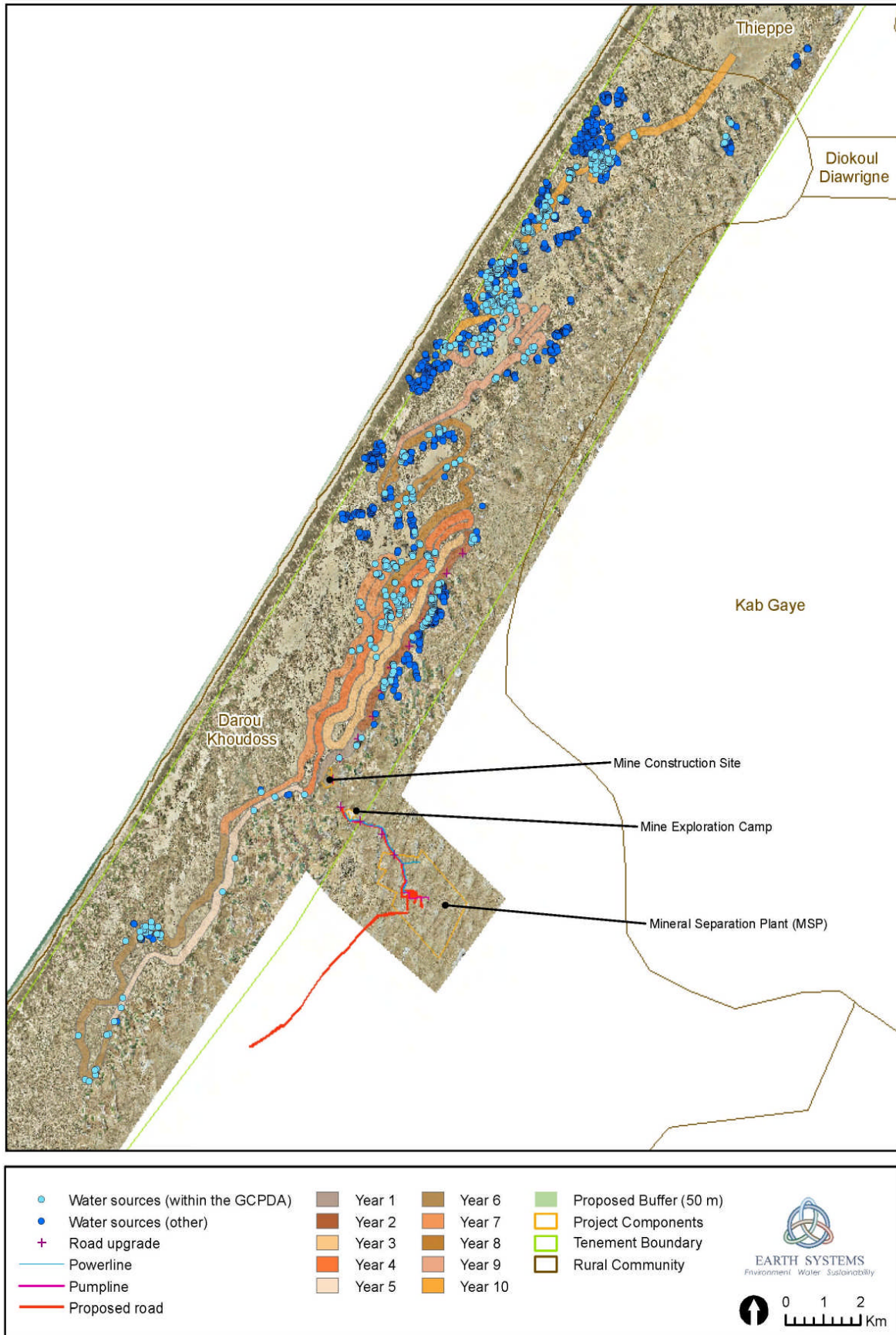


Figure 3.4 Water sources in the project area.

3.3.2. Avoidance, Mitigation and Management Measures

Given the potential for significant impacts on water resource use and the critical importance of water resources in sustaining livelihoods of the local communities, minimising impacts on water quantity and quality will be a major objective of the GCP.

A series of additional groundwater monitoring bores over an above the piezometer networks established by GCO will be installed between the mine path and the farming areas to establish baseline values and monitor any changes due to mining as detailed in the *Environmental and Social Management and Monitoring Plan (ESMMP)*.

Suitable alternatives and compensation measures for unavoidable impacts on agricultural and domestic water uses will need to be developed and implemented by GCO. These should include the provision of alternative water sources where loss of access to existing water resources within the GCPDA is unavoidable.

GCO will need to adopt appropriate water pollution and water management measures to avoid and/or minimise the impacts of the proposed development on the local communities. If adverse impacts are unavoidable and current water or resource uses are affected, then the affected uses will need to be replaced with suitable alternatives or villagers should be appropriately compensated. GCO have identified that they will access a deeper limestone aquifer to supply additional water for topping up the dredge pond and for process water requirements.

Additionally, GCO will need to undertake regular monitoring of groundwater usage in areas in villages such as Diogo where population growth relating to the GCP is likely to occur –. Additional drinking water supplies may also need to be provided if availability of drinking water becomes an issue. To date, GCO has initiated several community development projects including the installation of a bore and windmill at Diogo to ensure fresh water supply for the local community.

Key measures for managing and mitigating water resource impacts specific to water resources located within the GCPDA will include:

- Careful / iterative mine path design taking into account social / community and process requirements to limit disturbance in the first place.
- Minimising any disturbance to agricultural land and associated water sources in the Niayes through the appropriate siting of project infrastructure, establishment of berms etc.,.
- Appropriate measures will need to be implemented to minimise the risk of groundwater contamination from the project components including the dredge pond and MSP. This will include ensuring that the quality of any water discharged from all project facilities complies with legislative and licensing commitments.
- The provision of alternative water resources where loss of access to existing water resources within the Project footprint is unavoidable. This may include the construction of replacement wells or bores.

- Appropriate management of the transportation, storage and use of hazardous materials to avoid accidental release and contamination of water resources.
- Ensure areas disturbed by mining activities are progressively rehabilitated and revegetated throughout the life of the mine. Further details regarding revegetation are provided in the Rehabilitation and Closure Plan.
- Payment of appropriate compensation where community assets are impacted by potentially elevated groundwater levels that may occur as a result of dredging activities.

3.3.3. Impact Assessment

Project development will result in the loss of approximately 328 community water sources located within the proposed mining area. A further 85 water sources may be impacted within the buffer zone. Potential impacts on water resource use associated with the GCP include:

- Loss of access to water sources within the GCPDA (Table 3.7 and 3.8).
- Potential for changes in the availability of groundwater within the GCPDA and in nearby areas.
- Potential risk of surface water and groundwater contamination during all phases of the GCP from construction to closure.
- Potential impacts of changes in groundwater levels on agricultural areas (particularly in the Niayes) and the livelihoods of local communities within the GCPDA and in nearby areas.

The potential for dredging activities to adversely affect the availability of groundwater for irrigation and stock watering poses the most significant risk to water use within the GCPDA and nearby areas. In particular, the impact of potentially elevated groundwater levels on agricultural areas within the Niayes is expected to be a key issue for the GCP (see Section 3.2). The extent to which agricultural areas are likely to be adversely or favourably impacted is still to be confirmed by GCO. Implementation of site specific management and mitigation measures will minimise the potential impact of the GCP on groundwater and the livelihood of water users.

Groundwater is commonly used by households in local villages for domestic use. Any impact on groundwater supply and quality associated with the Project may impact household use of groundwater by local villages. Impacts on drinking water supply could be significant where the dredge path passes close to a village and any changes to groundwater will need to be monitored closely. Impacts on the near-surface aquifer are expected to be minimised as GCO has identified that additional water requirements for the dredge pond will be supplemented by accessing groundwater from the deeper limestone aquifer.

Without appropriate management and mitigation measures, the GCP could potentially cause water quality impairments from contamination to changes in water quantity, as a result of modified ground flow regimes. Hydrocarbons will need to be managed so that potential impacts to groundwater quality are minimised. Potential changes to water quantity will also need to be appropriately managed to ensure that potential impacts on the livelihoods of water resources users within the GCPDA and in nearby areas are minimised. Operation of the dredge pond may elevate

groundwater levels in agricultural areas situated in the low lying niayes areas along the eastern edge of the dredge path. These affects may extend into areas outside the dredge path and for periods of time following dredging activities. The key aim in managing potential water quantity and quality impacts from the GCP will be to protect the water users (i.e. the local communities) and environmental values within the GCPDA.

Project development may also result in potential benefits to local water users through the construction of new water resources associated with the GCP and through community development projects initiated by GCO. Water users in Diogo village are already benefiting from increased access to fresh water supply through the installation of a bore and windmill by GCO.

3.4. Economy and Employment

3.4.1. Issues and Findings

Households within the 2007 Survey Area are heavily reliant on cash income sourced from horticultural activities for the purchase of staple foods, supplementary food stuffs, household items, and to manage emergencies such as medical expenses. Average annual household cash income for the settlement clusters on the littoral dune varied from 3,000,000 FCFA (~US\$6,833) in Foth to 4,200,000 FCFA (~US\$9,567) in Diourmel hamlets. There are few opportunities for inhabitants of the 2007 Study villages to be involved in any form of off-farm employment, with the exception of supply chain services for the horticultural sector i.e. packaging, transportation and the supply of farming inputs. Lower income households are large, have a greater number of dependents, and lack access to education.

Food, and in particular rice, represents the single most important cash expenditure item for rural households. After food, households devote the largest portion of income to farming inputs (seeds, fertilisers, pesticides, animal fodder); followed by clothing, medical treatment, and transport.

The injection of income and economic opportunity into the local community as a result of GCP employment is likely to be of benefit to the community. The presence of the GCP is likely to boost the local economy through:

- New economic opportunities to provide goods and services to the mine and mine workers.
- Direct and indirect employment opportunities.

Project-related employment and technical training opportunities have the potential to improve the economic status of the residents in the GCPDA, particularly if opportunities are long lasting, sustainable and provide equal benefit to PAPs located on the littoral dune and in hinterland areas. It is expected that the construction workforce will be essentially all Senegalese per MDL's recently completed Sabodala Project in Senegal. The operations workforce will be sourced from the local communities, the wider Rural Community areas, Thiès plus Dakar and Sous-prefectures, with some expatriates required for specific technical and managerial positions. The 2007 Baseline Study information indicates that the attainment of education among the survey population is low with approximately 29.5% of men and 45% of women within the proposed mining area and buffer zone describing themselves as being illiterate. There are also a limited number of residents with technical training. This could hinder the ability of immediate local residents to achieve senior positions within the operation in the short to medium term.

The proposed 10 year mine life also offers several potential benefits for local employment, including:

- Potential for long-term training of local workers.
- Enable young men and women in the host community long-term job security.
- Scope for longer-term sustainable development initiatives in the local communities.

It will be important to ensure that all project affected people are treated fairly, especially with regards to employment. GCO will need to be mindful that communities on the littoral dunes are more geographically isolated and may not have the same level of skills as hinterland communities. Thus, PAPs located on the littoral dunes will potentially benefit less from possible employment opportunities and benefits associated with mine development in the absence of clearly defined programs specifically aimed at providing opportunities to these communities.

As noted in EMRC (2009), there may be scope for local employment and capacity building associated with rehabilitation activities. This is likely to provide the best opportunity for local communities, particularly those on the littoral dune to benefit from project development. Potential opportunities highlighted in EMRC (2009) may include involving local people in:

- Establishment and maintenance of rehabilitation trials. However, this must be under supervision of experienced staff;
- Seed collecting teams;
- Establishment and operation of nurseries;
- Planting out rehabilitation areas; and
- Production and installation of erosion control materials.

EMRC (2009) also highlights the potential for the selection of rehabilitation species that have important food and commercial value (such as cashews) for the local communities. If feasible, plantation of these species is likely to provide some economic benefit to PAPs and may prove to be a suitable alternative livelihood option. There may also be scope for the development of sustainable sources of domestic fuel, in the design of dune rehabilitation and social development programs, to compensate for the loss of dune biomass.

Adoption of a preferential employment policy which favours the provision of opportunities to those who have been directly affected through the loss of land will be essential to ensuring equal opportunities for littoral dune and hinterland communities. In addition, GCO will be required to adopt a preferential employment policy in accordance with Section 31.1 of the Mining Convention which states that GCO will:

- Accord a preference to Senegalese personnel where qualifications, skills and experience are equivalent;
- Use local labour for all positions which do not require any special professional qualifications;
- Implement a programme for the basic and continuing training and promotion of Senegalese personnel with a view to ensuring the use of this personnel in all the phases and at all the steps of the activities linked to this convention, within the limits of the mining operation requirements;
- Contribute, on the basis of a protocol for convention to be concluded with the Minister for Mines, to the basic and further training of officers with responsibility for the management and promotion of the Senegalese mining sector; and

- If housing for workers is provided, it should be in conditions of hygiene and cleanliness in accordance with the regulations in force or to be enacted.

While there will be economic and employment benefits to the local economy associated with the GCP, the GCP also has the potential to have adverse impacts on the local communities primarily from livelihood losses and food security issues due to land impacts. Adequate compensation for land and water resource loss as well as livelihood development activities will be required to ensure that potential negative impacts on livelihoods and food security in the local communities are minimised. Through community development initiatives, the GCP will encourage alternative livelihoods (see Section 4.5). Impacts of the GCP on land and water use are discussed in detail in Section 3.2 and 3.3, respectively.

3.4.2. Avoidance, Mitigation and Management Measures

To manage and mitigate the potential impacts associated with employment and to maximise the social benefits, GCO will need to:

- Evaluate the potential for employment opportunities associated with rehabilitation activities.
- Develop and implement a preferential recruitment policy and training that favours people whose land is directly impacted by the GCP and is in accordance with Section 31.1 of the Mining Convention, whilst ensuring that this is in keeping with Senegal regulations and practice.
- Communicate the recruitment policy to local community and Rural Communities of Darou Khoudoss and Thieppe.
- Undertaken continuous consultation with local communities to ensure that the recruitment policy is effective, and that the local residents understand the policy.
- Maintain a recruitment practice that is equitable between littoral dune and hinterland communities.
- Regularly monitor employment statistics and socio-economic conditions in local villages to ensure effectiveness of employment management measures.
- Provide continuous training and development of local employees.
- Establishment of a Community Development Program designed to support community development initiatives and alternative livelihood opportunities.
- Develop and implement a procurement and supply policy, which favours local products and services where possible.

With reference to the World Bank Performance Standard on Indigenous People (2006), if GCO intends to seek funding from this source, it will also need to ensure that it provides special consideration to the needs of the Peul, to ensure there is adequate opportunity for them to participate in, and benefit from, project-related activities that may help them fulfil their aspiration for economic and social development.

3.4.3. Impact Assessment

The GCP is expected to benefit the local community through the creation of economic and employment opportunities associated with project development. Employment requirements for the GCP are likely to be largely associated with labour type activities associated with construction of the GCP and in the area's of rehabilitation during permanent operations. Local communities are expected to benefit most from employment opportunities during the operations phase of the GCP as the majority of the construction workforce is likely to be sourced from Dakar or regional centres (i.e. Thiès). Rehabilitation activities associated with project development are also likely to provide some scope for employment of local people, particularly those on the littoral dune.

Successful implementation of a preferential recruitment policy that favours those people whose land is directly impacted by the GCP will ensure that local residents are given priority and communities on the littoral dune and in hinterland areas are considered equally.

As education, literacy and training levels improve over the life of the mine; it is likely that an increasing number of local workers will find themselves occupying more senior positions with the company. During final closure, employment opportunities will remain, although this is likely to be vastly reduced compared to the operational phase. However, the local workforce should now contain more skills, education and training with which to seek new opportunities.

The broad economic and employment impact is expected to be positive, although ensuring minimal impact on groundwater and agriculture as well as implementation of livelihood restoration measures will be important to ensuring that the GCP has a beneficial impact on local communities surrounding the GCP.

3.5. Cultural Values and Heritage

3.5.1. Issues and Findings

Islam is the dominant religion of the GCPDA. A number of religious leaders (marabouts) maintain significant social influence over Wolof communities surrounding the 2007 Survey Area. Religious leaders, including those from religious centres such as Touba, own large areas of land within the Niayes where their students manage market gardens.

Cultural sites reported by key informants associated with settlements within the proposed mining area and buffer zone are shown in Table 3.10. Figures 3.5 and 3.6 provides a visual reference of these sites with respect to project components.

Under the current ten year mine plan, one (1) cemetery and one (1) small Arabic school belonging to Diogo settlements were identified in the current proposed mining area during the 2007 Baseline Survey.

Within the buffer zone, one (1) cemetery belonging to Diourmel settlements was identified during the 2007 Baseline Survey. No baseline data on community assets is available for Thiakmat settlements. Note, most of the hamlets also have their own place of prayer. Typically this comprises a fenced area located adjacent to the habitation area.

Table 3.10 Summary of cultural sites of settlements within the GCPDA*

Settlement Cluster	Inside Proposed Mining Area	Inside Buffer Zone
Foth [^]	0	0
Diogo hamlets [^]	2	0
Diourmel hamlets [^]	0	1
TOTAL	1	1

* 2007 Baseline Study data adjusted for the current mine plan.

[^] Foth settlement cluster includes FoV1, FoH16, and FoH27 to FoH28. Diogo hamlets include DgH1 to DgH4. Diourmel hamlets include DiV01, DiH01, DiH04 to DiH06, DiH10 to DiH13, DiH15 to DiH16, DiH18 to DiH19, DiH22 to DiH24, and DiH33. Thiakmat hamlets include TiH01 to TiH04, and TiH13 to TiH22.

There is also potential for other cultural sites including abandoned cemeteries to be present in the GCPDA in addition to those identified in the 2007 Baseline Survey. A key reason for this is the potential unwillingness of village informants to disclose information to outsiders regarding their cultural and spiritual sites.



Figure 3.5 Location of cultural sites associated with Diogo hamlets

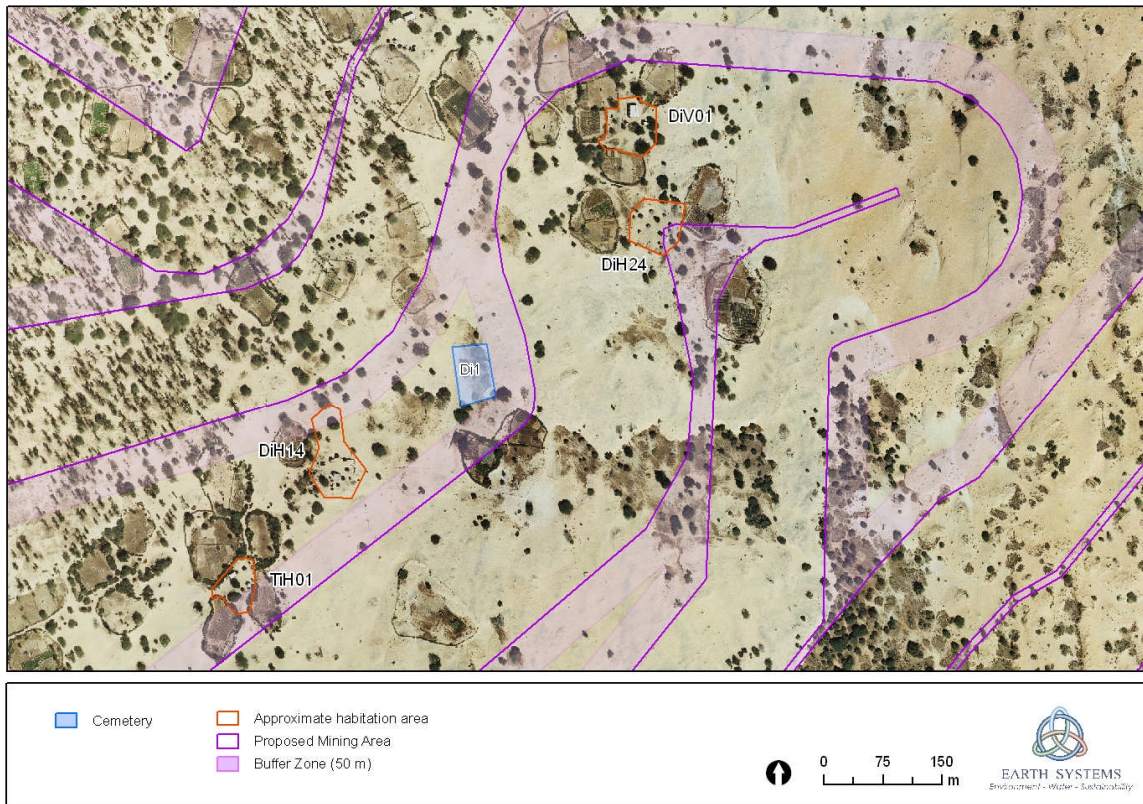


Figure 3.6 Location of cultural sites associated with Diourmel hamlets

3.5.2. Avoidance, Mitigation and Management Measures

Appropriate management and mitigation measures are required to be implemented for all sites which are potentially affected by the GCP. GCO will need to manage any potential disturbance to cemeteries and other cultural sites as a consequence of project development. If disturbance to a cultural site is likely, GCO will need to:

- Careful / iterative mine path design taking into account social / community and process requirements to limit disturbance in the first place.
1. Identify appropriate mitigation and monitoring measures for the affected cultural sites in consultation with the local government and affected people.
 2. Develop compensation measures in close consultation with community and religious leader as well as the affected people. Grave sites may need to be relocated in a culturally sensitive manner and compensation provided to affected communities to appease ancestral spirits.

GCO will also need to develop and implement a Chance Find Procedure (CFP) for managing the discovery of a site of cultural or spiritual significance. The CFP will comply with both GRS and international guidelines.

A cultural values and heritage baseline will need to be conducted for areas not covered in the 2007 Baseline Study prior to the commencement of the GCP.

3.5.3. Impact Assessment

Dredging activities associated with project development are expected to impact at least two cultural sites located within the proposed mining area. These include one cemetery and a small Arabic school associated with Diogo hamlets. Within the buffer zone, one cemetery belonging to Diourmel settlements may potentially be affected. Implementation of appropriate management and mitigation measures as outlined above will ensure that potential impacts on these sites are minimised where possible.

The remainder of the cultural sites associated with settlements within the proposed mining area and buffer zone are located outside the GPDA and are not likely to be directly disturbed by dredging activities. By accounting for the location of cultural sites in the design and alignment of any project auxiliary infrastructure within the buffer zone, potential impacts to cultural sites outside the GPDA are expected to be minimal. In particular, the relocation of graves is likely to be resisted by some community members, however provided this is managed with sensitivity, such issues can be effectively mitigated.

3.6. Community Health, Safety and Amenity

3.6.1. Issues and Findings

Project activities have the potential to raise community health, safety and amenity issues in local communities on the littoral dune, as well as in hinterland and coastal areas surrounding the GCPDA.

Community Health

Access to health and education facilities is a major constraint to the population in the GCPDA. Such facilities are located in excess of 10 km from the littoral dune settlements of Foth and Diourmel. Common health issues in the area include malaria, dysentery, diarrhoea, parasites, malnutrition and tuberculosis.

Project development may indirectly result in improvements to community health through the potential for improved access to health care services (eg. through improved roads). Increased injection of cash into the economy may also increase the affordability of health services for mine personnel and supply-chain beneficiaries. Potential community health issues associated with project development may include:

- Increased pressures on local food security due to economic in-migration.
- A potential increase in sexually transmitted infections (STIs) resulting from in-migration and the presence of a large construction workforce.
- Local epidemics of diseases other than STIs as the local population density increases.
- The potential impacts of malaria on the mine workforce and local community⁵.
- Water quality and sanitation.
- Increased burden on local health services in the short term due to in-migration during construction.

The presence of the GCP could indirectly contribute to the spread of STIs and HIV/AIDS within the local community in the following ways: in-migration of people (mainly men) to the area in search of employment; the presence of foreign workers in the GCPDA; local economic stimulation is likely to result in an increase in local bars and recreational facilities, which may lead to increased prostitution; and the increase of traffic through the area as a result of the GCP could also be a conduit for the spread of STIs. Population growth and in-migration can also lead to the spread of other infectious diseases, such as malaria, which already occurs frequently in the GCPDA.

The local community relies on shallow ground water resources for domestic use and therefore, the protection of water quality is a key health issue for the GCP. Off-site pollutants from the GCPDA, for example, from the sewage and solid waste facilities as well as hydrocarbons, could potentially

⁵ Note: Recent drier conditions in the Niayes region have reduced the incidence of malaria

impact on groundwater quality and in turn have health impacts on local communities. Potential project-related impacts on water are discussed in Section 3.3.

Community Safety

There are number of safety risks inherent at a mine operation, which could be particularly harmful, even fatal to individuals unaware of these risks. The primary potential impact on community safety is likely to be from accidents along project supply routes and haul roads. These are discussed in Section 3.7. Other community safety concerns may include:

- Potential spillage or release of any hazardous materials (e.g. fuels and lubricants) along supply routes.
- Unauthorised access to dredge areas and other project facilities.
- Potential impacts and risks of radioactivity associated with mineral products and waste streams (although it is understood that the radioactivity risks from the mineral sands are negligible).

Social Amenity

Particular operations and facilities of the GCP (eg. mining, mineral sands processing, transportation, and power generation) have the potential to increase ambient dust and noise beyond levels currently experienced in the GCPDA. Dust and particulate matter (i.e. PM 10) can be a nuisance to the local communities, and can also result in health impacts, such as increased acute respiratory infections (ARIs). Dust deposition may also affect crop yields and productivity. If noise levels are elevated greatly in excess of prevailing conditions, or irregular noises contradict the natural noise environment, then this also has the potential to disturb the local community and reduce the quality of life.

The development of the GCP may also disrupt the visual amenity of the local landscape and this in turn is likely to impact on local settlements to varying degrees at various points along the mine path. Potential impacts to visual amenity may result from the clearance of large areas of vegetation, construction of project infrastructure, operation of project lighting on a 24 hour / 7 days a week schedule, dredging activities and other project activities.

3.6.2. Avoidance, Mitigation and Management Measures

Careful management of project activities will be needed to ensure that potential project-related impacts to community health, safety and amenity are minimised.

GCO has already initiated several community development projects to improve community health including the installation of a bore and windmill at Diogo to ensure fresh water supply and in 2006 commenced an ongoing (annual) malaria eradication program in the settlements within close proximity to the MSP. In addition to these projects, the following proposed management and mitigation measures could be used to help to minimise the potential project-related impacts to community health:

- Development of a health management strategy to prevent the introduction and spread of STIs (especially HIV/AIDS).

- Implementation of a Community Development Program that will support improvements in health care facilities and health education campaigns available to the general population.
- Provision of health care services for its employees with an appropriately staffed on-site clinic and medivac capabilities.
- Investment in improvements to community health care services and facilities.
- Through community development initiatives, work to increase food security in the area, prioritising those households impacted by loss of land.
- Implementation of a groundwater quality monitoring program to ensure the maintenance of water quality.
- Implementation of mitigation measures to minimise impacts on social amenity and manage traffic safety.

Appropriate indicators of health status amongst the mine workforce and local community will need to be developed (e.g. STI rates) and regularly monitored to ensure that the impacts (both positive and negative) are identified and appropriate management and mitigation measures can be implemented and refined. It will be necessary for GCO to establish a health baseline within the GCPDA which includes an assessment of the capacity of local authorities to manage health problems, both existing and potential.

As a precautionary measure, workers in the Mineral Separation Plant who are routinely exposed to potentially radioactive mineral products, will be required to wear a badge that monitors their exposure to radiation. The badges will be assessed every three months and records of employees' exposure to radiation will be kept readily available for five years. After five years, the employee radiation exposure records will be archived in a secure location for a further 25 years, as these records need to be held for a minimum of 30 years.

A variety of education programs and management measures will be required to ensure that risks to community safety due to the GCP are effectively minimised. Measures regarding road safety are outlined in Section 3.7. Other management measures that will be required to ensure community safety include:

- Access to the GCPDA should be restricted by the presence of security personnel.
- Only project vehicles to be permitted inside project facilities.
- Consultation with local communities to educate local people on the potential safety hazards associated with the GCP, and to raise awareness of management measures and ways to avoid and / or minimise these risks.
- Appropriate emergency response procedures for potential spillage and accidents.

Potential project-related impacts on the social amenity of local communities will be largely minimised through the implementation of environmental management and mitigation measures. Engagement in regular public consultation throughout the pre-construction, construction and operating phases of the GCP will also be required to ensure the social amenity of the local communities is maintained.

Monitoring of dust and noise levels, via community consultation and an appropriate grievance procedure, in the villages closest to the dredge path and project facilities including the MSP and

Mine Construction Site will be required to ensure that nuisance dust and noise levels are prevented. Adequate compensation measures will need to be developed in consultation with the local communities to ensure the amenity of the local communities is maintained.

Disturbance to the visual amenity of the local landscape and scenic views will be largely minimised through implementation of environmental management and mitigation measures.

3.6.3. Impact Assessment

The potential impacts on community health from disease introduction (e.g STIs) or exacerbation of existing diseases are likely to be greatest during construction when short-term specialist workers from other regions are brought in. The greatest component of this risk is likely to arise from contractor hires.

The health and safety risks posed by the potential spillage or release of hazardous materials along supply routes, and unauthorised access to project facilities will be minimised through appropriate education of project contractors, the local community and implementation of management measures. Traffic safety impacts associated with the GCP are outlined in Section 3.7.

The potential risks of exposure to radioactivity above natural background levels associated with mineral products and waste streams are expected to be minimal.

Indirect impacts on health through potential increased pressures on local food security which may result from increased pressure on land and forest resources in the vicinity of the GCPDA associated with in-migration are expected to be minimised through implementation of a preferential employment policy and the development of alternative livelihood activities.

Impacts to local communities from the generation of dust emissions associated with the GCP are likely to be greatest in the dry season and during the period of strong winds (January to May). Dust impacts during the wet season will be reduced due to suppression by rainfall. Transportation of materials to and from the mine site may also increase dust and noise emissions in villages along the haulage route.

Noise is not likely to be a significant issue provided appropriate management and mitigation measures are developed and implemented. Villages most likely to be affected by noise associated with the MSP will be Ngoye Wade, Diogo, Ngoye Beye, Ndieul Kouagne Dior and potentially Ndangar.

The presence of the MSP and other project components is likely to affect the visual amenity of the GCPDA. Implementation of appropriate management and mitigation measures will ensure that potential impacts on visual amenity are minimised where possible. Post-mining, successful rehabilitation will ensure that the dredge path and other project infrastructure are rehabilitated to their former state or better as well as blend into the local landscape.

3.7. Accessibility and Transport

3.7.1. Issues and Findings

The Project proposes to transport materials from Dakar to the dredge and MSP construction sites via Thiès and Tivaouane, along 110 kilometres of sealed road (including highway N1 and N2) followed by approximately 20 kilometres of gravel road, which passes through several villages between Darou Khoudoss and Diogo. Mineral products will be trucked from site to Dakar for export via the same route.

GCO also proposes to establish rail transport for ilmenite, by extending the existing rail spur that runs parallel to the Mboro road from the ICS phosphate plant northwards some 20 kilometres to the MSP. Construction is envisaged to occur in 2014.

Key potential social impacts of project-related road and railway transport are outlined below. These sections focus on traffic safety and accessibility. Other community safety issues associated with transport are discussed in Section 3.6.

Road Accidents and Community Safety

One of the major issues associated with the haulage of concentrate and general increase in road usage is the increased risk of accidents occurring along the route. Similarly, establishment of a railway in a rural area where people and livestock may not be used to this form of transport may also raise community safety issues and increase the risk of accidents along the route.

Uncontrolled crossing of haul roads by people or livestock could result in potentially serious accidents involving vehicles using the roads. Accidents along project transport routes, especially where they involve people who do not benefit or do not perceive themselves to benefit sufficiently from the project operations, are a common cause of disruption to projects (mining or otherwise) in many countries. The greatest risk is normally posed not by company operators but by negligence on the part of contractors or suppliers to projects. Again, however, the minimization of this risk, to some considerable extent, lies in the hands of the project proponent.

Accessibility

The construction of project roads may lead to increased accessibility in the region by providing improved and additional road infrastructure that may be utilised by the local community.

3.7.2. Avoidance, Mitigation and Management Measures

The increase risk of road accidents associated with an increase in traffic volumes can largely be mitigated against with careful management of transport operators and contractors (e.g. vehicle maintenance, noise, emission levels and speed), implementation of comprehensive preventative measures (e.g. education programs, road crossings, fences and noise barriers) and ongoing monitoring and adaptive management of accident rates, project vehicle behaviour and noise and air quality along the Project roads.

In order to alleviate the traffic congestion and maintain a high level of safety for villagers, GCO is considering several options for transport associated with the construction and mining operations at Diogo, including: a bypass for Diogo and adjacent villages; provision of an off-road hardstand area for delivery of garden produce by carts and loading of trucks for transport to market; installation of speed humps; establishing signals; and raising awareness of villagers.

Similar management and mitigation measures as well as ongoing monitoring will be required to manage potential community safety risks associated with the operation of the proposed rail spur.

3.7.3. Impact Assessment

The construction of project roads and the establishment the rail spur associated with the GCP are likely to raise several community safety issues (discussed below) that will need to be addressed, however, the positioning of these components is yet to be finalised by GCO. A detailed assessment of potential social issues associated with construction of these project components will need to be undertaken prior to construction when final designs are available.

The GCP is likely to result in an increase in the overall traffic volumes along the project transport route. The increase in the use of project roads may result in a concomitant minor increase in the risk of road accidents, which can impact community safety and increase the risk of spills of hazardous materials such as hydrocarbons.

The road through Diogo and nearby villages is often subject to traffic volumes associated with the transportation of products from market gardens in the region. In addition, local markets occur along the road, adding to traffic congestion.

These risks can largely be mitigated against through the proposed management and mitigation measures outlined above.

Rail transport is expected to reduce the number of trucks transporting product to Dakar and may be used to transport fuel to the MSP site. Any reduction in the number of trucks will alleviate the potential risk of road accidents. However, operation of rail transport in itself may also increase the potential for accidents involving members of the local community that are unused to this form of transport. Provided appropriate measures are implemented this risk is expected to be minimal.

Project development may result in an increase in the accessibility in the region.

3.8. Population and In-Migration

3.8.1. Issues and Findings

The 2007 Study villages reported almost no in-migration within the last five (5) years. More than 80% of the sample population within the 2007 Survey Area was born in their village of residence (Table 3.11), with the exception of the inhabitants of the Diogo hamlets who migrated from within the Rural Community of Darou Khoudoss over five years ago. Similar in-migration rates are found within the proposed mining area and buffer zone. The 2007 Baseline Study settlements had experienced effectively no in-migration within the 5 years previous to the Study.

In earlier times, however, the area had experienced significant in-migration. Over the last 30 to 40 years, decreasing rainfall and increasing land desertification have forced hinterland communities to abandon rainfed agriculture and migrate west to the Niayes where they have been able to exploit groundwater for market gardening. Dakar's increasing demand for market garden produce and improved accessibility to the area with the development of the Diogo to Dakar road, are likely to have encouraged even further in-migration. Population in the last 30 years in the broad Niayes region has more than doubled from 2.6 million in 1976 to 5.7 million in 2005 (IDRC 2001).

Today, land shortage is likely to restrict in-migration, however settlements continue to absorb large numbers of transient farm labourers from both within Senegal, particularly Casamance, and also Guinea Bissau. These labourers are typically men who live with the family of the land owner and share in the profits of the produce. Villagers reported that labourers may stay for a number of years but rarely migrate permanently.

Table 3.11 Extent of in-migration to the 2007 Survey Area*

Settlement Cluster	% of Population born in their village of residence	% of Population born in the Rural Community of Darou Khoudoss	% of in-migration within the last 5 years by households to their village of residence
Foth	83	86	0
Diourmel	86	87	0
Diogo hamlets	43	86	0
Hinterland sample	83	88	0
Coastal sample	84	91	0

* 2007 Baseline Study data.

Within the GCP area, hinterland villages such as Diogo are most likely to incur the majority of project related in-migration. Diogo has limited but more developed public infrastructure and greater commercial activity compared to the settlements located on the dune.

Uncontrolled in-migration into the GCPDA could have the following consequences (Note, that there is already a large migratory workforce within the GCPDA, so many of the issues below are likely to be already present to some degree):

- Strain existing social services;
- Social disharmony and conflict between original residents and incoming migrants;
- Less employment opportunities for original residents;
- Gender imbalance, as the migrant population is likely to be predominately male (i.e. farm labourers); and
- Increase the risk of introduced diseases, especially those transmitted sexually. The risk of disease introduction (e.g. sexually transmitted diseases) is likely to be greatest during construction when short-term specialist workers from many other regions are brought in.

Employment opportunities also have the potential to lead to significant in-migration. The GCP has committed to prioritising employment of local labour, which will minimise these impacts. An In-migration and Population Management Strategy should also be developed for the GCP in conjunction with the local community and the Rural Community of Darou Khoudoss and Thieppe. This strategy should include diversification of village employment through direct and indirect job provision.

3.8.2. Avoidance, Mitigation and Management Measures

Migration into the area needs to be controlled in a manner that does not compromise the development of the GCP by introducing new environmental and social issues. In recruitment, GCO will give priority to local people to maximise benefit for local communities and minimise potential increases in pressure on land use. The following policies and practices will need to be implemented by GCO to minimise the social impacts of increased migration to the GCP area:

- Development of an In-migration and Population Management Strategy for the GCP in conjunction with local community and the Rural Community of Darou Khoudoss and Thieppe;
- Continual public disclosure and consultation with the local community during all stages of the Project;
- Implementation of a Recruitment Policy which discourages in-migration; and
- Establish a census in the township of Diogo, Ngoye Wade and Ndoye Beye in advance of project operations to be used as a baseline for assessing the extent of project related in-migration.

3.8.3. Impact Assessment

The GCP will create employment and other economic opportunities that may lead to an increased population in the GCP area, particularly during construction. Management of in-migration will require liaison with the government and local community. GCO's recruitment policy will discourage an influx of people to the area and, therefore, minimise adverse impacts. During final closure, a net out-migration may occur, as people leave to seek other employment opportunities.

The potential for increased pressure from in-migration on land resource use, water use and health are discussed in Sections 3.2, 3.3, and 3.6, respectively.

3.9. Mine Closure and Completion

3.9.1. Issues and Findings

Mine closure or completion in the context of the GCP refers to the time when the dredge path has passed through a particular area and mining in the area has been completed. This has been defined as ongoing closure. Final closure refers to the cessation of all mining activities within the GCPDA.

In light of the above, a key issue to consider in mine closure planning will be to avoid relocating villagers, replacement land and assets, and undertaking rehabilitation in areas that will potentially be impacted by future dredge passes (see Section 4.4.2). It will also be important to keep in mind the possibilities of future project expansion when considering potential relocation / land areas and the positioning of replacement assets.

Another important issue that needs to be considered at closure is minimising the long term impact of the GCP on the livelihoods of the local community. Fundamental to livelihood restoration for the GCP will be the feasibility of restoring agricultural productivity on the littoral dune following dredging activities, and the strategies and timeframe for accomplishing this objective. Restoration and/or compensation for loss of local community timber and non-timber forest resources will also be a key consideration at closure.

Groundwater is of critical importance to the livelihood of the local communities (see Section 3.3) and subsequently minimising the potential long-term impacts of changes in groundwater levels on agricultural areas (particularly in the Niayes) or potential changes to groundwater quality will be a key issue for ongoing and final closure.

Further potential closure issues and risks may include:

- Potential health impacts within local communities such as food insecurity and associated nutritional deficiencies arising from loss of access to land and resettlement, increased incidence of sexually transmitted infections (STIs) and other prevalent diseases;
- Potential issues and risks regarding employment such as loss or abandonment of traditional forms of livelihood, and a lack of alternative post-mine employment opportunities.
- Potential issues and risks regarding migration such as increased strain on existing social services, social disharmony and conflict between original residents and incoming migrants, less employment opportunities for original residents, gender imbalances, emigration from the mining area post-closure.

3.9.2. Avoidance, Mitigation and Management Measures

Preparation and implementation of a well resourced RAP and SDP which deal with operational, ongoing closure and final closure issues will be essential in the management and mitigation of potential adverse social impacts at closure. As described in Section 4.4, a RAP will act as a strategic planning document for the GCP outlining detailed procedures and actions to mitigate adverse effects, compensate losses and provide development benefits to persons and communities

affected by the GCP. An SDP will detail measures to assist PAPs restore and improve their livelihoods in a sustainable manner; and minimise the risk of adverse socio-economic impacts upon mine closure (see Section 4.5). Livelihood restoration and improvement measures, including allocation of funds from the Community Development Fund and community education programs will also be addressed in an SDP.

Development and implementation of a site-specific rehabilitation plan (see Section 3.2.1) will be a key management measure in restoring the productive value of lost agricultural land and forest resources. Rehabilitation activities associated with project development may also provide some scope for longer term employment of local people, particularly those on the littoral dune. Further community and government consultation will be required to assess the feasibility of potential long-term employment opportunities.

3.9.3. Impact Assessment

With the successful implementation of a site-specific RAP, SDP and rehabilitation plan for the GCP, as well as other management and mitigation measures, the residual impact of the GCP on the local communities and their land, assets and livelihoods is expected to be reduced to acceptable levels.

Over the course of operations, the RAP, SDP and rehabilitation plan will need to be reviewed and regularly updated to reflect the outcomes of community and government consultation, changes to mine planning, and the success or otherwise of initial rehabilitation efforts.

4. PROPOSED SOCIAL MANAGEMENT STRATEGY

The Land, Asset and Livelihood Baseline Study 2009 establishes a comprehensive livelihood baseline for the GCP and provides a basis for the development of a social planning strategy. At the feasibility stage, the proposed management strategy for the GCP includes outlining the necessary strategic framework to be used as a basis for forward social planning and encompasses compensation and resettlement strategies. A schedule for the implementation of social management activities has also been provided.

Post funding, GCO will incorporate and build on this work to develop a Resettlement Action Plan (RAP) and Social Development Plan (SDP) for the GCP. A RAP will act as a strategic planning document for the GCP and outline in detail the procedures and actions that GCO will take to mitigate adverse effects, compensate losses and provide development benefits to persons and communities affected by the GCP. Whilst the RAP focuses on resettlement and compensation strategies, a comprehensive strategy for the re-establishment and security of the livelihood of PAPs is also crucial to the success of the GCP. A SDP, developed in conjunction with the RAP will assess and develop options for livelihood restoration.

Undertaking these steps will position GCO so that it is able to meet (if required to) international financing expectations and international practice for social safeguards as outlined in IFC performance standards and other international standards such as the Equator Principles.

4.1. Context

Development of a strategic framework for social management at the GCP is a key management measure for the GCP and will form the basis for the development and implementation of a detailed RAP and SDP. The framework is consistent with and draws from the guidance documents and standards discussed in Section 2 of this document.

Fundamental to the design of a successful strategic framework and in turn a social management strategy for the GCP will be the consideration of the following:

- To carefully consider mining paths not only from a grade perspective but more so with a holistic view of all aspects of the activities and potential impacts.
- The possible requirement for physical displacement of settlements located inside the proposed mining area and potentially within the buffer zone;
- Economic displacement of households / settlements arising from the loss of livelihood;
- Opportunities for employment and commercial opportunities for PAPs;
- The feasibility of restoring the full productive value of agricultural assets disturbed by mining activities within an acceptable period from the time of loss i.e. less than 24 months;

- Nature and extent of impacts (if any) to the availability and suitability of ground water currently extracted from the littoral dunes for livelihood activities, including drinking, livestock watering, and agriculture; and
- Availability of and access to replacement land.

The following sections outline the context and basis under which the proposed social management strategy has been developed.

4.1.1. Aims and Objectives

Key aims of the social management strategy for the GCP are to:

- Maximise the social and economic benefits to the local communities within and surrounding the GCPDA associated and inline with project objectives.
- Minimise the potential for project-related impacts to persons, habitation areas, agricultural and community land, livelihood and other assets within and surrounding the GCPDA inline with project objectives.

In order to fulfil these aims, the social management strategy will need to:

- Be cognisant of project goals, objectives, finances and constraints.
- Outline a methodology for establishing an implementation process;
- Outline a methodology for establishing entitlements and eligibility for resettlement and compensation;
- Outline principles of resettlement and compensation;
- Outline procedures and processes at the strategic level for resettlement and compensation including a preliminary implementation schedule of resettlement and livelihood restoration activities;
- Outline potential resettlement and livelihood restoration options and alternatives;
- Outline institutional and organisational responsibilities for resettlement and livelihood restoration;
- Provide an estimation of resettlement and compensation costs.

4.1.2. Scope

The management strategy includes the identification of procedures and processes at the strategic level to avoid, mitigate and manage the adverse impacts to persons arising from project development as it pertains to the need for physical displacement, and the loss of land, livelihood and assets.

Under the current 10 year mine plan, project development will encompass the Diogo and Fass Boye deposits. Key potentially impacted settlements on the basis of the current proposed mine path are:

- Four (4) hamlets of Foth (FoH01, FoH16, FoH27 and FoH28);
- Four (4) hamlets of Diogo (DgH1, DgH2, DgH3 and DgH4);
- Seventeen (17) hamlets of Diourmel (DiV01, DiH01, DiH04, DiH05, DiH06, DiH10, DiH11, DiH12, DiH13, DiH15, DiH16, DiH18, DiH19, DiH22, DiH23, DiH24 and DiH33); and
- Thirteen (13) hamlets of Thiakmat (TiH01, TiH02, TiH03, TiH13, TiH14, TiH15, TiH16, TiH17, TiH18, TiH19, TiH20, TiH21, TiH22).

4.2. Establishing Implementation Procedures

The development of implementation procedures to ensure that key stakeholders (i.e. community, government and GCO) are able to effectively refine and deliver the social management strategy will be an important initial step. Given the proposed mining method, in which dredging activities will progress year by year across the proposed mining area, adoption of a progressive implementation approach over the life of the mine is likely to be the most appropriate.

Development of a clear process for the implementation and communication of procedures and actions to manage and mitigate social impacts should be documented in a RAP and SDP. Consultation amongst the stakeholders will be required for finalisation. Implementation procedures will also be refined based on experiences from the first year of mining and then rolled out over the life of the mine.

Preparation and implementation of a well resourced RAP as described in Section 4.4 will outline in detail the procedures and actions that GCO will take to mitigate adverse effects, compensate losses and provide development benefits to persons and communities affected by the GCP. Preparation of a SDP, as outlined in Section 4.5 will provide a comprehensive strategy for the re-establishment and security of the livelihood of PAPs.

A methodology for establishing entitlements and eligibility for compensation and resettlement is outlined in Section 4.3.

4.3. Establishing Entitlements and Eligibility

The establishment of project compensation and resettlement policies and entitlements for the GCP will need to be conducted in consultation with government and community and in keeping with IFC and Senegalese requirements.

The following principles and entitlements have been adopted in the preparation of this social management strategy. Resettlement and compensation cost estimates provided in Section 5 are based on the entitlement principles and methodology as identified below.

4.3.1. Principles of Resettlement and Compensation

The following set of draft principles has been prepared as they pertain to (i) compensation for loss of land and assets and (ii) resettlement. It is recommended that these principles be used as the basis for developing potential compensation entitlement options for the GCP following review by the GCO management team.

Land and Asset Acquisition

The acquisition of land and other assets (and the resettlement of persons) should be minimised as much as possible by:

- Careful review of proposed mine paths with respect to potential impacts;
- Minimising the size of project components and the distances between them;
- Minimising buffer zones around project components without comprising safety and other factors;

Where land disturbance is unavoidable, affected persons who are economically displaced by the GCP will be eligible for compensation assistance in a manner that is commensurate with IFC and Senegalese and if applicable IFC requirements. The compensation, restoration and rehabilitation measures provided should be sufficient to assist affected persons to at least restore or otherwise improve their pre-Project living standards, income earning capacity and production levels. Lack of legal rights or documentation will not bar affected people from entitlement to such measures.

The compensation measures to be provided by GCO include both cash and/or in kind compensation for houses and other structures at “full replacement costs” acceptable to all affected households. Specifically, the following compensation and associated provisions will need to be provided:

- Agricultural land-for-land replacement of equal productive capacity acceptable to the affected people will need to be provided, or cash equivalent at full replacement cost if there is no agricultural land available;
- Community land-for-land replacement of equal value acceptable to the affected people will need to be provided, or cash equivalent at full replacement cost if there is no community land available;
- Replacement of residential land of equal size acceptable to the affected households, or cash equivalent;
- Once-off livelihood restoration allowance for loss of access to forest products.

- Cash compensation for renters, crops, trees and other productive assets lost due to the GCP;
- Replacement or re-installation of like for like utilities and facilities, such as wells, sanitation facilities, and road networks; and
- Cash compensation for relocation of public works and other collective assets or in-kind replacement of structures to equivalent or higher standard.

The actual compensation entitlements will need to be finalised and agreed upon in consultation with the concerned village, Rural Council and Sous-prefecture. The GCO should formalise outcomes of this consultation in a Compensation Agreement.

Resettlement

Principles of compensation pertaining to resettlement:

- a. Involuntary relocation of existing residences and associated structures should be avoided wherever possible but this process of minimisation should bear in mind the possibilities for future project expansion.
- b. Relocation of settlements will be necessary wherever such settlements either directly occupy land essential to project operations or occupy locations that are so close to operations that their occupants are placed in physical danger.
- c. Relocation of settlements may be necessary where, whilst inhabitants are not in direct physical danger, project operations cause inconvenience or loss of amenity that cannot otherwise be adequately compensated.
- d. Relocation of settlements may be necessary in future if future project developments trigger changes to peoples' habitats that put them in physical danger or great inconvenience.
- e. Even when relocation of housing and associated structures may not be necessary, loss of agricultural or other productive land to the project may require policy action by the project over and above the provisions of the general principles of compensation.
- f. Where relocation of settlements is necessary, it should only occur after full consultation and negotiation with the affected households.
- g. Local government should be a party to all relevant negotiations on relocation and resettlement.
- h. The project should establish a relocation task force as part of its Community Relations section.
- i. Transparency in negotiations for relocation will need to be observed. To this end a full written record of all meetings and discussions (affirmed formally by all parties to such discussions) should be kept by the project and be publicly available.
- j. Relocation should wherever possible be to sites with ready access to relocatees' land (where such land is not itself occupied by the project). If such existing settlements are located along

roads, then relocation will need to be to sites with equally good access to commercial opportunities, (if this is requested by the affected community)

- k. The project should pay compensation for all assets lost as a result of relocation and in addition should, among other matters:
- Bear all reasonable costs of physical relocation
 - Provide materials for relocatees to build new housing where old housing material is no longer useable
 - Pay an allowance for the labour costs of such building
 - Prepare (or pay all costs associated with the preparation of) relocation sites
 - Pay an allowance for loss of income incurred because of relocation (if appropriate/required).

4.3.2. Compensation Categories

Four (4) compensation categories have been defined as part of our assessment of compensation:

- i. Permanent Loss;
- ii. Semi-Permanent Loss
- iii. Temporary Loss; and
- iv. Temporary Disturbance.

The categories are not described in existing agreements, but have been used in this study to assist in the understanding of likely compensation scenarios.

Permanent Loss

Permanent loss is when lands and/or assets are permanently transformed from their pre-mining use.

When permanent loss is agreed, the land and/or asset owner is to be offered either the financial “replacement cost value”, a land swap of equal or greater productivity, or assets of equal or greater value at the time that the property is resumed by the GCP. The financial “replacement cost” will need to be sufficient to actually replace lost land and assets with land of equal productivity, or assets of equal value/quality/size. The financial replacement cost should also be sufficient to incorporate transaction costs at local market value at the time of compensation i.e. market value plus an appropriate percentage or lump sum to account for such costs and inconvenience.

Semi-Permanent Loss

Semi-permanent loss may occur when temporary loss of land (defined below) occurs over a prolonged period such that the transformation of land from its pre-mining state may be considered 'semi-permanent' (i.e. the proposed mining area).

Semi-permanent loss of land for any period greater than three years (and potentially up to 10 years) is likely to provide justification for replacement land to be provided. Semi-permanent loss of land has therefore been assessed in the same manner as permanent loss. However, the time period of semi-permanent loss will vary significantly depending on the type of land to be disturbed (eg. agricultural, scrub land, revegetation areas, etc).

Further definition of the time period of semi-permanent loss will need to take into account the results of rehabilitation trials and the outcomes of community and government consultation.

Temporary Loss

Temporary loss may occur when land is resumed during mine construction, though returned during the mine operational phase. Land and/or assets would be returned to the owner in close to their original condition or as agreed by both parties.

In such instances, the Landowner is offered a "rental (or subsistence) allowance" for the period of loss. The "rental allowance" is equivalent to the lost productive value of the land at the local market value for the year in which the compensation is paid.

At the end of the "rental" period the productivity of the land is assessed against the productivity prior to the "rental" period. If the productive land has not been adversely impacted the land will need to be returned to the Landowner. However, if the land has been adversely impacted, then the Landowner can be either offered:

- a) assistance to restore the productivity of the land; or
- b) the "replacement cost" that is sufficient to replace the lost value at the local market value for the year in which the compensation is paid.

Temporary Disturbance

Temporary disturbance may occur in areas adjacent to construction activities, where the owner will still enjoy access and use of their property, though that access and use may be disturbed by Project activities. Depending on the severity of disturbance, the land owner may be offered a "disturbance allowance" for the period of disturbance. The "disturbance allowance" would be sufficient to cover the economic loss incurred by the disturbance.

At the end of the "disturbance" period the productive value of the land is assessed against the value prior to the "disturbance" period. If the land has been adversely impacted the Landowner is either offered:

- a) assistance to restore the productivity of the land; or
- b) the “replacement cost” that is sufficient to replace the lost value at the local market value for the year in which the compensation is paid.

4.3.3. Establishing Compensation Rates

The methods used to estimate indicative compensation rates for the different types of land and assets are broadly described in Appendix C. These methods and rates will need to be refined closer to the actual period of compensation, and especially when it is better understood:

- a) What replacement assets and land are actually available; and
- b) Exactly what type of compensation package the Project Affected Peoples (PAPs) are entitled to.

The basic principle – as given in the various policies and regulations (identified in Section 2) - is that the PAPs will need to be compensated so that they can restore their land, assets and livelihood. Replacement assets for assets or land for land would be the main focus. Cash compensation would normally only be considered where:

- a) The PAP voluntarily relocates outside the Rural Community; or
- b) The land and assets to be impacted is a relatively small proportion of the PAP livelihood; or
- c) Where a suitable alternative asset cannot be provided (e.g. mature fruit tree, etc).

The actual compensation rates will need to be finalised and agreed upon in consultation with the concerned village, Rural Council and Sous-prefecture. This should be formalised in a Compensation Agreement.

A draft schedule of rates used in the current study for estimating compensation is detailed in Table 4.1.

Table 4.1 Draft schedule of compensation rates*

Land / Asset Type	Permanent Loss / Semi-Permanent Loss (F CFA)	Permanent Loss / Semi-Permanent Loss (US\$)	Temporary Loss (F CFA)	Temporary Loss (US\$)
Property Assets				
Building (metal roof)	17,500 / m ²	35 / m ²	17,500 / m ²	35 / m ²
Hut	12,500 / m ²	26 / m ²	12,500 / m ²	26 / m ²
Community Infrastructure	17,500 / m ²	35 / m ²	17,500 / m ²	35 / m ²
Other Infrastructure	10,000 / m ²	20 / m ²	10,000 / m ²	20 / m ²
Water source - well	15,000 / m depth	30 / m depth	15,000 / m depth	30 / m depth
Water source - cement storage	15,000 / m depth	30 / m depth	15,000 / m depth	30 / m depth

Land / Asset Type	Permanent Loss / Semi-Permanent Loss (F CFA)	Permanent Loss / Semi-Permanent Loss (US\$)	Temporary Loss (F CFA)	Temporary Loss (US\$)
reservoir				
Water source - trench	5,000 / m ³	10 / m ³	5,000 / m ³	10 / m ³
Water source - bore hole	40,000 / m depth	80 / m depth	40,000 / m depth	80 / m depth
Land Assets				
Horticultural land (productive)	1,750,000 / ha x 7	3,500 / ha x 7	1,750,000 / ha per yr	3,500 / ha per yr
Horticultural land (fallow)	350,000 / ha x 7	700 / ha x 7	350,000 / ha per yr	700 / ha per yr
Orchard or Tree Plot	Not assessed	Not assessed	Not assessed	Not assessed
Scrub and wood land	200,000 / ha	400 / ha	Not assessed	Not assessed
Scrub and grassland	150,000 / ha	300 / ha	Not assessed	Not assessed
Scrub land	100,000 / ha	200 / ha	Not assessed	Not assessed
Revegetation Area (JICA)	500,000 / ha	1,000 / ha	Not assessed	Not assessed
Revegetation Area (Other)	500,000 / ha	1,000 / ha	Not assessed	Not assessed
Terrestrial Dune Depression	150,000 / ha	300 / ha	Not assessed	Not assessed
Barren land	0 / ha	0 / ha	Not assessed	Not assessed
Replacement habitation land**	5,000 per m ² extra	10 per m ² extra	5,000 per m ² extra	10 per m ² extra
Livelihood Restoration Allowance (Forest Products)				
Timber	62,500 / m ³	125 / m ³	N/A	N/A
Fire wood	25,000 / m ³	50 / m ³	N/A	N/A
Reeds	15,000 / m ³	30 / m ³	N/A	N/A
Pasture	10,000 / m ³	20 / m ³	N/A	N/A
Non-timber products	250 / kg	1 / kg	N/A	N/A
Disturbance and Relocation Allowance				
Household	US\$2,500 (1,250,000 F CFA) per household			

* These are costs required for livelihood compensation and restoration and do not include costs for restoration of land surfaces disturbed by mining. Currency conversion based on May 2010 rate. ** Buildings, huts, community and other infrastructure costs include an allowance of US\$11 (5,000 F CFA) per m² extra for purchase of the land footprint required for each.

4.3.4. Establishing Eligibility for Resettlement and Compensation

In consultation with the Sous-Prefecture and community leaders, GCO should reach a consensus with the local authorities in relation to resettlement and compensation eligibility and entitlements. Key to this process will be the establishment of a cut-off date for resettlement and compensation eligibility which is required to prevent opportunistic in-migration into the project area, thereby posing greater risk to the project. In turn, a cut-off date would form the basis for the future resettlement and compensation program i.e. no new claimants would be eligible for compensation unless their claim could be proved beyond reasonable doubt.

Eligibility for access to the resettlement and compensation program entitlements will apply to all persons with land use rights utilising land for agricultural, residential or cultural purposes within the boundaries of the project area at the time of the cut-off date. Once a cut-off date has been established, it is recommended that GCO inform the Sous-Prefecture and community as soon as possible regarding the significance of the 'cut-off' date i.e. new arrivals to the area after this date would not be entitled to resettlement housing, land or livelihood assistance.

It will be important for GCO that the procedures for determining eligibility are transparent – so that it can be easily communicated to project stakeholders, and applied consistently to other potential resettlement programs.

4.4. Preparation of a Resettlement Action Plan

Preparation and implementation of a well resourced RAP is a key step in the resettlement and livelihood restoration process. A RAP will act as a strategic planning document for the GCP and outline in detail the procedures and actions that GCO will take to mitigate adverse effects, compensate losses and provide development benefits to persons and communities affected by the GCP. Preparation of a RAP will also need to be consistent with the framework outlined in this document. Key objectives of a RAP will be to:

- Improve local conditions and economic opportunities, with particular focus on providing opportunities for people whose land is directly impacted by the GCP;
- Assess and develop compensation, relocation and rehabilitation measures to ensure that every affected household or individual maintains an equivalent or better standard of living and income earning capacity as they had prior to resettlement;
- Prepare a detailed cost estimate of all measures required to achieve the successful implementation of the compensation and resettlement program;
- Identify the responsibilities of the GCO, local authorities, communities and other parties that are to implement the plan; and
- Provide an opportunity for affected households and other stakeholders to be consulted on the plans and provide meaningful input into the design of the overall program.

The scope of the RAP will include the identification of strategic measures to avoid, mitigate and manage the adverse impacts to persons arising from the development of the GCP as it pertains to the need for physical displacement, and the loss of land, livelihood and assets.

4.4.1. Identification of Impacts

The first task in resettlement planning is the identification of project impacts and those people who will be adversely affected by project development. A RAP must identify all PAPs and all adverse impacts on their livelihoods associated with the project's land acquisition. Extensive consultation with the government, local authorities, community leaders and villagers will also be essential in identifying and understanding the nature and extent of project impacts.

Potential socio-economic impacts of the proposed GCP have been identified and assessed to varying degrees in the environmental and social planning and permitting of the GCP. Proposed measures to manage and mitigate socio-economic impacts have also been outlined during this process. Key documents include the:

- *Environmental and Social Impact Assessment (Etude d'Impact Environmental et Social [EIES])*, November 2005.
- *Environmental and Social Management and Monitoring Plan (ESMMP)*, April 2007. Updated as part of the DFS.
- *Environmental and Social Monitoring Manual (ESMM)*, May 2007. Currently updated as part of the DFS.
- *Land, Asset and Livelihood Baseline Study (Draft)*, May 2010.
- *Land, Asset and Livelihood Impact Assessment and Management Strategy*, May 2010. (This document).
- *Grande Côte Mineral Sands Project Definitive Feasibility Study - Volume 2: Environmental and Social Management Strategy*.

PAPs and project impacts have been identified in the above documents through the following:

- Thematic mapping - using visual interpretation of recent aerial photography to identify such features as settlements, infrastructure, natural vegetation area, water sources and land use patterns;
- Household livelihood surveys – conducted for PAPs within the 2007 Survey Area;
- Land and asset registration; and
- Analysis of surveys and studies.

Further assessment work will need to be undertaken prior to the commencement of the GCP in order to develop a detailed RAP / SDP and identify appropriate compensation measures and resettlement and livelihood restoration strategies. This will need to include:

- An update of the household livelihood surveys undertaken as part of the 2007 Land, Asset and Livelihood Baseline Study;
- Household livelihood surveys of new settlements located within the GCPDA since the 2007 Land, Asset and Livelihood Baseline Study;
- Detailed inventory of all project affected land and assets at the household, village and community level; and
- Consultation with government, local authorities and PAPs regarding management and mitigation of project impacts, resettlement options and alternatives, livelihood restoration options and development opportunities, and compensation measures.

4.4.2. Resettlement Options and Alternatives

The proposed RAP will include a detailed assessment of resettlement options and alternatives to ensure that all PAPs maintain an equivalent or better standard of living and income earning capacity as they had prior to resettlement. This will include identification of preferred sites (see below).

At this stage in the assessment process, only preliminary consultation with community and government has been undertaken. More extensive consultation during the preparation of the RAP will be required to confirm viable resettlement options and alternatives for each village and establish a pathway for resettlement and livelihood restoration.

There are two broad alternatives for resettlement and livelihood restoration:

1. Resettlement within the existing village land boundary⁶; and
2. Resettlement to a new area.

The first option is possible and appropriate where only a small percentage of land that is important for livelihood is impacted. Usually this alternative brings the least disruption to the community. The experience of many other projects indicates that this type of resettlement is often the most successful.

The second alternative is necessary where the impact of the project on land and livelihood is such that resettlement to a new area will be required to re-establish a viable existence. Extensive consultation will be required with each village and the local authorities to confirm the resettlement preference of potentially impacted villages.

A preliminary discussion of potential resettlement options for project affected villages is provided below. Only those settlements located in the proposed mining area and buffer zone are discussed below, as they are the only ones likely to require relocation. Hinterland and coastal communities will

⁶ Note, that village boundaries do not exist in any formal sense, but represent the extent of traditional land use practices.

also potentially experience adverse effects and losses resulting from project development but are unlikely to require resettlement. Compensation measures for these settlements are described in Section 4 and 5.

Identification of Potential Resettlement Areas

The first step in developing new livelihood options for PAPs will be the identification of suitable land areas for resettlement. Potential sites will need to be evaluated and the preferred sites will need to be selected in consultation with villages to be resettled. Once preferred sites have been selected, plans for construction of resettlement infrastructure and establishment of livelihoods in resettled villages can be developed. These plans will include tentative land use planning for resettled villages. When identifying potential land areas, it will be necessary to consider the following:

- The availability of water supply of suitable quality and quantity for agricultural purposes;
- The suitability of the land for agricultural development – i.e. having suitable biophysical properties such as soils, slope, topography, drainage, etc.;
- The area should be easily accessible;
- The location of the resettlement area in relation to the existing village boundary of the persons to be resettled;
- The status of the existing land use and ownership;
- The socio-cultural suitability of the resettlement area;
- Preferences of PAPs; and
- Preferences of the Government and local authorities.

Furthermore, when considering potential resettlement areas, it will be important to keep in mind the possibilities of future project expansion and thus seek to avoid relocating villagers to areas that will potentially be impacted in the future.

A detailed assessment of the land areas and resources available for resettlement has not been undertaken at the feasibility stage. This will need to be addressed in a RAP and SDP. However, based on information gathered during the 2007 Baseline Study and a desktop analysis of 2008 aerial photography, potential land areas available for resettlement may include:

- Hinterland areas adjacent to the littoral dune;
- Littoral dune areas located outside of but adjacent to the proposed mining area and buffer zone; and
- Coastal settlements.

Resettlement to hinterland areas adjacent to the littoral dune may prove acceptable if such sites provide:

- Lands of equivalent or better agro-pastoral productivity;
- Equivalent or even improved access to water for both domestic and agricultural purposes;
- Equivalent or even improved access to markets, education and health services; and
- Replacement community land if necessary.

Foth Settlements

Resettlement within village lands is likely to be a realistic option for Foth settlements located inside the proposed mining area and buffer zone provided agricultural land of equal productive capacity acceptable to the affected people is available or cash equivalent at full replacement cost if there is not. However, extensive consultation will be required with villagers and the local authorities to confirm the resettlement preference of potentially impacted settlements.

Potential resettlement areas within Foth village lands may include:

- Hinterland areas outside of but adjacent to the GCPDA to the east and south east of Foth main village;
- Integration of potentially impacted Foth settlements with the existing Foth settlement cluster located approximately 2 km north west of Foth main village near the coast;
- Littoral dune areas outside of but adjacent to the GCPDA to the north of Foth main village.

Diourmel Hamlets

As with Foth settlements, resettlement within village lands is likely to be a realistic option for Diourmel hamlets located inside the proposed mining area and buffer zone provided agricultural land of equal productive capacity acceptable to the affected people is available or cash equivalent at full replacement cost if there is not. Extensive consultation will be required with villagers and the local authorities to confirm the resettlement preference of potentially impacted hamlets.

Potential resettlement areas within Diourmel village lands may include:

- Hinterland areas outside of but adjacent to the GCPDA to the east and south east of Diourmel main village;
- Littoral dune areas outside of but adjacent to the GCPDA;
- Integration with existing Diourmel hamlets located on the western side of the GCPDA or relocation to these areas.

Diogo Hamlets

Resettlement to new land areas is likely to be required for Diogo hamlets located within the proposed mining area given the nature and extent of the potential impact of the proposed project development on Diogo's land and villagers livelihoods.

Extensive consultation will be required with each hamlet and the local authorities to confirm the resettlement preference of potentially impacted hamlets as well as identifying the availability of suitable land for resettlement.

Thiakmat Hamlets

Resettlement within village lands may be a likely option for Thiakmat hamlets provided agricultural land of equal productive capacity acceptable to the affected people is available or cash equivalent at full replacement cost if there if not.

As no baseline information for the Thiakmat settlements is currently available, the following tasks will need to be undertaken in consultation with these settlements and the local authorities prior to assessing and developing resettlement options and alternatives:

- Establish a land, asset and livelihood baseline for these settlements; and
- Identify and confirm the nature and extent of village land use for each of these settlements.

Potential resettlement areas for Thiakmat village lands may include:

- Relocation to Thiakmat main village to the west of the GCPDA;
- Littoral dune areas outside of but adjacent to the GCPDA.

Extensive consultation with villagers and the local authorities will be required to confirm the resettlement preference of this hamlet.

Other Project Facilities

When a detailed alignment for transport and service infrastructure (eg. railway spur, proposed road powerlines, pipelines, etc) is in place a detailed assessment of any resettlement and livelihood restoration requirements may need to be undertaken.

4.4.3. Consultation and Participation

Consultation and disclosure are core requirements for project development and the successful implementation of resettlement and livelihood restoration planning. In addition to fulfilling legislative obligations, an open and consultative approach makes good sense from a project management perspective. The following are the clear benefits of a transparent, informative and two-sided communication process:

- Local people can bring invaluable knowledge to the decision making process. By seeking their ideas and inputs, the GCP will have better and often more cost effective mitigation outcomes.
- By ensuring local people and stakeholders are fully informed, there is less risk of project delays.
- Good consultation builds sound relationships between the proponent and local communities, an important foundation for a long term project.

- Consultation and public participation provides a strong basis for problem solving. Often a solution developed in isolation from the local conditions may be inappropriate, or less effective than one that has been developed collaboratively.
- Through sound communication, unrealistic demands and expectations can be prevented, another important factor in long term community relationships.

A consultation program will provide stakeholders with an opportunity to have input into the livelihood restoration and resettlement process, and will ensure that the design and implementation of resettlement is consistent with the needs and priorities of the PAPs.

To ensure that each affected group is fully informed of the potential project impacts and the options for resettlement and compensation, it is essential that consultation is undertaken in an appropriate language for the affected population and in a culturally sensitive manner. It is also important that the presentation of information is done in a way that recognizes the low literacy rates of the affected population (i.e. use of pictures and figures to describe options and potential impacts).

Vulnerable populations, such as women, elderly, etc. may require special attention during the consultation process. Women are typically more vulnerable to livelihood changes due to fewer available employment opportunities and a higher reliance on agricultural activities. Additionally, women tend to have less access to education and training opportunities. During the consultation process, sessions specifically targeting women will be held to ensure that they have an opportunity to express concerns and provide input into the resettlement process.

Detailed mechanisms for community consultation and participation of PAPs will be addressed in a RAP and SDP. These mechanisms are likely to include the establishment of resettlement committees for PAPs and other stakeholders, public meetings, participation in site preparation and planning.

Key objectives of the community consultation process include:

- To ensure community expectations are realistic, making sure benefits such as employment are not over-stated.
- To inform local people about the Project, including its potential impacts and the proposed means by which to mitigate these impacts.
- To inform relevant local authorities and government agencies of the Project, including its potential social and environmental impacts, and the proposed means by which to mitigate these impacts.
- To provide an opportunity for local people to voice concerns and have their questions answered in relation to the Project.
- To understand the concerns of local people, and to ensure that these concerns were adequately addressed in the project permitting process.
- To gain a detailed understanding of the culture and livelihood of potentially affected villages.

- To assist in building trust and dialogue between PAPs and the Project proponent.
- To inform community based mass organisations and receive input from their particular perspectives.

Consultation for the GCP at the feasibility stage is planned to be undertaken post DFS. Feasibility consultation will need to be undertaken at all levels of government. It will also need to be undertaken in all villages to be resettled, including villages where only partial resettlement is required. Village level consultation will also be required in hinterland and coastal villages where land or livelihood may be lost.

4.4.4. Complaints and Grievance

Throughout the compensation and resettlement process, it is inevitable that there will be some complaints of concerns raised regarding the implementation of the program. There is also potential for conflict to arise between stakeholders with different objectives and responsibilities (i.e. affected villagers, NGOs, local authorities, etc.). GCO is committed to considering and addressing stakeholder concerns, complaints and grievances regarding the compensation and resettlement process. It is also committed to the prevention and resolution of conflict between stakeholders. All PAPs will need to have access to a grievance reporting mechanism.

The process through which these concerns and grievances can be addressed will involve the development and disclosure of a Grievance Procedure as well as conflict avoidance and resolution.

Grievance Procedure

The purpose of a Grievance Procedure is to allow PAPs to seek satisfactory resolution to any grievances they may have relating to the resettlement process and compensation process. This will ensure that:

- Basic rights of and interests of the affected persons are protected;
- Concerns of PAPs are adequately considered, and where necessary, resolved;
- Concerns and grievances are addressed as quickly as possible; and
- Compensation is provided as agreed and in a timely fashion (i.e. prior to any disturbance).

Conflict Avoidance and Resolution

Conflict avoidance is the most important step in conflict resolution. The consultation framework outlined in the previous section is designed to ensure that a RAP and SDP are prepared and implemented in a participatory manner, which will reduce the potential for conflict in the future.

Once a conflict is identified, it is important that it is addressed as soon as possible to prevent escalation. The earlier a conflict is recognised and dealt with, the easier it will be to ensure a satisfactory solution for all parties.

A conflict resolution procedure will need to be developed for the GCP.

4.5. Preparation of a Social Development Plan

Whilst a RAP focuses on resettlement and compensation strategies, a comprehensive strategy for the re-establishment and security of the livelihood of PAPs is also crucial to the success of the GCP. Thus it is recommended that a SDP be developed in conjunction with the RAP to assess and develop options for livelihood restoration.

Livelihood restoration is essential to successful resettlement. The key objective of livelihood restoration for the GCP will be to restore the livelihood and income of resettled populations to *at least* the same level as prior to resettlement. It will also be important to ensure that PAPs not requiring resettlement but who own or access community land potentially affected by project development will be compensated so that they can restore their land livelihood.

Households within the GCPDA are heavily reliant on cash income sourced from horticultural activities for the purchase of staple foods, supplementary food stuffs, household items, and to manage emergencies such as medical expenses. Project development may result in impact on a significant portion of the land currently used by the local community for agricultural, livestock grazing and forest resources. Feasible livelihood options will need to be developed at a household and community level during the preparation of a SDP, prior to commencement of the project. These are likely to be in the form of 'farm models' that focus on the following areas:

- Horticulture;
- Poultry and animal raising;
- Agro-forestry; and
- Fishing

Model inputs will need to be scoped during the term of a typical production cycle and the economic return assessed to determine if it is sufficient to restore and improve livelihood (compared against pre-disturbance livelihood levels).

The strategy for the re-establishment and security of livelihoods should also involve:

- An assessment of lessons learnt based on other livelihood development activities in the Niayes;
- The expertise of local consultants and agricultural specialists in assessing options for the maintenance of agricultural livelihoods;
- Special consideration of the needs of the Peul ethnic group, distinct from Wolof communities, to ensure there is adequate opportunity for them to participate in, and benefit from, project related activities that may help them fulfil their aspiration for economic and social development; and
- Consultation with villages (via focus groups) regarding livelihood restoration.

A brief discussion of the above potential livelihood options or 'farm models' is provided below. These and other options will need to be developed in detail in a SDP.

4.5.1. Horticulture

Horticultural extension activities are likely to be required to assist in the rapid establishment of new livelihood opportunities for those impacted by the GCP to ensure that resettled communities are not negatively impacted by the GCP. Whilst the focus should be on those communities that are resettled, horticultural extension activities should also apply to hinterland and coastal communities within the GCPDA that may be impacted by the proposed project development. This support will be most important immediately prior to and after resettlement has commenced.

During the 2007 Baseline Survey, inhabitants of the littoral dunes reported that constraints to the development of new areas included water availability, distance from the village and dune stability. In the field it was observed that some agricultural areas were not fully exploited (20% of available land) and that there is potential for further intensification pending availability of water, labour, seed capital, etc.

Further more, households that have access to only one production area (i.e. one depression) are potentially more vulnerable to project disturbance as they are likely to temporarily lose a large proportion of their livelihood. Households that have access to more than one production area have the flexibility to invest resources into the area not disturbed by the project and hence the capacity to maintain some production.

When developing a horticulture development program it will be important to consider the constraints and limitations to horticultural production faced by local communities and focus efforts on identifying extension activities to alleviate these. It will also be important to incorporate and draw on the knowledge of local consultants, agricultural specialists in the area, particularly those involved in poverty alleviation.

With the development of improved horticultural techniques and providing horticulture extension services, the GCP can help the resettled populations improve the productivity of their land and gain improved access to markets for their products. It is recognised that it can take several seasons to establish sustainable crop systems.

4.5.2. Poultry and Animal Raising

Diversification of the agricultural sector between crops and livestock helps to provide an important form of livelihood security for local communities within the GCPDA. Livestock provide both a source of cash income and an important contribution to the diets of pastoral communities in the form of milk, meat and egg production. More than 75% of the households in the GCPDA raise either cows, or small ruminants (goats and sheep), or poultry. For dune settlements within the 2007 Survey Area, the average herd size is 11 cattle, 22 goats, 6 sheep and 11 poultry per household. On the assumption that the relocated households will wish to retain their livestock when they move into the new areas, every effort must be made to assist them in maintaining and improving their livestock quality and productivity.

Limited access to water, quality feed and veterinary services were reported to be the principle constraints to the development of pastoral activities.

Water management is a key constraint as natural watering points are only available to grazing herds during and after the rainy season. Livestock therefore competes with horticulture and households for ground water.

Market gardening has enabled the intensification of animal raising in the form of waste crops providing a valuable source of animal feed, and manure a source of fertiliser. During the wet season open savannah in hinterland areas provide favourable pasture. However farmers are also required to purchase supplementary sources of animal feed such as agro-industrial by-products from Dakar.

Poor animal health is likely to be a major constraint to the development of the livestock sector with all herders inflicted by high mortality rates as a result of: disease, parasites, unavailability of vaccinations, inadequate water supply and lack of pasture. The Rural Community of Darou Khoudoss has some agriculture extension expertise but few resources to service farmers in the 2007 Survey Area.

Addressing development constraints faced by local communities will be essential in maintaining and improving livestock quality and productivity as well as ensuring the restoration of livelihoods.

4.5.3. Agro-forestry

Agro-forestry as a traditional land-use adaptation may potentially support livelihood improvement through simultaneous production of food, fodder and domestic fuel. Development of a number of agro-forestry extension activities specific to the local environmental, climatic and social conditions of the project area will be essential in the restoration of livelihoods.

For example, one potential option could be the development of sustainable sources of domestic fuel in the design of dune rehabilitation and social development programs, to compensate for the loss of dune biomass.

4.5.4. Fishing

Some PAPs within the GCPDA may wish to relocate to the coastal settlements. Coastal settlements of Wolof ethnicity participate in artisanal fisheries including the settlements of Fass Boye, Diogo Sur Mer and Litte. Fishermen reported decreasing quantities of fish catch and the requirement to fish further offshore. This trend has placed increasing demands on agriculture to provide the principle source of cash income for households.

The provision of fisheries extension activities for coastal settlements may indirectly help to alleviate pressure on agriculture by aiding in the development and growth of fishing as a means of livelihood.

4.6. Preparation of a Public Consultation and Disclosure Plan

As part of the social management strategy, GCO will establish a Public Consultation and Disclosure Plan (PCDP) which details the methodology for conducting stakeholder consultation and documenting the results of consultation activities. Effective public consultation and disclosure with

PAPs and other stakeholders is essential to the success of the GCP. Effective implementation of a PCDP will aid in the establishment of sound relationships with the local community and other key stakeholders as well as help build broad community support for the GCP through ongoing dialogue and meaningful participation.

4.7. Institutional Arrangements

The realisation of successful resettlement and livelihood restoration will require the full participation of local government (Sous-Prefecture), Rural Community and the affected population. These authorities have limited experience in the design and implementation of compensation programs as it relates to physical displacement and replacement land. Considerably input will almost certainly be required from GCO to raise the awareness and competence of these local actors to intended project standards. Particular attention will be required to ensure:

- Prior and informed consent is reached with affected persons;
- The participation of affected persons in the design and delivery of compensation measures;
- Provision of assistance to vulnerable persons;
- Valuation of property at current market rates; and
- The adequate restoration of economic livelihood.

The functions of each organisation of relevance to the implementation of a resettlement and compensation program will need to be clearly defined prior to construction. Relevant organisations are likely to include:

- GCO's Community Relations Department;
- Sous-prefectures of Méouane and Ndande;
- Rural Communities of Darou Khoudoss and Thieppe;
- Regional Council of Thiès and Louga; and
- Village Resettlement Committee.

The day to day implementation of a resettlement and compensation program should be the responsibility of GCO's Community Relations Department. The Rural Councils of Darou Khoudoss and Thieppe are responsible for the allocation and registration of lands for both agriculture and habitation. The involvement of Regional Council may be required to endorse resolutions made by the Rural Councils, on the following issues:

- Registration of replacement agricultural and habitation land; and

- Clearance of vegetation associated with the allocation of land for agriculture. This is only likely to be required where clearance is required in 'new' / undisturbed land as opposed to fallow land.

The establishment of a Village Resettlement Committee, with the endorsement of the Rural Council Presidents and the Sous-Prefectures will provide a means by which the interests of villagers can be represented. This is likely to include members from the villages of Foth, Diogo, Diourmel and other key villages within the GCPDA. The Committee is intended to represent the interests of

- Persons affected by the Project; and
- Women, youth, ethnic minorities and other vulnerable groups.

4.8. Social Management and Monitoring

4.8.1. Monitoring and Evaluation

Social Impact Monitoring

Social impact monitoring will be required to identify and quantify the direct and indirect impacts of the GCP on the local community. Social monitoring will also ensure that existing management and mitigation measures are effective, and will identify the need for improved or additional measures.

A social monitoring program for the GCP should include the following:

- Monthly monitoring of:
 - Local workforce statistics.
 - Compensation payments.
 - Local goods and services procured by the GCP.
 - Road accidents (if any) involving mine staff (including contractor staff) and mine vehicles and local villages.
- Annual monitoring of:
 - Population growth rate.
 - Extent of in-migration.
 - Birth and death rates.
 - Local attitudes toward the Project.
 - Incidence of significant infections and health statistics.

Additionally, all community grievances filed with the company should be recorded and addressed at management meetings. Community grievance reports should include the name of the complainant, details of the complaint, date that the complaint was made, name of GCO staff member recording the complaint and the details and date of any action taken.

Resettlement and Livelihood Restoration

In addition to the monitoring measures outlined above, monitoring and evaluation will be essential to ensure successful implementation of a resettlement and livelihood restoration program. The objectives of monitoring and evaluation for resettlement and livelihood restoration include:

- Measure and determine the impact of the GCP on the PAPs;
- Monitor situations or issues arising during project implementation;
- Monitor compliance of implementation with relevant legislation and policies, as well as the methodologies outlined in social planning documents;
- Evaluate emerging impacts of the GCP, and their affect on the mid- to long-term sustainability of resettled villages;
- Evaluate the overall success of the resettlement and livelihood restoration program; and
- Ensure continuous improvement in the resettlement process.

Monitoring and evaluation of resettlement and livelihood restoration will also allow the project to identify and quantify impacts of the project, including any resulting benefits.

GCO should develop internal procedures for monitoring and evaluating implementation of its social programs. In addition, it is recommended that GCO engage an independent agency to monitor and evaluate the implementation and resulting outcomes of a resettlement program. The scope of the monitoring program would include:

- Review of consultations with communities and government on communication and disclosure of impacts and agreements reached.
- Review of the planning of the design and construction for communities.
- Assess the quality and appropriateness of infrastructure and services provided to impacted communities.
- Assess the adequacy of the institutional arrangements for sustainable operation and maintenance of infrastructure and services on the relocation sites.
- Verify that concerns of identified vulnerable groups are adequately addressed with regard to existing infrastructure relocation and construction of new infrastructure. Independent monitoring missions should be conducted on at least an annual basis in the first two (2) years following resettlement, and biennial thereafter.

4.8.2. Management and Mitigation Measures

This section summarises potential management measures that can adopted by GCO to minimise and mitigate potential social impacts of the GCP. Mitigation measures are summarised in Table 4.2 below.

Table 4.2 Summary of potential social impacts and their associated management and mitigation measures.

Project issue / impact	Mitigation and management measures	Responsibility	Performance Indicators	Implementation schedule
Settlement	In consultation with affected households and local government authorities, develop and implement a Resettlement Action Plan (RAP) and Social Development Plan (SDP) prior to commencement of the GCP.	Community Relations Manager		Prior to commencement of project
	In consultation with the local community and authorities, identify new habitation and agricultural land areas to be made available to settlements as well as provide compensation for all asset and community infrastructure loss associated with the GCP	Community Relations Manager		Prior to commencement of project, Construction and Operation
Land Use	In consultation with affected households and local government authorities, develop a Resettlement Action Plan (RAP) and Social Development Plan (SDP) which will include details of appropriate compensation for land and livelihood impacts, including compensation for loss of economic timber within the proposed mining area (see Settlement above).	Community Relations Manager		Prior to commencement of project
	Engage in regular public consultation throughout the pre-construction, construction and operating phases of the GCP	Environmental Manager, Community Relations Manager	Number of consultations	Prior to commencement of project, Construction and Operation
	Develop a preferential employment policy that favours those people whose land is directly impacted by the GCP	Community Relations Manager, Human Resources Manager	Employment statistics	Construction and Operation

Project issue / impact	Mitigation and management measures	Responsibility	Performance Indicators	Implementation schedule
	Project infrastructure should be located to minimise impacts on agricultural land where possible	Project Designers, Environmental Manager	Hectares of agricultural land cleared	Prior to commencement of project and Construction
	The area disturbed by the Project will be progressively rehabilitated over the life of the mine.	Environmental Manager	Number of hectares revegetated	Construction and Operation
	Provide alternative access routes where access to land resources is disturbed.	Project designers, Mine Manager, Environment Manager	Number of alternative access routes provided	Construction and Operation
	Implement appropriate measures to minimise potential impacts on the availability of local forest resources such as timber and Non Timber Forest Products	Environmental Manager, Community Relations Manager	Number of hectares revegetated	Construction and Operation
	Evaluate options for the development of sustainable sources of domestic biomass fuel in the design of dune rehabilitation and social development programs, to compensate for the loss of dune biomass	Environmental Manager, Community Relations Manager		Prior to commencement of project, Construction
Water Use	Minimising any disturbance to agricultural land and associated water sources in the Niayes through the appropriate siting of project infrastructure, where practicable.	Project Design, Environmental Manager, Mine Manager	Number of hectares disturbed	Prior to commencement of project, Construction and Operation
	Develop and implement appropriate measures to minimise the risk of groundwater contamination from the project components including the dredge pond and MSP.	Environmental Manager		Prior to commencement of project, Construction and Operation

Project issue / impact	Mitigation and management measures	Responsibility	Performance Indicators	Implementation schedule
	Provision of alternative water resources where loss of access to existing water resources within the GCP footprint is unavoidable. These may include the construction of additional wells or bores.	Community Relations Manager	Level of community satisfaction.	Construction and Operation
	A series of groundwater monitoring bores will be installed between the mine path and the farming areas to establish baseline values and monitor any changes due to mining as detailed in the ESMMP with the results being used for additional management and mitigation measures.	Environmental Manager	Water quality parameters	Prior to commencement of project
	Ensure that the quality of any water discharged from all project facilities complies with legislative and licensing commitments	Environmental Manager, Process Manager	Water quality parameters	Construction, Operation and Closure
	Develop and implement appropriate management measures for the transportation, storage and use of hazardous materials to avoid accidental release and contamination of water resources	Environmental Manager, Process Manager	Number of incidents	Prior to commencement of project, Construction and Operation
	Ensure areas disturbed by mining activities are progressively rehabilitated and revegetated throughout the life of the mine	Environmental Manager	Number of hectares of land rehabilitated	Operation and Closure
Economy and Employment	Develop and implement a preferential recruitment policy and training that favours those people whose land is directly impacted by the GCP and is in accordance with Section 31.1 of the Mining Convention.	Community Relations Manager, Human Resources Manager	Number of persons whose land is directly impacted employed by the GCP	Construction and Operation
	Communicate the recruitment policy to local community and Rural Communities of Darou Khoudoss and Thieppe	Community Relations Manager, Human Resources Manager	Presentations conducted	Construction and Operation

Project issue / impact	Mitigation and management measures	Responsibility	Performance Indicators	Implementation schedule
	Maintain a recruitment practice that is equitable between littoral dune and hinterland communities.	Community Relations Manager, Human Resources Manager	Employment statistics	Construction and Operation
	Evaluate the potential for employment opportunities associated with rehabilitation activities	Community Relations Manager	Employment statistics	Prior to commencement of project, Construction and Operation
	Provide continuous training and development where applicable of local employees.	Community Relations Manager, Human Resources Manager	Training of local population	Construction and Operation
	Establish a Community Development Program designed to support local development initiatives and alternate livelihood opportunities.	Community Relations Manager		Prior to commencement of project
	Develop and implement a procurement and supply policy, which favours local products and services if need, cost and quality is in line with project requirements.	Community Relations Manager		Prior to commencement of project
	Regularly monitor employment statistics and socio-economic conditions in local villages to ensure effectiveness of employment management measures	Community Relations Manager	Household surveys conducted	Construction and Operation
Cultural Values and Heritage	Conduct a detailed cultural values and heritage baseline study for the area prior to the commencement of the GCP.	Environmental Manager, Community Relations Manager		Prior to commencement of project
	Minimise any potential disturbance to cemeteries and other cultural sites as a consequence of project development	Community Relations Manager	Number of cultural sites disturbed	Construction and Operation

Project issue / impact	Mitigation and management measures	Responsibility	Performance Indicators	Implementation schedule
	Identify appropriate mitigation and monitoring measures for affected cultural sites in consultation with the local government and affected people	Community Relations Manager	Number of complaints	Construction and Operation
	Develop compensation measures in close consultation with community and religious leader as well as the affected people.	Community Relations Manager	Number of complaints	Construction and Operation
	Develop and implement a Chance Find Procedure for managing the discovery of a site of cultural or spiritual significance that complies with GRS and international guidelines	Community Relations Manager/Operations Manager		Prior to commencement of project, Construction and Operation
Community health, Safety and Amenity	Development of a health management strategy to prevent the introduction and spread of STIs (especially HIV/AIDS)	Community Relations Manager	Health statistics	Construction and Operation
	Ongoing implementation of GCOs malaria eradication program	Community Relations Manager	Health statistics	Prior to commencement of project, Construction and Operation
	Implement a Community Development Program will support improvements in health care facilities and health education campaigns available to the general population	Community Relations Manager	Health statistics	Prior to commencement of project, Construction and Operation
	Provide health care services for GCO employees with an appropriately staffed on-site clinic and medivac capabilities	Community Relations Manager	Health statistics	Construction and Operation
	Through community development initiatives, work to increase food security in the area, prioritising those households impacted by loss of land.	Community Relations Manager	Health and nutrition statistics	Construction and Operation

Project issue / impact	Mitigation and management measures	Responsibility	Performance Indicators	Implementation schedule
	Implement mitigation measures to minimise impacts on social amenity and manage traffic safety.	Community Relations Manager / Mine Manager		Construction and Operation
	Establish appropriate indicators of health and nutrition as well as regular monitoring of all mine staff	Community Relations Manager		Construction and Operation
	Establish a health baseline within the GCPDA which includes an assessment of the capacity of local authorities to manage health problems, both existing and potential.	Community Relations Manager		Prior to commencement of project
	As a precautionary measure, workers in the Mineral Separation Plant who are routinely exposed to potentially radioactive mineral products, will be required to wear a badge that monitors their exposure to radiation	Process Manager	Incident response	Operation
	Access to the GCPDA to be restricted by the presence of security personnel and only project vehicles are to be permitted inside project facilities	Operations Manager / Mine Manager	Incident response	Construction and Operation
	Undertake consultation with local communities to educate local people on the potential safety hazards associated with the GCP, and to raise awareness of management measures and ways to avoid and / or minimise these risks.	Community Relations Manager		Prior to commencement of project, Construction
	Prepare appropriate emergency response procedures for potential spillage and accidents	Community Relations Manager	Incident response	Construction and Operation
	Engage in regular public consultation throughout the pre-construction, construction and operating phases of the GCP to ensure the amenity of the local communities is maintained	Community Relations Manager, Environmental Manager	Number of consultations	Prior to commencement of project, Construction and Operation
	Monitoring of dust and noise levels, via community consultation and an appropriate grievance procedure, in the villages closest to the dredge path and project facilities including the MSP and Mine Construction Site will be required to ensure that nuisance dust and noise levels are prevented	Community Relations Manager	Number of complaints	

Project issue / impact	Mitigation and management measures	Responsibility	Performance Indicators	Implementation schedule
Accessibility and Transport	Implement comprehensive preventative measures (e.g. education programs, road crossings, fences and noise barriers) and ongoing monitoring and adaptive management of accident rates, project vehicle behaviour and noise and air quality along project roads.	Community Relations Manager / Mine Manager		Prior to commencement of project, Construction and Operation
Population and In Migration	Development of an In-migration and Population Management Strategy for the GCP in conjunction with local community and the Rural Community of Darou Khoudoss and Thieppe	Community Relations Manager		Prior to commencement of project
	Undertake continual public disclosure and consultation with the local community during all stages of the GCP	Community Relations Manager	Household surveys conducted	Operation
	Implementation of a Recruitment Policy which discourages in-migration	Community Relations Manager, Human Resources Manager	Number of local employees compared with total number of employees	Construction and Operation
	Establish a census in the township of Diogo, Ngoye Wade and Ndoye Beye in advance of project operations to be used as a baseline for assessing the extent of project related in-migration	Community Relations Manager		Prior to commencement of project
	Establish a census in the township of Diogo, Ngoye Wade and Ndoye Beye in advance of project operations to be used as a baseline for assessing the extent of project related in-migration.	Community Relations Manager		Prior to commencement of project

4.9. Implementation Schedule

A schedule for the implementation of social management activities required prior to the commencement of the GCP is provided in Table 4.3. This incorporates resettlement and livelihood restoration activities as well as general social management measures. A cost estimate for key components is provided in Section 5.3.

Table 4.3 Implementation schedule for proposed social management activities.

Social Management Activity	Implementation schedule
Update household livelihood surveys undertaken as part of the 2007 Land, Asset and Livelihood Baseline Study	Prior to commencement of project
Undertake household livelihood surveys of all new settlements located within the GCPDA since the 2007 Land, Asset and Livelihood Baseline Study	
Prepare a detailed inventory of all project affected land and assets at the household, village and community level	
Establish a cut-off date for resettlement and compensation eligibility	
Establish a population census in the township of Diogo, Ngoye Wade and Ndoye Beye in advance of project operations to be used as a baseline for assessing the extent of project related in-migration	
Establish a health baseline within the GCPDA which includes an assessment of the capacity of local authorities to manage health problems, both existing and potential.	
Undertake extensive consultation with government, local authorities and PAPs regarding management and mitigation of project impacts, resettlement options and alternatives, livelihood restoration options and development opportunities, and compensation measures.	
Prepare a Public Consultation and Disclosure Plan (PCDP)	
Prepare a Resettlement Action Plan (RAP)	
Prepare a Social Development Plan (SDP)	

4.9.1. Implementation of a RAP and SDP

The schedule for implementation of a RAP and SDP is dependent on the timing and scheduling of project activities. The GCP is currently in the feasibility stage.

Post-feasibility, a detailed schedule will need to be developed for the implementation of the RAP and SDP. The budgets for the RAP and SDP should tie in with detailed implementation schedule for all key resettlement and livelihood restoration activities. In turn, this should be linked to the main schedule for the GCP, so that PAPs are resettled and/or compensated prior to disturbance.

In developing an implementation schedule for a RAP and SDP, it will also be important to consider the following:

- *Timing of resettlement and livelihood restoration activities* (eg. consultation, household livelihood surveys, detailed inventory of land and assets). For example, commencement of these activities too early may raise local community expectations and draw newcomers into the project area. Commencement of these activities too late may interfere with implementation of the project.
- *Agricultural and employment cycles* – scheduling of resettlement activities to minimise disruption to these cycles.

Furthermore, the development of livelihood opportunities will need to be undertaken at the same time as compensation payments, land acquisition and resettlement to ensure that gaps in household income generation are avoided after the loss of agricultural land and other assets.

5. COST ESTIMATES

5.1. Resettlement and Compensation Costs

The following section provides an estimate of the resettlement and compensation costs for the relocation of all PAPs within the GCPDA as well as the 'replacement cost' of land and assets under the current 10 year mine plan. This assessment is based on the entitlement principles and methodologies outlined in Section 4.3 which include compensation procedures and entitlements for disturbance to housing, property assets, agricultural land and community land as well as a livelihood restoration allowance for loss of forest products and relocation assistance. Note that these methods will need to be further refined during the development of the RAP and SDP to take into consideration the outcomes of community and government consultation, local market values for land and assets as well as the experience of other similar projects in Senegal.

At this feasibility stage of the project, it is difficult to estimate the budget for the total costs of resettlement and livelihood restoration that may be associated with the GCP as specific resettlement sites have not yet been identified. Extensive consultation will be required to develop and cost livelihood restoration options. The scope of the resettlement cost estimate provided below covers the 'replacement cost' of land and assets as well as provision of a once-off livelihood allowance for forest products, disturbance and relocation of affected households (Table 5.1). It does not include site preparation and administrative costs such as earth works (eg. base fill, drainage systems, access tracks, etc), external contract services for design and construction supervision or monitoring and evaluation of resettlement sites. Final resettlement and compensation cost estimates to be developed in the RAP and SDP will need to consider all of the items covered in Table 5.1.

Table 5.1 Resettlement and Compensation Cost Estimation

Category	Component	Cost Estimate Prepared for DFS
Resettlement and Compensation Costs	Cost of updating and conducting new household livelihood surveys of PAPs and inventory of assets	Yes (see Table 5.6)
	Cost of information and consultation	Yes (see Table 5.6)
	“Replacement cost” of land and assets	Yes
	Cost of replacement habitation land	Yes
	Cost of preparation of replacement agricultural land	No
Relocation and Transfer	Cost of moving and transporting movable items	Yes
	Cost of site preparation (eg. earth works)	No
	Cost of external contract services for design and construction supervision	No
	Subsistence allowance during transition	Yes
Livelihood Restoration	Livelihood restoration allowance for timber and non-timber forest products	Yes
	Cost estimates for livelihood restoration options (e.g. horticulture, agroforestry, etc)	No
	Cost of incremental services (extension, health, education)	No
	Training of farmers	No
Administration Costs	Physical facilities (office space, staff housing, etc)	No
	Transport/vehicles, materials	No
	Operational staff (managerial, technical) and support staff	No
	Training and monitoring	No
	Technical assistance	No
	Evaluation by external agency	No

Taking into account the above, the indicative resettlement and compensation estimate under the current 10 year mine plan is approximately US\$2,714,855 (Table 5.2). Costs per household are approximately US\$27,985 for Foth settlements, US\$15,499 for Diogo hamlets, US\$6,640 for Diourmel hamlets and US\$ 6,124 for Thiakmat hamlets. Twenty seven percent (27%) of this cost is attributable to the settlement cluster of Foth, 9% to Diogo hamlets, 21% to Diourmel hamlets, 18% to Thiakmat hamlets and 25% to other land and assets within the GCPDA. These costs are those required for livelihood compensation and restoration and do not include costs for restoration of land surfaces disturbed by mining.

Table 5.2 Summary of indicative resettlement and compensation costs

Settlement Cluster	Resettlement and Compensation Estimate (US\$)	No. Households	Approximate Cost per household
Foth settlements	727,615	15	27,985
Diogo hamlets	232,481	26	15,499
Diourmel hamlets	577,704	87	6,640
Thiakmat hamlets	496,068	81	6,124
Other land/assets in the GCPDA	723,700	0	N/A
Total	2,714,855	209	N/A

* Excludes project land requisition within the MSP, Mine Construction Site and project service infrastructure (i.e. project roads, proposed railway spur, powerline, pumpline, etc).

The assumptions made in the preparation of this resettlement and compensation assessment include:

- a. All infrastructure (including buildings with metal roofs, huts and other infrastructure) and water sources located within the GCPDA will be compensated at full replacement cost.
- b. No compensation for other community assets such as cemeteries and sports fields as this will need to be developed in close consultation with community and religious leader as well as the affected people.
- c. Horticultural land located within the proposed mining area will be subject to permanent or semi-permanent loss entitling owners to the “replacement cost” of this land.
- d. Horticultural land located within the buffer zone will be subject to temporary loss entitling owners compensation equivalent to a rental allowance for the period of loss (i.e. 2 years).
- e. Compensation for the replacement of lost community land within the proposed mining area and buffer zone.
- f. No compensation for replacement of lost community land within the MSP and Mine Construction Site on the assumption that GCO has been granted free-hold title for land within these areas.
- g. Once-off livelihood restoration allowance for loss of access to forest products in the proposed mining area and buffer zone.
- h. Once-off disturbance and relocation allowance for costs associated with the relocation and re-establishment of households including the immediate loss of agricultural products.

- i. Resettlement costs do not include site preparation costs, external contract services for design and construction supervision, monitoring and evaluation of resettlement sites, or other miscellaneous costs.

Calculation of the compensation estimates for each Foth Diogo, Diourmel and Thiakmat settlements, other land and assets within the GCPDA are detailed in Tables 5.3 to 5.7 below.

Table 5.3 Indicative resettlement and compensation costs for Foth settlements within the GCPDA

Item / Component	Compensation Rates				Livelihood Restoration	Buffer Zone	Proposed Mining Area	Proposed Mining Area and Buffer Zone	Compensation Estimate (USD)
	Semi-Permanent / Permanent Loss		Temporary Loss						
Property Assets*									
Item	Unit Price (USD)	Unit	Unit Price (USD)	Unit	Quantity	Quantity	Quantity	Total Quantity	Compensation Estimate (USD)
Building (metal roof) (40 m ²)	\$ 1,410	each	\$ 1,410	each	-	2	6	8	\$ 11,280
Hut (14 m ²)	\$ 360	each	\$ 360	each	-	3	32	35	\$ 12,600
Community Infrastructure (40 m ²)#	\$ 1,410	each	\$ 1,410	each	-	0	0	0	\$ -
Other Infrastructure (25 m ²)**	\$ 885	each	\$ 885	each	-	2	8	10	\$ 8,850
Water source - well (6m)^	\$ 180	each	\$ 180	each	-	68	173	236	\$ 42,480
Water source - trench (6m)^	\$ 60	each	\$ 60	each	-	1	0	1	\$ 60
<i>Sub-total</i>									\$ 75,270
Land Assets									
Item	Unit Price (USD)	Unit	Unit Price (USD)	Unit	Quantity	Quantity	Quantity	Total Quantity	Compensation Estimate (USD)
Horticultural land (active)^^	\$ 24,500	ha	\$ 7,000	ha/yr	-	2.4	9.1	11.5	\$ 240,475
Horticultural land (fallow)^^	\$ 4,900	ha	\$ 1,400	ha/yr	-	5.9	30.3	36.2	\$ 156,638
Scrub and wood land	\$ 400	ha	N/A	N/A	-	0.0	0.0	0.0	\$ -
Scrub and grassland	\$ 300	ha	N/A	N/A	-	57.7	156.3	213.9	\$ 64,182
Scrub land (littoral and terrestrial)	\$ 200	ha	N/A	N/A	-	46.6	322.4	4.5	\$ 73,791
Terrestrial Dune Depression	\$ 300	ha	N/A	N/A	-	2.4	2.1	4.5	\$ 1,346

Item / Component	Compensation Rates				Livelihood Restoration	Buffer Zone	Proposed Mining Area	Proposed Mining Area and Buffer Zone	Compensation Estimate (USD)
	Semi-Permanent / Permanent Loss		Temporary Loss						
Barren land	\$ -	ha	N/A	N/A	-	29.7	114.2	143.9	\$ -
<i>Sub-total</i>									\$ 536,432
Livelihood Restoration Allowance - Forest Products									
Item	Unit Price (USD)	Unit	Unit Price (USD)	Unit	Quantity	% Cmty Land Impacted	% Cmty Land Impacted	Total % Cmty Land Impacted	Compensation Estimate (USD)
Timber	\$ 125	m ³ /HH/yr	N/A	N/A	0.7	6.2%	25.6%	31.8%	\$ 2,337
Firewood	\$ 50	m ³ /HH/yr	N/A	N/A	23	6.2%	25.6%	31.8%	\$ 30,719
Reeds	\$ 30	m ³ /HH/yr	N/A	N/A	2.2	6.2%	25.6%	31.8%	\$ 1,763
Pasture	\$ 20	m ³ /HH/yr	N/A	N/A	30	6.2%	25.6%	31.8%	\$ 16,027
Non-timber products	\$ 1	kg/HH/yr	N/A	N/A	5	6.2%	25.6%	31.8%	\$ 67
<i>Sub-total</i>									\$ 50,913
Other Community Assets									
Item	Unit Price (USD)	Unit	Unit Price (USD)	Unit	Quantity	Quantity	Quantity	Total Quantity	Compensation Estimate (USD)
Cemetery	TBD	number	N/A	N/A	-	0	0	0	TBD
<i>Sub-total</i>									<i>TBD</i>
Disturbance and Relocation Allowance									
Item	Unit Price (USD)	Unit	Unit Price (USD)	Unit	Quantity	Quantity	Quantity	Total Quantity	Compensation Estimate (USD)
Household*	\$ 2,500	HH	N/A	N/A	-	2	24	26	\$ 65,000
<i>Sub-total</i>									\$ 65,000

Item / Component	Compensation Rates		Livelihood Restoration	Buffer Zone	Proposed Mining Area	Proposed Mining Area and Buffer Zone	Compensation Estimate (USD)
	Semi-Permanent / Permanent Loss	Temporary Loss					
TOTAL							\$ 727,615

* Property assets based on visual interpretation of January 2008 aerial photography and ground truthing of key uncertainties by MDL staff. Buildings, huts and infrastructure that have been identified inside buffer zone but are part of settlements intersected by the proposed mining area have been classified as within the buffer zone. Buildings, huts and infrastructure that have been identified outside the buffer zone but are part of settlements intersected by the buffer zone have been classified as within the buffer zone.

Refers to known schools and mosques.

** Refers to infrastructure that was not classifiable based on visual interpretation of January 2008 aerial photography. Field work will be required to confirm the existence, type and currency of this infrastructure. May include out-buildings, huts, houses or other infrastructure.

^ Based on the 2007 baseline survey and January 2008 aerial photography. Unknown water source types have been classified as wells.

^^ Only includes horticultural land for which ownership is known based on information from the 2007 Baseline Study. The remainder of horticultural land still requires classification and is captured in Table 5.6 and 5.7. Land areas are based on visual interpretation of January 2008 aerial photography.

+ Assumes that the entire population of a settlement intersected by the proposed mining area is inside the proposed mining area. Assumes that the entire population of a settlement partially outside the buffer zone is within the buffer zone.

Table 5.4 Indicative resettlement and compensation costs for Diogo hamlets within the GCPDA

Item / Component	Compensation Rates				Livelihood Restoration	Buffer Zone	Proposed Mining Area	Proposed Mining Area and Buffer Zone	Compensation Estimate (USD)
	Semi-Permanent / Permanent Loss		Temporary Loss						
Property Assets*									
Item	Unit Price (USD)	Unit	Unit Price (USD)	Unit	Quantity	Quantity	Quantity	Total Quantity	Compensation Estimate (USD)
Building (metal roof) (40 m ²)	\$ 1,410	each	\$ 1,410	each	-	0	7	7	\$ 9,870
Hut (14 m ²)	\$ 360	each	\$ 360	each	-	3	20	23	\$ 8,280
Community Infrastructure (40 m ²)#	\$ 1,410	each	\$ 1,410	each	-	0	2	2	\$ 2,820
Other Infrastructure (25 m ²)**	\$ 885	each	\$ 885	each	-	3	12	15	\$ 13,275
Water source - well (6m)^	\$ 180	each	\$ 180	each	-	11	46	57	\$ 10,260
<i>Sub-total</i>									\$ 44,505
Land Assets									
Item	Unit Price (USD)	Unit	Unit Price (USD)	Unit	Quantity	Quantity	Quantity	Total Quantity	Compensation Estimate (USD)
Horticultural land (active)^^	\$ 24,500	ha	\$ 7,000	ha/yr	-	2.8	2.3	5.1	\$ 74,967
Horticultural land (fallow)^^	\$ 4,900	ha	\$ 1,400	ha/yr	-	4.5	8.8	13.3	\$ 49,352
Scrub and wood land	\$ 400	ha	N/A	N/A	-	0.0	0.0	0.0	\$ -
Scrub and grassland	\$ 300	ha	N/A	N/A	-	0.0	0.0	0.0	\$ -
Scrub land (littoral and terrestrial)	\$ 200	ha	N/A	N/A	-	13.9	58.2	72.2	\$ 14,434
Terrestrial Dune Depression	\$ 300	ha	N/A	N/A	-	<0.1	0.0	0.0	\$ 9
Barren land	\$ -	ha	N/A	N/A	-	1.1	14.6	15.7	\$ -

Item / Component	Compensation Rates		Livelihood Restoration	Buffer Zone	Proposed Mining Area	Proposed Mining Area and Buffer Zone	Compensation Estimate (USD)		
	Semi-Permanent / Permanent Loss	Temporary Loss							
<i>Sub-total</i>							\$ 138,762		
Livelihood Restoration Allowance - Forest Products									
Item	Unit Price (USD)	Unit	Unit Price (USD)	Unit	Quantity	% Cmty Land Impacted	% Cmty Land Impacted	Total % Cmty Land Impacted	Compensation Estimate (USD)
Timber	\$ 125	m ³ /HH/yr	N/A	N/A	0.7	4.4%	39.5%	43.9%	\$ 538
Firewood	\$ 50	m ³ /HH/yr	N/A	N/A	23	4.4%	39.5%	43.9%	\$ 7,068
Reeds	\$ 30	m ³ /HH/yr	N/A	N/A	2.2	4.4%	39.5%	43.9%	\$ 406
Pasture	\$ 20	m ³ /HH/yr	N/A	N/A	30	4.4%	39.5%	43.9%	\$ 3,688
Non-timber products	\$ 1	kg/HH/yr	N/A	N/A	5	4.4%	39.5%	43.9%	\$ 15
<i>Sub-total</i>							\$ 11,714		
Other Community Assets									
Item	Unit Price (USD)	Unit	Unit Price (USD)	Unit	Quantity	Quantity	Quantity	Total Quantity	Compensation Estimate (USD)
Cemetery	TBD	number	N/A	N/A	-	1	1	2	TBD
<i>Sub-total</i>							TBD		
Disturbance and Relocation Allowance									
Item	Unit Price (USD)	Unit	Unit Price (USD)	Unit	Quantity	Quantity	Quantity	Total Quantity	Compensation Estimate (USD)
Household*	\$ 2,500	HH	N/A	N/A	-	0	15	15	\$ 37,500
<i>Sub-total</i>							\$ 37,500		
TOTAL							\$ 232,481		

Grande Côte Operations SA (GCO)

* Property assets based on visual interpretation of January 2008 aerial photography and ground truthing of key uncertainties by MDL staff. Buildings, huts and infrastructure that have been identified inside buffer zone but are part of settlements intersected by the proposed mining area have been classified as within the buffer zone. Buildings, huts and infrastructure that have been identified outside the buffer zone but are part of settlements intersected by the buffer zone have been classified as within the buffer zone.

Refers to known schools and mosques.

** Refers to infrastructure that was not classifiable based on visual interpretation of January 2008 aerial photography. Field work will be required to confirm the existence, type and currency of this infrastructure. May include out-buildings, huts, houses or other infrastructure.

^ Based on the 2007 baseline survey and January 2008 aerial photography. Unknown water source types have been classified as wells.

^^ Only includes horticultural land for which ownership is known based on information from the 2007 Baseline Study. The remainder of horticultural land still requires classification and is captured in Table 5.6 and 5.7. Land areas are based on visual interpretation of January 2008 aerial photography.

+ Assumes that the entire population of a settlement intersected by the proposed mining area is inside the proposed mining area. Assumes that the entire population of a settlement partially outside the buffer zone is within the buffer zone.

Table 5.5 Indicative resettlement and compensation costs for Diourmel hamlets within the GCPDA

Item / Component	Compensation Rates				Livelihood Restoration	Buffer Zone	Proposed Mining Area	Proposed Mining Area and Buffer Zone	Compensation Estimate (USD)
	Semi-Permanent / Permanent Loss		Temporary Loss						
Property Assets*									
Item	Unit Price (USD)	Unit	Unit Price (USD)	Unit	Quantity	Quantity	Quantity	Total Quantity	Compensation Estimate (USD)
Building (metal roof) (40 m ²)	\$ 1,410	each	\$ 1,410	each	-	8	13	21	\$ 29,610
Hut (14 m ²)	\$ 360	each	\$ 360	each	-	36	51	87	\$ 31,320
Community Infrastructure (40 m ²)#	\$ 1,410	each	\$ 1,410	each	-	0	0	0	\$ -
Other Infrastructure (25 m ²)**	\$ 885	each	\$ 885	each	-	8	14	22	\$ 19,470
Water source - well (6m)^	\$ 180	each	\$ 180	each	-	75	137	212	\$ 38,160
<i>Sub-total</i>									\$ 118,560
Land Assets									
Item	Unit Price (USD)	Unit	Unit Price (USD)	Unit	Quantity	Quantity	Quantity	Total Quantity	Compensation Estimate (USD)
Horticultural land (active)^^	\$ 24,500	ha	\$ 7,000	ha/yr	-	2.3	4.2	6.6	\$ 120,029
Horticultural land (fallow)^^	\$ 4,900	ha	\$ 1,400	ha/yr	-	6.4	15.2	21.6	\$ 83,338
Scrub and wood land	\$ 400	ha	N/A	N/A	-	0.0	0.0	0.0	\$ -
Scrub and grassland	\$ 300	ha	N/A	N/A	-	16.0	48.6	65.6	\$ 19,375
Scrub land (littoral and terrestrial)	\$ 200	ha	N/A	N/A	-	22.5	43.2	65.7	\$ 13,142
Terrestrial Dune Depression	\$ 300	ha	N/A	N/A	-	2.2	0.8	3.0	\$ 902
Barren land	\$ -	ha	N/A	N/A	-	25.4	85.2	110.6	\$ -

Item / Component	Compensation Rates		Livelihood Restoration	Buffer Zone	Proposed Mining Area	Proposed Mining Area and Buffer Zone	Compensation Estimate (USD)		
	Semi-Permanent / Permanent Loss	Temporary Loss							
<i>Sub-total</i>							\$ 236,787		
Livelihood Restoration Allowance - Forest Products									
Item	Unit Price (USD)	Unit	Unit Price (USD)	Unit	Quantity	% Cmty Land Impacted	% Cmty Land Impacted	Total % Cmty Land Impacted	Compensation Estimate (USD)
Timber	\$ 125	m³/HH/yr	N/A	N/A	0.7	4.9%	13.3%	18.2%	\$ 223
Firewood	\$ 50	m³/HH/yr	N/A	N/A	23	4.9%	13.3%	18.2%	\$ 2,930
Reeds	\$ 30	m³/HH/yr	N/A	N/A	2.2	4.9%	13.3%	18.2%	\$ 168
Pasture	\$ 20	m³/HH/yr	N/A	N/A	30	4.9%	13.3%	18.2%	\$ 1,529
Non-timber products	\$ 1	kg/HH/yr	N/A	N/A	5	4.9%	13.3%	18.2%	\$ 6
<i>Sub-total</i>							\$ 4,856		
Other Community Assets									
Item	Unit Price (USD)	Unit	Unit Price (USD)	Unit	Quantity	Quantity	Quantity	Total Quantity	Compensation Estimate (USD)
Cemetery	TBD	number	N/A	N/A	-	1	0	1	TBD
<i>Sub-total</i>							TBD		
Disturbance and Relocation Allowance									
Item	Unit Price (USD)	Unit	Unit Price (USD)	Unit	Quantity	Quantity	Quantity	Total Quantity	Compensation Estimate (USD)
Household*	\$ 2,500	HH	N/A	N/A	-	18	69	87	\$ 217,500
<i>Sub-total</i>							\$ 217,500		
TOTAL							\$ 577,704		

* Property assets based on visual interpretation of January 2008 aerial photography and ground truthing of key uncertainties by MDL staff. Buildings, huts and infrastructure that have been identified inside buffer zone but are part of settlements intersected by the proposed mining area have been classified as within the buffer zone. Buildings, huts and infrastructure that have been identified outside the buffer zone but are part of settlements intersected by the buffer zone have been classified as within the buffer zone.

Refers to known schools and mosques.

** Refers to infrastructure that was not classifiable based on visual interpretation of January 2008 aerial photography. Field work will be required to confirm the existence, type and currency of this infrastructure. May include out-buildings, huts, houses or other infrastructure.

^ Based on the 2007 baseline survey and January 2008 aerial photography. Unknown water source types have been classified as wells.

^^ Only includes horticultural land for which ownership is known based on information from the 2007 Baseline Study. The remainder of horticultural land still requires classification and is captured in Table 5.6 and 5.7. Land areas are based on visual interpretation of January 2008 aerial photography.

+ Includes estimates of household and population numbers for settlements not surveyed in 2007. These estimates are based on an average infrastructure/household and infrastructure/population ratio determined from 2007 survey data. Infrastructure was identified using from January 2008 aerial photography. Assumes that the entire population of a settlement intersected by the proposed mining area is inside the proposed mining area. Assumes that the entire population of a settlement partially outside the buffer zone is within the buffer zone.

Table 5.6 Indicative resettlement and compensation costs for Thiakmat hamlets within the GCPDA

Item / Component	Compensation Rates				Livelihood Restoration	Buffer Zone	Proposed Mining Area	Proposed Mining Area and Buffer Zone	Compensation Estimate (USD)
	Semi-Permanent / Permanent Loss		Temporary Loss						
Property Assets*									
Item	Unit Price (USD)	Unit	Unit Price (USD)	Unit	Quantity	Quantity	Quantity	Total Quantity	Compensation Estimate (USD)
Building (metal roof) (40 m ²)	\$ 1,410	each	\$ 1,410	each	-	15	11	26	\$ 36,660
Hut (14 m ²)	\$ 360	each	\$ 360	each	-	35	31	66	\$ 23,760
Community Infrastructure (40 m ²)#	\$ 1,410	each	\$ 1,410	each	-	0	0	0	\$ -
Other Infrastructure (25 m ²)**	\$ 885	each	\$ 885	each	-	21	14	35	\$ 30,975
Water source - well (6m)^	\$ 180	each	\$ 180	each	-	84	180	264	\$ 47,520
<i>Sub-total</i>									\$ 138,915
Land Assets~									

Item / Component	Compensation Rates				Livelihood Restoration	Buffer Zone	Proposed Mining Area	Proposed Mining Area and Buffer Zone	Compensation Estimate (USD)
	Semi-Permanent / Permanent Loss		Temporary Loss						
Item	Unit Price (USD)	Unit	Unit Price (USD)	Unit	Quantity	Quantity	Quantity	Total Quantity	Compensation Estimate (USD)
Horticultural land (active)^^	\$ 24,500	ha	\$ 7,000	ha/yr	-	1.4	2.8	4.1	\$ 77,066
Horticultural land (fallow)^^	\$ 4,900	ha	\$ 1,400	ha/yr	-	4.6	12.5	17.1	\$ 67,627
Scrub and wood land	\$ 400	ha	N/A	N/A	-	0.0	0.0	0.0	\$ -
Scrub and grassland	\$ 300	ha	N/A	N/A	-	0.0	0.0	0.0	\$ -
Scrub land (littoral and terrestrial)	\$ 200	ha	N/A	N/A	-	11.0	25.9	36.9	\$ 7,382
Terrestrial Dune Depression	\$ 300	ha	N/A	N/A	-	0.7	1.4	2.1	\$ 630
Barren land	\$ -	ha	N/A	N/A	-	3.3	12.3	15.6	\$ -
<i>Sub-total</i>									\$ 152,706
Livelihood Restoration Allowance - Forest Products>									
Item	Unit Price (USD)	Unit	Unit Price (USD)	Unit	Quantity	% Cmty Land Impacted	% Cmty Land Impacted	Total % Cmty Land Impacted	Compensation Estimate (USD)
Timber	\$ 125	m³/HH/yr	N/A	N/A	0.7	2.2%	5.1%	7.3%	\$ 89
Firewood	\$ 50	m³/HH/yr	N/A	N/A	23	2.2%	5.1%	7.3%	\$ 1,175
Reeds	\$ 30	m³/HH/yr	N/A	N/A	2.2	2.2%	5.1%	7.3%	\$ 67
Pasture	\$ 20	m³/HH/yr	N/A	N/A	30	2.2%	5.1%	7.3%	\$ 613
Non-timber products	\$ 1	kg/HH/yr	N/A	N/A	5	2.2%	5.1%	7.3%	\$ 3
<i>Sub-total</i>									\$ 1,948
Other Community Assets									

Item / Component	Compensation Rates				Livelihood Restoration	Buffer Zone	Proposed Mining Area	Proposed Mining Area and Buffer Zone	Compensation Estimate (USD)
	Semi-Permanent / Permanent Loss		Temporary Loss						
Item	Unit Price (USD)	Unit	Unit Price (USD)	Unit	Quantity	Quantity	Quantity	Total Quantity	Compensation Estimate (USD)
Cemetery	TBD	number	N/A	N/A	-	0	0	0	TBD
<i>Sub-total</i>									<i>TBD</i>
Disturbance and Relocation Allowance									
Item	Unit Price (USD)	Unit	Unit Price (USD)	Unit	Quantity	Quantity	Quantity	Total Quantity	Compensation Estimate (USD)
Household ⁺	\$ 2,500	HH	N/A	N/A	-	30	51	81	\$ 202,500
<i>Sub-total</i>									<i>\$ 202,500</i>
TOTAL									\$ 496,068

* Property assets based on visual interpretation of January 2008 aerial photography and ground truthing of key uncertainties by MDL staff. Buildings, huts and infrastructure that have been identified inside buffer zone but are part of settlements intersected by the proposed mining area have been classified as within the buffer zone. Buildings, huts and infrastructure that have been identified outside the buffer zone but are part of settlements intersected by the buffer zone have been classified as within the buffer zone.

Refers to known schools and mosques.

** Refers to infrastructure that was not classifiable based on visual interpretation of January 2008 aerial photography. Field work will be required to confirm the existence, type and currency of this infrastructure. May include out-buildings, huts, houses or other infrastructure.

^ Based on the 2007 baseline survey and January 2008 aerial photography. Unknown water source types have been classified as wells.

^^ Only includes horticultural land for which ownership is known based on information from the 2007 Baseline Study. The remainder of horticultural land still requires classification and is captured in Table 5.6 and 5.7. Land areas are based on visual interpretation of January 2008 aerial photography.

~ Thiakmat village boundary estimated based on Diourmel boundary determined during 2007 Baseline Survey, and Senegal Rural Community boundary between Darou Khoudass and Thieppe, and Darou Khoudass and Kab Gaye.

> Percentage of community land impacted based on estimated Thiakmat village boundary.

+ Includes estimates of household and population numbers for settlements not surveyed in 2007. These estimates are based on an average infrastructure/household and infrastructure/population ratio determined from 2007 survey data. Infrastructure was identified using from January 2008 aerial photography. Assumes that the entire population of a settlement intersected by the proposed mining area is inside the proposed mining area. Assumes that the entire population of a settlement partially outside the buffer zone is within the buffer zone.

Table 5.7 Indicative resettlement and compensation costs for all other land and assets within proposed mining area and buffer.

Item / Component	Compensation Rates				Livelihood Restoration	Buffer Zone	Proposed Mining Area	Proposed Mining Area and Buffer Zone	Compensation Estimate (USD)
	Semi-Permanent / Permanent Loss		Temporary Loss						
Property Assets*									
Item	Unit Price (USD)	Unit	Unit Price (USD)	Unit	Quantity	Quantity	Quantity	Total Quantity	Compensation Estimate (USD)
Building (metal roof) (40 m ²)	\$ 1,410	each	\$ 1,410	each	-	N/A	N/A	N/A	\$ -
Hut (14 m ²)	\$ 360	each	\$ 360	each	-	N/A	N/A	N/A	\$ -
Community Infrastructure (40 m ²)#	\$ 1,410	each	\$ 1,410	each	-	N/A	N/A	N/A	\$ -
Other Infrastructure (25 m ²)**	\$ 885	each	\$ 885	each	-	N/A	N/A	N/A	\$ -
Water source - well (6m)^	\$ 180	each	\$ 180	each	-	42	67	109	\$ 19,620
Water source - trench (6m)^	\$ 1,410	each	\$ 1,410	each	-	7	6	13	\$ 780
<i>Sub-total</i>									\$ 20,400
Land Assets									
Item	Unit Price (USD)	Unit	Unit Price (USD)	Unit	Quantity	Quantity	Quantity	Total Quantity	Compensation Estimate (USD)
Horticultural land (active)^^	\$ 24,500	ha	\$ 7,000	ha/yr	-	10.1	15.5	25.6	\$ 451,280
Horticultural land (fallow)^^	\$ 4,900	ha	\$ 1,400	ha/yr	-	9.1	10.9	20.0	\$ 66,234
Scrub and wood land	\$ 400	ha	N/A	N/A	-	92.5	214.8	307.4	\$ 122,943
Scrub and grassland	\$ 300	ha	N/A	N/A	-	0.0	0.0	0.0	\$ -
Scrub land (littoral and terrestrial)	\$ 200	ha	N/A	N/A	-	21.7	37.5	59.2	\$ 11,844
Terrestrial Dune Depression	\$ 300	ha	N/A	N/A	-	13.7	13.9	27.6	\$ 8,286

Item / Component	Compensation Rates				Livelihood Restoration	Buffer Zone	Proposed Mining Area	Proposed Mining Area and Buffer Zone	Compensation Estimate (USD)
	Semi-Permanent / Permanent Loss		Temporary Loss						
Barren land	\$ -	ha	N/A	N/A	-	8.1	15.9	24.0	\$ -
<i>Sub-total</i>									\$ 660,587
Livelihood Restoration Allowance - Forest Products									
Item	Unit Price (USD)	Unit	Unit Price (USD)	Unit	Quantity	% Cmty Land Impacted	% Cmty Land Impacted	Total % Cmty Land Impacted	Compensation Estimate (USD)
Timber	\$ 125	m ³ /HH/yr	N/A	N/A	N/A	N/A	N/A	N/A	\$ -
Firewood	\$ 50	m ³ /HH/yr	N/A	N/A	N/A	N/A	N/A	N/A	\$ -
Reeds	\$ 30	m ³ /HH/yr	N/A	N/A	N/A	N/A	N/A	N/A	\$ -
Pasture	\$ 20	m ³ /HH/yr	N/A	N/A	N/A	N/A	N/A	N/A	\$ -
Non-timber products	\$ 1	kg/HH/yr	N/A	N/A	N/A	N/A	N/A	N/A	\$ -
<i>Sub-total</i>									\$ -
Other Community Assets									
Item	Unit Price (USD)	Unit	Unit Price (USD)	Unit	Quantity	Quantity	Quantity	Total Quantity	Compensation Estimate (USD)
Cemetery	TBD	number	N/A	N/A	-	0	0	0	TBD
<i>Sub-total</i>									TBD
Disturbance and Relocation Allowance									
Item	Unit Price (USD)	Unit	Unit Price (USD)	Unit	Quantity	Quantity	Quantity	Total Quantity	Compensation Estimate (USD)
Household	\$ 2,500	HH	N/A	N/A	-	0	0	0	\$ -
<i>Sub-total</i>									\$ -

Item / Component	Compensation Rates		Livelihood Restoration	Buffer Zone	Proposed Mining Area	Proposed Mining Area and Buffer Zone	Compensation Estimate (USD)
	Semi-Permanent / Permanent Loss	Temporary Loss					
TOTAL							\$ 680,987

* Property assets based on visual interpretation of January 2008 aerial photography and ground truthing of key uncertainties by MDL staff. Buildings, huts and infrastructure that have been identified inside buffer zone but are part of settlements intersected by the proposed mining area have been classified as within the buffer zone. Buildings, huts and infrastructure that have been identified outside the buffer zone but are part of settlements intersected by the buffer zone have been classified as within the buffer zone.

Refers to known schools and mosques.

** Refers to infrastructure that was not classifiable based on visual interpretation of January 2008 aerial photography. Field work will be required to confirm the existence, type and currency of this infrastructure. May include out-buildings, huts, houses or other infrastructure.

^ Based on the 2007 baseline survey and January 2008 aerial photography. Unknown water source types have been classified as wells.

^^ Only includes horticultural land for which ownership is known based on information from the 2007 Baseline Study. The remainder of horticultural land still requires classification and is captured in Table 5.6 and 5.7. Land areas are based on visual interpretation of January 2008 aerial photography.

5.2. Indicative Rehabilitation Costs

The GCPDA comprises numerous forest plantations or revegetation areas. These comprise of plantations primarily the work of Japan International Cooperation Agency (JICA) as well as areas of casuarina and other plantations administered by the National Forestry Commission in an effort to stabilise the littoral dunes.

Documented costs associated with JICA funded plantations within the GCPDA indicate costs of approximately US\$10,000 / ha. High costs of the JICA rehabilitation approach may stem from the import of materials from overseas. Experiences from other similar AID projects indicate that costs often bear little resemblance to outputs. For the purposes of this cost estimate, it is assumed that a reasonable replacement cost for revegetation areas is approximately US\$1,000 per hectare. Detailed benchmarking and consultation will be required to establish more definitive costs.

The indicative costs of rehabilitating revegetated dune areas potentially disturbed by the GCP have been estimated at US\$1,197,365 (Table 5.8). Compensation for the loss of access to these areas by local communities is covered by a livelihood restoration allowance outlined in Section 5.1 and Appendix C.

Table 5.8 Indicative costs of rehabilitating revegetation areas within the GCPDA

Item / Component	Compensation Rates				Buffer Zone	Proposed Mining Area	Proposed Mining Area and Buffer Zone	Compensation Estimate
	Semi-Permanent / Permanent Loss		Temporary Loss					
Revegetation Areas - Years 1 to 6								
Item	Unit Price (USD)	Unit	Unit Price (USD)	Unit	Quantity	Quantity	Total Quantity	Compensation Estimate
Foth[^]								
Revegetation Area (JICA)	\$ 1,000	ha	N/A	N/A	1.1	8.9	10.0	\$ 10,011
Revegetation Area (Other)	\$ 1,000	ha	N/A	N/A	25.9	74.7	100.7	\$ 100,667
Diogo[^]								
Revegetation Area (JICA)	\$ 1,000	ha	N/A	N/A	11.2	94.9	106.1	\$ 106,120
Revegetation Area (Other)	\$ 1,000	ha	N/A	N/A	4.3	104.4	108.8	\$ 108,776
Diourmel[^]								
Revegetation Area (JICA)	\$ 1,000	ha	N/A	N/A	0.0	0.0	0.0	\$ -
Revegetation Area (Other)	\$ 1,000	ha	N/A	N/A	42.5	95.5	138.0	\$ 138,029
Thiakmat[^]								
Revegetation Area (JICA)	\$ 1,000	ha	N/A	N/A	0.0	0.0	0.0	\$ -
Revegetation Area (Other)	\$ 1,000	ha	N/A	N/A	65.7	145.6	211.4	\$ 211,362
Remainder within years 1 to 10								
Revegetation Area (JICA)	\$ 1,000	ha	N/A	N/A	71.9	276.9	348.8	\$ 348,771
Revegetation Area (Other)	\$ 1,000	ha	N/A	N/A	30.9	142.7	173.6	\$ 173,631
TOTAL								\$ 1,197,365

* Area calculations exclude barren land (i.e. 0% vegetative cover). [^] Refers to revegetation areas within Foth, Diogo, Diourmel or Thiakmat village land.

5.3. Budget for Social Management and Monitoring

The indicative budget for social management and monitoring for the GCP has been estimated at approximately US\$11,812,220 (Table 5.9 below), which represents an operating cost of approximately US\$1,128,222 per year over the 10 year mine plan. This includes US\$2,714,855 for resettlement, compensation and livelihood restoration costs, US\$425,000 for post-funding management plans and studies, US\$4,050,000 for management and monitoring and US\$3,320,000 for administrative costs of the Community Relations Department.

Table 5.9 Indicative capital and operating budget for social management and monitoring

Component	Costs (USD)												
	Capital	Operating										Operating (Total)	
		1	2	3	4	5	6	7	8	9	10		
Resettlement, Compensation and Livelihood Restoration													
Foth settlements	\$ -	\$ 72,761	\$ 72,761	\$ 72,761	\$ 72,761	\$ 72,761	\$ 72,761	\$ 72,761	\$ 72,761	\$ 72,761	\$ 72,761	\$ 72,761	\$ 727,615
Diogo hamlets	\$ -	\$ 23,248	\$ 23,248	\$ 23,248	\$ 23,248	\$ 23,248	\$ 23,248	\$ 23,248	\$ 23,248	\$ 23,248	\$ 23,248	\$ 23,248	\$ 232,481
Diourmel hamlets	\$ -	\$ 57,770	\$ 57,770	\$ 57,770	\$ 57,770	\$ 57,770	\$ 57,770	\$ 57,770	\$ 57,770	\$ 57,770	\$ 57,770	\$ 57,770	\$ 577,704
Thiakmat hamlets	\$ -	\$ 49,607	\$ 49,607	\$ 49,607	\$ 49,607	\$ 49,607	\$ 49,607	\$ 49,607	\$ 49,607	\$ 49,607	\$ 49,607	\$ 49,607	\$ 496,068
Other land/assets in the GCPDA	\$ -	\$ 68,099	\$ 68,099	\$ 68,099	\$ 68,099	\$ 68,099	\$ 68,099	\$ 68,099	\$ 68,099	\$ 68,099	\$ 68,099	\$ 68,099	\$ 680,987
Revegetation Areas	\$ -	\$ 119,737	\$ 119,737	\$ 119,737	\$ 119,737	\$ 119,737	\$ 119,737	\$ 119,737	\$ 119,737	\$ 119,737	\$ 119,737	\$ 119,737	\$ 1,197,365
<i>Sub-total</i>	\$ -	\$ 391,222	\$ 391,222	\$ 391,222	\$ 391,222	\$ 391,222	\$ 391,222	\$ 391,222	\$ 391,222	\$ 391,222	\$ 391,222	\$ 391,222	\$ 3,912,220
Post-funding Social Management Activities													
Update existing and conduct new household livelihood surveys of all PAPs within the GCPDA (~200 households)	\$ 150,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Prepare a detailed inventory of all project affected land and assets at the household, village and community level		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Extensive RAP consultation and preparation of Public	\$ 30,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Component	Costs (USD)												
	Capital	Operating										Operating (Total)	
		1	2	3	4	5	6	7	8	9	10		
Consultation and Disclosure Plan													
Resettlement Action Plan	\$ 150,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Social Development Plan		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Population Census (Diogo, Ngoye Wade and Ndoye Beye)	\$ 15,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Health and Nutrition Baseline	\$ 80,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>Sub-total</i>	<i>\$ 425,000</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>
Social Management and Monitoring													
Stakeholder Liaison	\$ -	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 300,000
Government Liaison		\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 300,000
Contractors/ Consultants	\$ -	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 1,000,000
Management of Community Projects	\$ -	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 500,000
Funding of Community Projects	\$ -	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 2,000,000
Socio-economic monitoring	\$ -	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 250,000
<i>Sub-total</i>	<i>\$ -</i>	<i>\$ 405,000</i>	<i>\$ 405,000</i>	<i>\$ 405,000</i>	<i>\$ 405,000</i>	<i>\$ 405,000</i>	<i>\$ 405,000</i>	<i>\$ 405,000</i>	<i>\$ 405,000</i>	<i>\$ 405,000</i>	<i>\$ 405,000</i>	<i>\$ 405,000</i>	<i>\$ 4,050,000</i>
Administration of the Community Relations Departments													

Grande Côte Operations SA (GCO)

Component	Costs (USD)												
	Capital	Operating										Operating (Total)	
		1	2	3	4	5	6	7	8	9	10		
Office Admin	\$ -	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 200,000
Personnel	\$ -	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 1,500,000
Training - Workforce Induction	\$ -	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 500,000
Training - CR Personnel	\$ -	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 250,000
Training - Community Education	\$ -	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 450,000
Vehicle (3)	\$ 90,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 200,000
Computer (6) / Printer (2) / Fax/Copier (1)	\$ 15,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 20,000
Reporting	\$ -	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 50,000
Auditing	\$ -	\$ -	\$ 30,000	\$ -	\$ 30,000	\$ -	\$ 30,000	\$ -	\$ 30,000	\$ -	\$ 30,000	\$ -	\$ 150,000
<i>Sub-total</i>	\$ 105,000	\$ 317,000	\$ 347,000	\$ 317,000	\$ 347,000	\$ 317,000	\$ 347,000	\$ 317,000	\$ 347,000	\$ 317,000	\$ 347,000	\$ 347,000	\$ 3,320,000
Total	\$ 530,000	\$1,113,222	\$1,143,222	\$1,113,222	\$1,143,222	\$1,113,222	\$1,143,222	\$1,113,222	\$1,143,222	\$1,113,222	\$1,143,222	\$1,143,222	\$ 11,282,220
Grand Total (Capital and Operating Costs)												\$ 11,812,220	

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APPENDIX A

IFC PERFORMANCE STANDARD 5 – LAND ACQUISITION AND INVOLUNTARY RESETTLEMENT

Performance Standard 5

Land Acquisition and Involuntary Resettlement

April 30, 2006

Introduction

1. Involuntary resettlement refers both to physical displacement (relocation or loss of shelter) and to economic displacement (loss of assets or access to assets that leads to loss of income sources or means of livelihood) as a result of project-related land acquisition.¹ Resettlement is considered involuntary when affected individuals or communities do not have the right to refuse land acquisition that results in displacement. This occurs in cases of: (i) lawful expropriation or restrictions on land use based on eminent domain;² and ii) negotiated settlements in which the buyer can resort to expropriation or impose legal restrictions on land use if negotiations with the seller fail.

2. Unless properly managed, involuntary resettlement may result in long-term hardship and impoverishment for affected persons and communities, as well as environmental damage and social stress in areas to which they have been displaced. For these reasons, involuntary resettlement should be avoided or at least minimized. However, where it is unavoidable, appropriate measures to mitigate adverse impacts on displaced persons and host communities³ should be carefully planned and implemented. Experience demonstrates that the direct involvement of the client in resettlement activities can result in cost-effective, efficient, and timely implementation of those activities, as well as innovative approaches to improving the livelihoods of those affected by resettlement.

3. Negotiated settlements help avoid expropriation and eliminate the need to use governmental authority to remove people forcibly. Negotiated settlements can usually be achieved by providing fair and appropriate compensation and other incentives or benefits to affected persons or communities, and by mitigating the risks of asymmetry of information and bargaining power. Clients are encouraged to acquire land rights through negotiated settlements wherever possible, even if they have the legal means to gain access to the land without the seller's consent.

Objectives

- To avoid or at least minimize involuntary resettlement wherever feasible by exploring alternative project designs
- To mitigate adverse social and economic impacts from land acquisition or restrictions on affected persons' use of land by: (i) providing compensation for loss of assets at replacement cost; and (ii) ensuring that resettlement activities are implemented with appropriate disclosure of information, consultation, and the informed participation of those affected
- To improve or at least restore the livelihoods and standards of living of displaced persons
- To improve living conditions among displaced persons through provision of adequate housing with security of tenure⁴ at resettlement sites

Scope of Application

4. The applicability of this Performance Standard is established during the Social and Environmental Assessment process, while implementation of the actions necessary to meet the

¹ Land acquisition includes both outright purchases of property and purchases of access rights, such as rights-of-way.

² Such restriction may include restrictions of access to legally designated nature conservation areas.

³ A host community is any community receiving displaced persons.

⁴ A resettlement site offers security of tenure if it protects the resettled persons from forced evictions.

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requirements of this Performance Standard is managed through the client's Social and Environmental Management System. The assessment and management system requirements are outlined in Performance Standard 1.

5. This Performance Standard applies to physical or economic displacement resulting from the following types of land transactions:

- Type I: Land rights for a private sector project acquired through expropriation or other compulsory procedures
- Type II: Land rights for a private sector project acquired through negotiated settlements with property owners or those with legal rights to land, including customary or traditional rights recognized or recognizable under the laws of the country, if expropriation or other compulsory process would have resulted upon the failure of negotiation⁵

Paragraph 18 and part of paragraph 20 below apply to displaced persons with no recognizable legal right or claim to the land they occupy.

6. This Performance Standard does not apply to resettlement resulting from voluntary land transactions (i.e., market transactions in which the seller is not obliged to sell and the buyer cannot resort to expropriation or other compulsory procedures if negotiations fail). In the event of adverse economic, social, or environmental impacts from project activities other than land acquisition (e.g., loss of access to assets or resources or restrictions on land use), such impacts will be avoided, minimized, mitigated or compensated for through the process of Social and Environmental Assessment under Performance Standard 1. If these impacts become significantly adverse at any stage of the project, the client should consider applying the requirements of Performance Standard 5, even where no initial land acquisition was involved.

Requirements

General Requirements

Project Design

7. The client will consider feasible alternative project designs to avoid or at least minimize physical or economic displacement, while balancing environmental, social, and financial costs and benefits.

Compensation and Benefits for Displaced Persons

8. When displacement cannot be avoided, the client will offer displaced persons and communities compensation for loss of assets at full replacement cost and other assistance⁶ to help them improve or at least restore their standards of living or livelihoods, as provided in this Performance Standard. Standards for compensation will be transparent and consistent within the project. Where livelihoods of displaced persons are land-based, or where land is collectively owned, the client will offer land-based compensation, where feasible.⁷ The client will provide opportunities to displaced persons and communities to derive appropriate development benefits from the project.

⁵ These negotiations can be carried out by the private sector company acquiring the land or by an agent of the company. In the case of private sector projects in which land rights are acquired by the government, the negotiations may be carried out by the government or by the private company as an agent of the government.

⁶ As described in paragraphs 18 and 20.

⁷ See also footnote 9.

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Consultation

9. Following disclosure of all relevant information, the client will consult with and facilitate the informed participation of affected persons and communities, including host communities, in decision-making processes related to resettlement. Consultation will continue during the implementation, monitoring, and evaluation of compensation payment and resettlement to achieve outcomes that are consistent with the objectives of this Performance Standard.

Grievance Mechanism

10. The client will establish a grievance mechanism consistent with Performance Standard 1 to receive and address specific concerns about compensation and relocation that are raised by displaced persons or members of host communities, including a recourse mechanism designed to resolve disputes in an impartial manner.

Resettlement Planning and Implementation

11. Where involuntary resettlement is unavoidable, the client will carry out a census with appropriate socio-economic baseline data to identify the persons who will be displaced by the project, to determine who will be eligible for compensation and assistance, and to discourage inflow of people who are ineligible for these benefits. In the absence of host government procedures, the client will establish a cut-off date for eligibility. Information regarding the cut-off date will be well documented and disseminated throughout the project area.

12. In the case of Type I transactions (acquisition of land rights through the exercise of eminent domain) or Type II transactions (negotiated settlements) that involve the physical displacement of people, the client will develop a resettlement action plan or a resettlement framework based on a Social and Environmental Assessment that covers, at a minimum, the applicable requirements of this Performance Standard regardless of the number of people affected. The plan or framework will be designed to mitigate the negative impacts of displacement, identify development opportunities, and establish the entitlements of all categories of affected persons (including host communities), with particular attention paid to the needs of the poor and the vulnerable (see Performance Standard 1, paragraph 12). The client will document all transactions to acquire land rights, as well as compensation measures and relocation activities. The client will also establish procedures to monitor and evaluate the implementation of resettlement plans and take corrective action as necessary. A resettlement will be considered complete when the adverse impacts of resettlement have been addressed in a manner that is consistent with the objectives stated in the resettlement plan or framework as well as the objectives of this Performance Standard.

13. In the case of Type II transactions (negotiated settlements) involving economic (but not physical) displacement of people, the client will develop procedures to offer to the affected persons and communities compensation and other assistance that meet the objectives of this Performance Standard. The procedures will establish the entitlements of affected persons or communities and will ensure that these are provided in a transparent, consistent, and equitable manner. The implementation of the procedures will be considered complete when affected persons or communities have received compensation and other assistance according to the requirements of this Performance Standard. In cases where affected persons reject compensation offers that meet the requirements of this Performance Standard and, as a result, expropriation or other legal procedures are initiated, the client will explore opportunities to collaborate with the responsible government agency, and if permitted by the agency, play an active role in the resettlement planning, implementation, and monitoring.

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Displacement

14. Displaced persons may be classified as persons: (i) who have formal legal rights to the land they occupy; (ii) who do not have formal legal rights to land, but have a claim to land that is recognized or recognizable under the national laws⁸; or (iii) who have no recognizable legal right or claim to the land they occupy.⁹ The census will establish the status of the displaced persons.

15. Land acquisition for the project may result in the physical displacement of people as well as their economic displacement. As a result, requirements for both physical displacement and economic displacement may apply.

Physical Displacement

16. If people living in the project area must move to another location, the client will: (i) offer displaced persons choices among feasible resettlement options, including adequate replacement housing or cash compensation where appropriate; and (ii) provide relocation assistance suited to the needs of each group of displaced persons, with particular attention paid to the needs of the poor and the vulnerable. Alternative housing and/or cash compensation will be made available prior to relocation. New resettlement sites built for displaced persons will offer improved living conditions.

17. In the case of physically displaced persons under paragraph 14 (i) or (ii), the client will offer the choice of replacement property of equal or higher value, equivalent or better characteristics and advantages of location, or cash compensation at full replacement value where appropriate.¹⁰

18. In the case of physically displaced persons under paragraph 14 (iii), the client will offer them a choice of options for adequate housing with security of tenure so that they can resettle legally without having to face the risk of forced eviction. Where these displaced persons own and occupy structures, the client will compensate them for the loss of assets other than land, such as dwellings and other improvements to the land, at full replacement cost, provided that these people occupy the project area prior to the cut-off date for eligibility. Compensation in kind will be offered in lieu of cash compensation where feasible. Based on consultation with such displaced persons, the client will provide relocation assistance sufficient for them to restore their standards of living at an adequate alternative site.¹¹ The client is not required to compensate or assist those who encroach on the project area after the cut-off date.

19. Where communities of Indigenous Peoples are to be physically displaced from their communally held traditional or customary lands under use, the client will meet the applicable requirements of this Performance Standard, as well as those of Performance Standard 7 (in particular paragraph 14).

Economic Displacement

20. If land acquisition for the project causes loss of income or livelihood, regardless of whether or not the affected people are physically displaced, the client will meet the following requirements:

⁸ Such claims could be derived from adverse possession or from customary or traditional law.

⁹ Such as opportunistic squatters and recently arrived economic migrants who occupy land prior to the cut-off date.

¹⁰ Payment of cash compensation for lost assets may be appropriate where: (a) livelihoods are not land-based; (b) livelihoods are land-based but the land taken for the project is a small fraction of the affected asset and the residual land is economically viable; or (c) active markets for land, housing, and labor exist, displaced persons use such markets, and there is sufficient supply of land and housing. Cash compensation levels should be sufficient to replace the lost land and other assets at full replacement cost in local markets.

¹¹ Relocation of informal settlers in urban areas often has trade-offs. For example, the relocated families may gain security of tenure, but they may lose advantages of location.

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Land Acquisition and Involuntary Resettlement

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- Promptly compensate economically displaced persons for loss of assets or access to assets at full replacement cost
- In cases where land acquisition affects commercial structures, compensate the affected business owner for the cost of reestablishing commercial activities elsewhere, for lost net income during the period of transition, and for the costs of the transfer and reinstallation of the plant, machinery or other equipment
- Provide replacement property (e.g., agricultural or commercial sites) of equal or greater value, or cash compensation at full replacement cost where appropriate, to persons with legal rights or claims to land which are recognized or recognizable under the national laws (see paragraph 14 (i) and (ii))
- Compensate economically displaced persons who are without legally recognizable claims to land (see paragraph 14 (iii)) for lost assets (such as crops, irrigation infrastructure and other improvements made to the land) other than land, at full replacement cost. The client is not required to compensate or assist opportunistic settlers who encroach on the project area after the cut-off date
- Provide additional targeted assistance (e.g., credit facilities, training, or job opportunities) and opportunities to improve or at least restore their income-earning capacity, production levels, and standards of living to economically displaced persons whose livelihoods or income levels are adversely affected
- Provide transitional support to economically displaced persons, as necessary, based on a reasonable estimate of the time required to restore their income-earning capacity, production levels, and standards of living

21. Where communities of Indigenous Peoples are economically displaced (but not relocated) as a result of project-related land acquisition, the client will meet the applicable requirements of this Performance Standard, as well as those of Performance Standard 7 (in particular paragraphs 12 and 13).

Private Sector Responsibilities under Government-Managed Resettlement

22. Where land acquisition and resettlement are the responsibility of the host government, the client will collaborate with the responsible government agency, to the extent permitted by the agency, to achieve outcomes that are consistent with the objectives of this Performance Standard. In addition, where government capacity is limited, the client will play an active role during resettlement planning, implementation and monitoring, as described below in paragraphs 23 through 25.

23. In the case of Type I transactions (acquisition of land rights through expropriation or other legal procedures) involving physical or economic displacement, and Type II transactions (negotiated settlements) involving physical displacement, the client will prepare a plan (or a framework) that, together with the documents prepared by the responsible government agency, will address the relevant requirements of this Performance Standard (the General Requirements, except for paragraph 13, and requirements for Physical Displacement and Economic Displacement above). The client may need to include in its plan: (i) a description of the entitlements of displaced persons provided under applicable laws and regulations; (ii) the measures proposed to bridge any gaps between such entitlements and the requirements of this Performance Standard; and (iii) the financial and implementation responsibilities of the government agency and/or the client.

24. In the case of Type II transactions (negotiated settlements) involving economic (but not physical) displacement, the client will identify and describe the procedures that the responsible government



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agency plans to use to compensate affected persons and communities. If these procedures do not meet the relevant requirements of this Performance Standard (the General Requirements, except for paragraph 12, and requirements for Economic Displacement above), the client will develop its own procedures to supplement government action.

25. If permitted by the responsible government agency, the client will, in collaboration with such agency: (i) implement its plan or procedures established in accordance with paragraph 23 or 24 above; and (ii) monitor resettlement activity that is undertaken by the government agency until such activity has been completed.

APPENDIX B

AFRICAN DEVELOPMENT BANK - INVOLUNTARY RESETTLEMENT POLICY

**AFRICAN DEVELOPMENT BANK
AFRICAN DEVELOPMENT FUND**



INVOLUNTARY RESETTLEMENT POLICY

PSDU

NOVEMBER 2003

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LIST OF ACRONYMS

ARP	Abbreviated Resettlement Plan
CBO	Civil Society Organisation
EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
ESAP	Environment and Social Assessment Procedures
ESMP	Environmental and Social Management Plan
FI	Financial Intermediary
FRP	Full Resettlement Plan
IDRP	Involuntary Displacement and Resettlement in Development Projects
MDB	Multilateral Development Bank
NGO	Non Governmental Organisation
PAP	Project Affected Persons
PCR	Project Completion Report
PIC	Public information Center
PPF	Project Preparation Facility
PRA	Participatory Rapid Appraisal
PRSP	Poverty Reduction Development Strategic Paper
PSDU	Sustainable Development and Poverty Reduction Unit
RP	Resettlement Plan
RMC	Regional Member Countries
TM	Task Manager

EXECUTIVE SUMMARY

1. The Bank Group involuntary resettlement policy has been developed to cover involuntary displacement and resettlement of people caused by a Bank financed project and it applies when a project results in relocation or loss of shelter by the persons residing in the project area, assets being lost or livelihoods being affected. The policy is set within the framework of the Bank's Vision in which poverty reduction represents the overarching goal. Within this goal, the strategic action to achieve sustainable development will be pursued. It reaffirms therefore the commitment of the Bank to promote environmental and social mainstreaming as a means of fostering poverty reduction, economic development and social well being in Africa. It is therefore meant to assist the Bank and borrowers to address resettlement issues in order to mitigate the negative impacts of displacement and resettlement and establish sustainable economy and society.

Policy Rationale

2. The Bank Group Environmental Policy was approved in 1990. The overall objective of the policy is to ensure that environmental concerns are incorporated in all Banks' funded operations. To put this policy into action, Environmental Assessment Guidelines were prepared and adopted in 1992. Then, in 1995, the Bank released the Guidelines on Involuntary Displacement and Resettlement for Bank financed projects. However, these guidelines lack clarity on policy related issues and requirements which the new policy on displacement and resettlement strengthens.

Review of Involuntary Resettlement Experience and Lessons Learnt

3. The Bank Group experience on involuntary resettlement is limited. It is related to projects involving agricultural and rural development such as irrigation schemes, transport projects such as the construction of road, port or airport, and large and medium sized infrastructure development projects such as dams for water storage or power generation. For these projects, resettlement issues have been assessed in the past through Environmental and Social Impact Assessment studies.
4. The borrowing agency has the primary responsibility for planning, implementing and monitoring resettlement issues. Although, most Regional Member Countries (RMC) have laws and procedures for expropriation of lands, these laws often lack clarity and effectiveness. As a result, affected population may have received some form of compensation, yet they remain impoverished soon after the resettlement plan is carried out. From implementation of past resettlement programs for projects such as irrigation, infrastructure, public utilities, transport and protected area projects, Bank Group experience has shown that problems related to land based resources and economic activities have not been properly addressed.
5. With respect to other Multilateral Development Banks (MDB), a large portfolio of development projects have been financed by multilateral and bilateral agencies with an extensive cumulative experience on involuntary resettlement. For some of these projects, it has been shown that resettlement has failed in the past because in most cases, the borrower did not prepare a proper resettlement plan but rather provided an undertaking to resettle the affected population. The borrower sometimes fail to implement its own policy or to comply with the lending agency's policy on involuntary resettlement.

6. From lessons learnt, it can be substantiated that involuntary resettlement programs were carried out successfully by fully addressing the issues of landlessness, joblessness, homelessness, marginalisation, food insecurity and loss of basic resources with respect to both the people affected and the host communities in order to minimize conflicts, and to create a common interest among the stakeholders.

Policy Goal, Objectives and Guiding Principles

7. The primary goal of the involuntary resettlement policy is to ensure that when people must be displaced they are treated equitably, and that they share in the benefits of the project that involves their resettlement. The objectives of the policy are to ensure that the disruption of the livelihood of people in the project's area is minimized, ensure that the displaced persons receive resettlement assistance so as to improve their living standards, provide explicit guidance to Bank staff and to borrowers, and set up a mechanism for monitoring the performance of the resettlement programs. Most importantly, the resettlement plan (RP) should be prepared and based on a development approach that addresses issues of the livelihood and living standards of the displaced person as well as compensation for loss of assets, using a participatory approach at all stages of project design and implementation.
8. Compensation at the full replacement cost for loss of lands and other assets should be paid prior to projects implementation with the view to improve the former living standards, income earning capacity and production levels of the affected population. The improvement of these living standards should also apply to host communities. In addition, the needs of disadvantaged groups (landless, female headed households, children, elderly, minority ethnic, religious and linguistic groups, etc.) must be at the centre of the development approach.
9. Economic benefits and costs should be applied to determine project feasibility with regard to resettlement. The full costs of resettlement activities necessary to achieve the objectives of the project should be included in the total costs of the project. The costs of resettlement like the costs of other project activities are treated as a charge against the economic benefits; and any net benefits to resettlers (as compared to the "without-project" circumstances) should be added to the benefits stream of the project.
10. Economic and social considerations should be taken into account in determining the requirements for compensation. Under the present policy, only displaced population having formal legal rights to land or assets and those who can prove entitlement under the country's customary laws are considered and will be fully compensated for loss of land or other assets. However, a third category of displaced persons who have no recognizable legal right or claim to the land they are occupying in the project area will be entitled to resettlement assistance in lieu of compensation for land. Nevertheless, at the minimum, under the Bank's policy (with no contradiction to the borrower's legislation), land, housing, and infrastructure will be provided to the adversely affected population, including indigenous groups, ethnic, religious and linguistic minorities, and pastoralists who may have usufruct rights to the land or other resources taken for the project.
11. The borrower will be required to prepare a full resettlement plan (FRP) for any project that involve a significant number of people (200 or more persons) who would need to

be displaced with a loss of assets, or access to assets or reduction in their livelihood. The full replacement plan will be released as a supplement document to the Environmental and Social Impact Assessment (ESIA) summary for Bank's financed projects involving involuntary resettlement issues. For any project involving the resettlement of less than 200 persons, an abbreviated resettlement plan will be released together with the environmental annex of the Bank's Appraisal Report. The full resettlement plan and the abbreviated resettlement plan (refer to as resettlement plan) should be posted in the Bank's Public Information Center (PIC) and the Bank's web site for public review and comments in accordance to the Bank's disclosure policy and the Bank's Environmental and Social Assessment Procedures (ESAP 2001).

Implementation Strategies

12. The resettlement program should be based on a development approach. Provision must be made for cultural sites and social/psychological concerns. For greater transparency and fairness, all stakeholder groups will be involved at an early stage in the project design. Community participation in operation and resettlement strategy will lead to a better development approach. The resettlement plan will be made accessible to the displaced population and relevant NGOs and CSOs in a form, manner and language that are comprehensible to them.
13. Adequate assistance for transport, temporary accommodation, housing, service provision as well as training, capacity building and land ownership issues should be addressed in the resettlement plan. Provisions should also be made for counseling and dispute settlement. The payments for compensation should be independently monitored and accurate records kept for all transactions. A timetable, detailed budget and implementation, monitoring and evaluation arrangements are also important issues to be addressed in the plan.
14. The operationalisation of the policy will require at all level of the project cycle management (from identification to the post-evaluation phase), the integration of involuntary resettlement issues. At the identification phase, a brief summary of the magnitude, strategy and timing of the resettlement should be established. At the preparation phase, feasibility criteria and strategy for the plan are discussed and agreed upon with the executing agency. Prior to launching of appraisal mission, of projects involving resettlement issues, the borrower provides to the Bank resettlement plan, which conforms to this policy. Borrower's capacity to implement the resettlement plan including economic and financial analysis is assessed during appraisal and loan negotiation. During the implementation of the resettlement plan, the borrower is responsible for the monitoring and evaluation of activities outlined in the plan. However, the Bank will regularly supervise the implementation of the plan and upon project completion, conduct a Project Completion Report (PCR) to assess the success of the resettlement plan.
15. With regard to institutional strategy, the Bank and the borrower have definite roles and responsibilities. The Bank on one hand will assist the executing agencies to adopt and design the resettlement plan. It will also examine alternatives options, ensure the plan adequacy, support the building of institutional and financial capacity of the borrower agencies and provide technical assistance to strengthen them. The borrower on its own part will prepare and ensure plan consistency, implementation and monitoring of the resettlement program. Before launching project appraisal mission,

the borrower will provide a draft RP and the finalized resettlement plan will be made available by the Bank to the public through the Bank's Public Information Center (PIC) in accordance to its public disclosure policy and ESAP 2001. Proper monitoring and evaluation will confirm compliance with resettlement activities in terms of the social and economic targets set.

16. The Bank Group, through this policy, intends to play an increasingly important role in conceiving resettlement as an opportunity to develop and improve living standards of the affected communities by Bank financed projects and programs. This policy is therefore intended to address the involuntary displacement of people caused by Bank funded operations in public and private sector.

I. INTRODUCTION

1.1 Background

- 1.1.1 The Bank Group involuntary resettlement policy is set within the framework of the Bank's vision in which poverty reduction represents the overarching goal within which strategic action to achieve sustainable development will be pursued. The vision for the Bank is to strive to become the leading development finance institution in Africa, dedicated to assist African member countries in their development goal.
- 1.1.2 The Bank focuses its work at the country level on three broad sectoral themes – agriculture and rural development, human resource development and private sector development. In addition, the Bank has identified governance, economic integration and cooperation, as the key areas of intervention. It is emphasized that, in each of the broad sectoral areas, the Bank ensures that environment and gender issues are mainstreamed in a fully participatory manner. The involuntary resettlement policy reaffirms therefore the commitment of the Bank to promote environmental and social mainstreaming as a means of fostering poverty reduction, economic development and social well being in Africa.
- 1.1.3 Involuntary resettlement involves the displacement of people arising from development projects such as, dams, bridges, national parks, and roads which encroach on their productive assets, cultural sites and income sources viz, land, grazing fields, other assets, etc. What distinguishes involuntary from voluntary resettlement is that the former involves people who may be displaced against their wishes, as they are often not the initiators of their movement.
- 1.1.4 Therefore, involuntary resettlement can have a dramatic impact on the lives of the people living in an area of influence of development projects. It can cause a sudden break in social continuity and can result in impoverishment of the people who are relocated. The resettlement may provoke changes, which could dismantle settlement patterns and modes of production, disrupt social networks, cause environmental damage, and diminish people's sense of control over their lives. It can threaten their cultural identity and create profound health problems.
- 1.1.5 When resettlement is badly planned or inadequately implemented it always represents a significant additional cost to the main project and can have long term consequences for the affected population and the surrounding region. It can provoke local resistance and political tension, and cause significant delays in the execution of the project, leading to cost overruns, reduced project benefits and, in extreme cases, even suspension of the project. These additional costs almost invariably outweigh the investments that would have been needed to plan and execute an acceptable resettlement program. The policy addresses these issues and gender dimensions since proper examination of the relationship between men

and women with regard to land and related productive assets may help minimize disparities.

- 1.1.6 The policy has therefore been developed to address involuntary physical displacement and/or loss of other economical assets of people caused by Bank-financed projects and programs. The policy is intended for the executing agencies in the borrower countries and for Bank staff involved in identifying, preparing, and appraising projects that involve involuntary resettlement.
- 1.1.7 The policy applies to all Banks' funded operations, in public and private sector, whether Bank financing is directly channeled as investment loans or administered by a financial intermediary. The policy also applies when project results in assets being lost and/or livelihoods being affected, without actual displacement or resettlement of affected people. The policy excludes the settlement of refugees or victims of natural disasters.

1.2 Policy Rationale

- 1.2.1 The Bank's Environmental Policy was approved by the Board in 1990 and is currently under revision. To facilitate the implementation of this policy, the Environmental Assessment Guidelines were released in 1992. Then in 1995, the Bank produced the "*Guidelines on Involuntary Displacement and Resettlement in Development Projects*" (IDRP). While the IDRP Guidelines provide operational guidance to the Bank's Task Managers, they lack clarity on policy related issues such as on policy requirements, enforcement and compliance.
- 1.2.2 The Bank recognizes that people are at the center of development. Hence in all operations, the Bank pays a close attention to projects that may result in the displacement and resettlement of people, particularly when they are the disadvantaged groups such as elderly and children, female headed households, the poorest and marginalized communities. This policy therefore will help to further reinforce the Bank's vision of which poverty reduction is an overarching objective.
- 1.2.3 In view of the afore-mentioned, this policy will promote a more consistent preparation of resettlement components by requiring a formal procedure to address the resettlement issues systematically in Bank operations.

1.3 Document Organisation

The remaining portion of the document is organized as follows. A brief overview of the Bank Group and other Multilateral Development Banks experiences in resettlement as well as major lessons learnt are discussed in Chapter II. This sets the stage for the subsequent elements of resettlement issues. Chapter III

addresses the policy objectives, key guiding principles, and eligibility criteria. The operational guidelines related to the key components of the resettlement plan to be prepared at the various stages in the project cycle, and institutional strategies including the Bank and borrower's responsibilities, and the monitoring and evaluation aspects of resettlement programs are covered in Chapter IV. The conclusion is given in Chapter V.

II. REVIEW OF INVOLUNTARY RESETTLEMENT EXPERIENCE AND LESSONS LEARNT

2.1 Review of Bank Group's Experience

- 2.1.1 The resettlement issues in Bank's projects have been addressed through the basic guiding principles and operational procedures outlined in the 1995 "*Guidelines on Involuntary Displacement and Resettlement*". The types of projects that have involved resettlement and/or compensation include agricultural projects like irrigation schemes, canals, plantations, and forestry projects; and non-agricultural project like the construction of dams and hydropower plants, building, industrial and mining sites. Development of public utilities like water supply, solid waste and sanitation, power transmission lines, and oil and gas distribution lines; transport facilities like roads, railways, airports and harbors; as well as the development on national parks and protected areas have also involved involuntary resettlement.
- 2.1.2 Resettlement issues in Bank's projects are normally reviewed during the Environmental Impact Assessment (EIA) required for category 1 projects. However, the coverage of resettlement aspects in the assessment of project impacts in the EIA has focused more on environmental than social issues. This situation has been remedied in part by operationalising the new integrated Environmental and Social Impacts Assessment Procedures (ESAP 2001) in which social issues are explicitly covered.
- 2.1.3 The majority of the Regional Member Countries governments have adopted laws, regulations and procedures for expropriating land needed for public use and development. The expropriation laws and regulations are clear on the type and valuation of the compensation that must be paid to the affected parties. However, they are less clear on how to compensate for the land-based resources and economic activities foregone as a result of involuntary resettlement. Consequently, many of those subjected to involuntary displacement in development projects may receive adequate compensation from the state, and yet remain impoverished soon after resettlement.
- 2.1.4 For agricultural and rural development sector, Bank's experience has shown that in most cases land compensation was provided to farmers and agricultural laborers to restore the production systems. In cases where land was not available or if all the affected population could not be provided with alternative sources of productive activities, employment opportunities in the local industrial or service sectors were provided through training, education support and job creation schemes. In Zimbabwe for instance, the Bank's financed Dande Smallholder Irrigation project involved the displacement of about 600 families from the project site. Provisions were made for the displaced persons to improve infrastructure including 12.5 km of all weather roads, construction of boreholes

for water supply, upgrading of 2 primary schools, constructions of 3 new schools and construction of health clinics. It has however been observed that difficulties often arise when people are forced to move from fertile lands to marginal lands resulting in a loss of income due to either reduced crop production or lack of employment opportunities or worsened health conditions.

- 2.1.5 For industry and infrastructure development projects such as dams and reservoirs, for example the Barbara dam in Tunisia, completed in 2001, for which about 232 households were displaced, experience shows that Bank's support were provided only after comprehensive environmental and social impact assessment (ESIA) studies were conducted. These studies were carried out with regard to water-borne diseases, deforestation, sedimentation, flooding, human displacement and loss in earning. The Sidi El Barrack project in Tunisia as well can be sited among others as a case where a complete ESIA study was undertaken before project implementation. This project involved the construction of a dam designed to retain up to 264 million cubic meters of water. For this project more than 1200 households were relocated. The affected population was compensated either in form of new arable lands or cash on the basis of a participatory approach. In the case of water resource development projects, it was found that the risk lies in the impoverishment of the population displaced by inundation.
- 2.1.6 Public utilities projects financed by the Bank like solid waste disposal and power transmission lines have demonstrated that considerable land may be required at times in order to reduce negative impacts on the local people. For example, transmission lines may produce high-level electromagnetic radiation which is harmful to the health of the people living in close vicinity of the lines.
- 2.1.7 In the case of transport sector, projects like road, railways, ports and airports may also require involuntary resettlement, due to public safety and security considerations, involving the establishment of a right-of-way corridor or a buffer zone requiring resettlement. In Ghana, the Achimota-Anynam Road Rehabilitation project forms the case of a Bank financed project with resettlement issues. For this project, an estimated 150 families involving about 600 people were affected and compensation was made to families and owners of the affected properties for an estimated 2.4 billion CEDIS or UA 0.63 million.
- 2.1.8 Projects involving protected areas and/or establishment of nature parks have shown that the livelihood of the local populations are of crucial importance. People who are not able to hunt, gather plants for food or medicinal purpose, could be negatively affected by the project. Income from tourism or issuance of hunting licenses can guarantee extra benefit for the governments, but not for the local population that may lose access to the natural resources. In such instances, resettlement may involve compensating the people who had access to natural resources for their livelihood.

2.2 Experiences of other Multilateral Development Banks

- 2.2.1 In recent years, a number of other multilateral and bilateral agencies have prepared and adopted resettlement policies, guidelines, or best practice handbooks. These organisations have acquired longer-term experience on a wider set of development projects likely to cause displacement and resettlement. The finding and the lessons learnt from these experiences, some of which are similar to Bank's own experience, are summarized below.
- 2.2.2 A common shortcoming in the projects examined was an inadequate assessment of resettlement needs by borrowers and the lending agencies at the preparation and appraisal stages of projects with involuntary resettlement. Instead of preparing a resettlement plan, the borrowing government simply provided the undertaking to resettle the dislocated population. As a result, project-affected population and their losses were systematically underestimated, leading to inadequately planned resettlements with negative and undesirable outcomes.
- 2.2.3 In some cases, the lending agencies failed to implement their own policy. There were projects processed without any query being raised about the projects' compliance with the institution's resettlement policy. This situation was particularly exacerbated when the institution's resettlement policy was at variance with that of the governments.
- 2.2.4 Policy makers in the countries concerned were often less responsive to the need for resettlement. The uncertainties and long delays in reaping the benefits from a positive resettlement policy may partially explain the reluctance of some governments to embark on such programs. Project planners found it sometimes difficult to justify benefits for the project-affected population in a situation where the economic prospects were worsening for the country as a whole.
- 2.2.5 At times, the implementing agency of a project's resettlement program were unable to mobilise necessary support from other agencies because its coordinating function is not given a sufficient statutory backing by the government. For successful implementation of resettlement, full cooperation is necessary from many agencies. Such cooperation can only be achieved with a strong leadership from the project-implementing agency, combined with early involvement of other agencies in resettlement planning.
- 2.2.6 Land tenure remains a major problem in the design and implementation of resettlement programs in Africa. Legal compensation requirements have generally been applied to property owners rather than those occupying the land. In such cases, population was negatively affected and impoverished by the project especially when they were excluded from consideration for compensation for loss of income or assets. In addition, due to unequal gender access to, and control over land and ignorance of local social patterns of land use, ownership and control

which vary from one place to another, compensatory measures may fail to address these variations.

- 2.2.7 The active participation of beneficiaries is necessary throughout the various stages of planning, design, implementation and evaluation in order for resettlement projects to be truly sustainable. Project implementation was found to be most successful where governments entered into dialogue with the affected population at an early stage in project design. In recent years, there has been an important trend towards the improvement in the preparation of resettlement components of development projects, and progressive improvement in the participation of the affected communities.
- 2.2.8 Unless careful thought is given to the environmental consequences of population concentration at relocation sites, the latter may become centres of environmental degradation due to the impact of rapid population increases and the stress placed on local resources such as fuel wood. In the absence of adequate water supply and sanitation, water pollution and health problems are likely to arise from the flux of new relocatees.
- 2.2.9 Planning for the provision of economic and social services at the resettlement site must take into account the needs of both the resettlers and the host communities in order to minimize conflicts and create a common interest in the success of the resettlement program.

2.3 Lessons Learnt

- 2.3.1 The Bank's 1995 *Guidelines on Involuntary Displacement and Resettlement* laid out a set of guiding principles and strategies to be considered in the development of a resettlement plan. Since then close attention has been paid to the preparation of resettlement plan in the relevant Bank financed projects. This section summarizes the major lessons learnt in Bank's project involving involuntary displacement and resettlement.
- 2.3.2 A close attention should be paid to the laws and regulations governing expropriations of land tied to resettlement. While the country's laws cannot be violated, the governments should be encouraged to take a long-term development perspective rather than a short-term solution that may impoverish the affected people after resettlement.
- 2.3.3 The development of a good resettlement plan should take into account careful planning, close consultation and coordination among the stakeholders. The plan should be supported by a comprehensive socio-economic survey to determine all the relevant characteristics of the affected population, various options, and required resources to resettle and/or compensate them.

- 2.3.4 Resettlers should be well integrated with their host communities with provision for sufficient land for their economic activities, and adequate housing, water and sanitation facilities at the point of relocation.
- 2.3.5 The development of a resettlement plan should recognize that most of the people affected by resettlement are generally from the low income groups, employed in subsistence agriculture, fishing, mining, industry, commerce and service activities. The majority of the people affected by projects live in marginal urban settings, characterized by high unemployment rates and a marked dependence on the informal sector.
- 2.3.6 While the above lessons highlight the need for improvements in the planning and implementation of resettlement components of development projects, they also provide the framework for identifying the key impoverishment processes entailed in the displacement of persons arising from these projects. These are landlessness, joblessness, homelessness, marginalization, food insecurity, loss of access to common property resources, increased morbidity, and community dislocation. Therefore, the key to a development-oriented resettlement scheme is to identify the impoverishment risks of a project and attempt to counteract them by adopting a program with a people-centered focus rather than a property-compensation approach e.g. by addressing landlessness with a land-based schemes; joblessness with employment schemes; homelessness with home reconstruction schemes; community disarticulation with community reconstruction schemes etc.

III. THE POLICY

3.1 Policy Goal

The overall goal of the Bank's policy on *Involuntary Resettlement* is to ensure that when people must be displaced they are treated equitably, and that they share in the benefits of the project that involves their resettlement.

3.2 Policy Objectives

The policy has the following key objectives:

- To avoid involuntary resettlement where feasible, or minimize resettlement impacts where population displacement is unavoidable, exploring all viable project designs. Particular attention must be given to socio-cultural considerations, such as cultural or religious significance of land, the vulnerability of the affected population, or the availability of in-kind replacement for assets, especially when they have important intangible implications. When a large number of people or a significant portion of the affected population would be subject to relocation or would suffer from impacts that are difficult to quantify and to compensate, the alternative of not going ahead with the project should be given a serious consideration;
- To ensure that displaced people receive resettlement assistance, preferably under the project, so that their standards of living, income earning capacity, and production levels are improved;
- To provide explicit guidance to Bank staff and to the borrowers on the conditions that need to be met regarding involuntary resettlement issues in Bank operations in order to mitigate the negative impacts of displacement and resettlement and establish sustainable economy and society; and
- To set up a mechanism for monitoring the performance of involuntary resettlement programs in Bank operations and remedying problems as they arise so as to safeguard against ill-prepared and poorly implemented resettlement plans.

3.3 Guiding Principles

In order to achieve the overall objectives of this policy, projects that involve involuntary resettlement shall be prepared and evaluated according to the following guiding principles:

- a) The borrower should develop a resettlement plan where physical displacement and loss of other economic assets are unavoidable. The plan should ensure that displacement is minimized, and that the displaced persons are provided with assistance prior to, during and following their physical relocation. The aim of the relocation and of the resettlement plan is to improve displaced persons former living standards, income earning capacity, and production levels. The resettlement plan should be conceived and executed as part of a **development program**, with displaced persons provided sufficient resources and opportunities to share in the project benefits. Project planners should work to ensure that affected communities give their demonstrable acceptance to the resettlement plan and the development program, and that any necessary displacement is done in the context of negotiated settlements with affected communities;
- b) Additionally, displaced persons and host communities should be meaningfully **consulted** early in the planning process and encouraged to participate in the planning and implementation of the resettlement program. The displaced persons should be informed about their options and rights pertaining to resettlement. They should be given genuine choices among technically and economically feasible resettlement alternatives. In this regard, particular attention should be paid to the location and scheduling of activities. In order for consultation to be meaningful, information about the proposed project and the plans regarding resettlement and rehabilitation must be made available to local people and national civil society organizations in a timely manner and in a form and manner that is appropriate and understandable to local people. As well, careful attention should be given in the organisation of meetings. The feasibility of holding separate women's meetings and fair representation of female heads of households, in addition to mixed meetings should be explored. Also, the way in which information is disseminated should be cautiously planned as levels of literacy and networking may differ along gender lines;
- c) Particular attention should be paid to the needs of **disadvantaged groups** among those displaced, especially those below the poverty line, the landless, the elderly, women and children, and ethnic, religious and linguistic minorities; including those without legal title to assets, female-headed households. Appropriate assistance must be provided to help these disadvantaged groups cope with the dislocation and to improve their status. Provision of health care services, particularly for pregnant women, and infants, may be important during and after relocation to prevent increases in

morbidity and mortality due to malnutrition, the psychological stress of being uprooted, and the increased risk of disease;

- d) Resettlers should be integrated socially and economically into **host communities** so that adverse impacts on host communities are minimized. Any payment due to the hosts for land or other assets provided to resettlers should be promptly rendered. Conflicts between hosts and resettlers may develop as increased demands are placed on land, water, forests, services, etc., or if the resettlers are provided services and housing superior to that of the hosts. These impacts must be carefully considered when assessing the feasibility and costs of any proposed project involving displacement, and adequate resources must be reflected in the budget for the mitigation of these additional environmental and social impacts;
- e) Displaced persons should be **compensated** for their losses at “full replacement” cost prior to their actual move or before taking of land and related assets or commencement of project activities, whichever occurs first; and
- f) The total cost of the project as a result should include **the full cost of all resettlement** activities, factoring in the loss of livelihood and earning potential among affected peoples. This attempt to calculate the “total economic cost” should also factor the social, health, environmental and psychological impacts of the project and the displacement, which may disrupt productivity and social integration. The resettlement costs should be treated against economic benefits of the project and any net benefits to resettlers should be added to the benefit stream of the project.

3.4 The Policy Framework

3.4.1 This policy covers economic and social impacts associated with Bank financed projects involving involuntary acquisition of land or other assets which results in:

- a) Relocation or loss of shelter by the persons residing in the project area;
- b) Loss of assets or involuntary restriction of access to assets including national parks, protected areas or natural resources; or
- c) Loss of income sources or means of livelihood as a result of the project, whether or not the affected persons are required to move.

3.4.2 Displaced persons in the following two groups are entitled to compensation for loss of land or other assets taken for the project purposes:

- a) Those who have formal legal rights to land or other assets recognized under the laws of the country. This category will generally include people who are physically residing at the project site and those who will be displaced or may lose access or suffer a loss in their livelihood as a result of the project activities; and
- b) Those who may not have formal legal rights to land or other assets at the time of the census but can prove that they have a claim such as land or assets that would be recognized under the customary laws of the country. This category may also include those people who may not be physically residing at the project site or persons who may not have any assets or direct sources of livelihood derived from the project site, but who have spiritual and/or ancestral ties with the land (e.g. graveyards, sacred forests, places of worships). This category may also include sharecroppers or tenant farmers, seasonal migrants or nomadic families losing user rights, depending on the country's customary land use rights. Additionally, where resettlers lose access to resources such as forests, waterways, or grazing lands, they would be provided with replacements in kind.

3.4.3 A third group of displaced persons are those who have no recognizable legal right or claim to the land they are occupying in the project area and who do not fall in any of the two categories described above. This category of displaced persons, will be entitled to resettlement assistance in lieu of compensation for land to improve their former living standards (compensation for loss of livelihood activities, common property resources, structures and crops, etc.), provided they occupied the project area prior to a cut-off date established by the borrower and acceptable to the Bank. At the minimum, under the Bank's policy (with no contradiction to the borrower's legislation), land, housing, and infrastructure should be provided to the adversely affected population, including indigenous groups, ethnic, linguistic and religious minorities, and pastoralists who may have usufruct rights to the land or other resources taken for the project. The cut-off date must clearly be communicated to the project affected population. Persons who encroach on the project area after the cut-off date are not entitled to any form of resettlement assistance.

Policy Requirements

3.4.4 To achieve the objectives of this policy, the borrower is required to prepare a resettlement plan for all operations which entail involuntary resettlement unless otherwise specified.

- 3.4.5 The borrower's commitment to, and capacity for, undertaking resettlement is a key determinant of Bank involvement in a project. In situations where the implementing agencies capacity or commitment to improve standards of living of the project-affected population and host communities is lacking, the Bank will assist to build the required capacity. The Bank will also work with borrowers to improve capacity and strengthen national legal systems to eliminate disparities between the borrower's laws and Bank policy. Resettlement planning includes early screening, scoping of the issues, the choice of resettlement strategies, and the gathering of all necessary information required to evaluate and prepare the resettlement component or sub-component.
- 3.4.6 The borrower will be required to prepare a **full resettlement plan (FRP)** for any project that involve a "significant number"¹ of people who would need to be displaced with a loss of assets, or access to assets or reduction in their livelihood.
- 3.4.7 The plan should address potential adverse impacts of the project and at the same time make provisions for the opportunity the project offers to improve the socio-economic conditions of the affected population. The resettlement plan should also specify safeguards for the quality and quantity of land to be allocated for women in order to ensure means to achieve income generation and food security by an insertion of a specific protocol in the resettlement plan. In the absence of formal legal rights, land titles at the resettlement site or any grants included should be in the name of both spouses, provided this does not contradict with the borrower's own laws and legislation. Any compensation payments should be paid into a joint account in the name of both husbands and wives. Unmarried women and elderly sons and daughters should explicitly be included as eligible for compensation for lost of land, shelter, livelihoods, and other assets. Women's groups should be involved in resettlement planning, management and operations and in job creation and income generation.
- 3.4.8 The FRP plan should be finalized as a supplement document to the Environmental and Social Impact Assessment (ESIA) report. The resettlement studies can be carried out as part of or parallel to the environmental and social impact studies. Annex A contains a detailed outline of a FRP required for a project requiring a resettlement plan.

1 "Significant" is defined as meaning:

- 200 or more persons will experience resettlement effects. In addition to this numerical guidance, project planners and the Bank should also determine the "significance" of a project by evaluating the severity of adverse impacts on disadvantaged groups (for example, female-headed households, the poorest, isolated communities, including those without title to assets, and pastoralists). Any project that has adverse impacts on disadvantaged groups or ethnic, religious and linguistic minorities, or which affects the poorest and most marginalized communities who do not have the capacity to absorb such impacts, should be considered significant, requiring a full resettlement plan.

- 3.4.9 For projects in which the number of people to be displaced with a loss of assets or restriction of access to assets is “small”², an **abbreviated resettlement plan** (ARP) should be prepared and agreed with the borrower. Annex B provides guidance on the contents of an abbreviated Resettlement Plan. The ARP plan should be finalized as a supplement document to the environmental Annex of the Bank’s Appraisal Report.
- 3.4.10 The full resettlement plan and the abbreviated resettlement plan should be posted in the Bank’s Public Information Center (PIC) and the Bank’s web site for public review and comments in accordance with the Bank’s disclosure policy and the Bank’s Environmental and Social Impacts Assessment Procedures (ESAP 2001). Special attention should be given by the project Task Manager to, among other things, the nature of the consultations with affected groups and local NGOs and the extent to which the views of such groups were considered in the environment and social management plan (EMSP) with its measures for mitigating and monitoring environmental impacts and, as appropriate, strengthening institutional capacity.
- 3.4.11 In projects, where people are not physically displaced and the affected persons are not disadvantaged groups and enjoy clear title to the assets; and furthermore, the institutional setting and the market place offer reasonable opportunities for replacement of assets and income, the Bank may determine in consultation with the borrower and affected people that a full resettlement plan may not be necessary. However, in such cases, an abbreviated resettlement plan may be required and activities and costs related to resettlement must still be built into the project design and an implementing plan agreed upon with the borrower before the project is approved. Any such implementation plan must be developed in a transparent and participatory manner and must include provisions for grievance redress and dispute resolution.
- 3.4.12 In certain types of Bank operations related to financial intermediaries (FI), e.g. lines of credit, where it may not be possible to identify the resettlement issues up-front, provisions should be made by the Bank to ensure that any resettlement eventually required is carried out in accordance with this policy. For such operations that may involve involuntary resettlement, the FI should screen subprojects to be financed under the Bank’s procedure and Bank staff must ensure their consistency with this policy.

2 “Small” is defined as meaning:
- Less than 200 persons will experience resettlement effects.

- 3.4.13 The policy also requires that for each subproject presented for Bank financing, the FI should submit to the Bank for its review and evaluation a satisfactory full resettlement plan or an abbreviated resettlement plan that is consistent with the provision of this policy framework. If the project-implementing agency of the financial intermediary has demonstrated adequate institutional capacity to review resettlement plans and ensure their consistency with this policy, the Bank could agree, in writing that subproject resettlement plans may be approved by this agency without prior Bank review so long as the borrower also agrees, in writing, that any such subproject resettlement plans will be in compliance with Bank policies and procedures.
- 3.4.14 Some sector loans designed to promote growth and investment in sectors requiring the building of infrastructure are likely to cause involuntary resettlement (e.g. transportation, transmission lines, water and sewerage, etc.). In such cases, the Bank would include initiatives to strengthen institutional capacity and reform the regulatory framework in order to make adequate provisions for sound resettlement practices, and the borrower should agree as a condition of such loans to comply with the Bank's resettlement policy in all projects under the loan that result in involuntary resettlement.

IV. IMPLEMENTATION STRATEGIES

4.1 Resettlement Strategy

Development Approach

- 4.1.1 Resettlement planning should be based on a development approach which would involve offering the displaced persons and host communities several development options consisting of activities to reconstruct the production foundation of the resettled and making them self-sustaining producers and wage earners. The resettlement plan should ensure that the displaced persons are provided with assistance during relocation. The aim of relocation is to improve their former living standards, income earning capacity, and production levels. The displaced persons and host communities should be offered support after relocation, for a transition period that covers a reasonable period of time necessary for them to improve their livelihood and standard of living. In the case of urban setting, this support could take the form of short-term jobs, sustenance support, training and capacity building, salary maintenance or other similar arrangements. However, in the case of rural areas, the resettlement program should emphasize and provide land-for-land for displaced persons whose livelihoods are based on land, as well as participation in training, and access to material equipments, inputs and credit. The development activities should be gender sensitive and be appropriate for the special needs of disadvantaged groups, ethnic, religious and linguistic minorities, elderly, female headed households, indigenous groups, etc. The host population should also be assisted to become additional beneficiaries of these activities.
- 4.1.2 The Bank recognizes that significant cultural and psychological issues are likely to arise when people have to be resettled. As far as possible, the project should avoid the destruction of cultural, religious and archaeological sites or provide alternative sites that are acceptable to the displaced persons and host communities and that have at least the same locational and productive advantages as the land which has been lost. In case of destruction of such sites, all attempts should be made to reconstruct them and to maintain the sense of community among settlers, and between settlers and their hosts. Provisions should be made for counseling and advice to the displaced persons and host communities about how to cope with, and benefit from, the resettlement activities.

Participation

- 4.1.3 The affected population and host communities should be involved in the design of the resettlement plan. Community participation helps to ensure that compensation measures, relocation site, development programs and service provision reflect the needs, priorities, and development aspirations of the affected people and their hosts. All stakeholders, particularly the affected population, host communities and

their representatives, should be fully informed, consulted and effectively involved at all stages of the project cycle. Participation can also facilitate greater transparency and fair play in compensation procedures, and encourage greater community involvement in operation and maintenance of service infrastructure and in development programs. The resettlement plan should include an explicit public information strategy. This would include the use of mass media, particularly radio and television, to advise the dates and times of public meetings, availability of documents, selection criteria, cut-off dates, and compensation measures. NGOs can often provide valuable assistance and ensure viable community participation. Special measures need to be put in place to ensure full and effective participation of disadvantaged groups in such processes, including efforts to identify and establish working relations with the relevant CSOs and NGOs at all levels.

Eligibility and Entitlements

- 4.1.4 The resettlement plan should have a clear definition of the project affected persons (PAPs) by socio-economic and gender category; household or family; the cut-off dates for eligibility for compensation; the assets to be compensated at replacement cost, and the development projects proposed. It is particularly important that the country national laws and legislation as well as local definitions of land tenure, rights to common resources and inheritance practices are recognized. The definition of the unit for compensation (family or household) should anticipate and accommodate the land and housing needs for elderly sons and daughters to establish their own households.
- 4.1.5 The benefits offered by the resettlement program should be clearly established. This may cover, for urban resettlement activities, financial compensation; housing and service provision; transport, temporary accommodation and other short-term provisions required for relocation such as, credit facilities, training or job opportunity. In rural areas however, this may cover land-for-land, participation in training, and access to material equipments, inputs and credit. In cases, where land is not the preferred option for some of the displaced persons, non land-based options should be considered. These options should be built around creating employment opportunity or self-employment. Moreover, resettlement offers a unique opportunity for addressing gender inequality in land ownership and control. For example, Bank staff should make sure that project planners are ensuring that replacement land is registered in the name of women and men, when applicable (case for instance of absence of formal legal rights to land or other assets) and in conformity with the borrower's own laws and legislation, either by establishing independent ownership rights for women or jointly under both the husband and the wife's name.

Compensation Procedure

- 4.1.6 The plan should describe the legal basis and the procedures for expropriation and compensation at full replacement cost for land and property. The plan should identify any gaps or inconsistencies between the borrower's legal framework and the Bank's resettlement policy, and the mechanisms to bridge such gaps. The criteria for assessing the value of land, housing and other property should be standardized and transparent. The dispute settlement procedures should be sufficiently agile to resolve arguments over valuation quickly. As a result, appropriate and accessible grievance mechanisms, through informally constituted local committees with representatives from key stakeholder groups should be established to resolve any dispute arriving during the compensation procedures. Where affected population do not have land titles, cadastral surveys may have to be carried out to establish the basis for compensation and procedures should be established to regularize and recognize claims to land, including claims that derive from customary law and traditional usage. The payment procedure should be simple, and payment should be settled before expropriating the land or at least soon after. Compensation payments should be independently monitored, and accurate records should be kept of all transactions. The project may provide an opportunity to regularize traditional land tenure and provide formal title. Land for land is often the preferred option, with ownership of the land remaining with the community group. Similarly, replacements in kind would, if possible, be applied for compensation for loss of common property such as marine, river, lake or forest resources. In case of cash payments, affected households may be provided counseling to ensure that compensation is used wisely. Compensatory provisions should also take gender differences into account. It is advisable that there is a monitoring body that supervise compensation provisions, and that this body in turn is regularly supervised by Bank staff.

Relocation Criteria

- 4.1.7 The criteria for site selection should be explicit and should be discussed in detail with the affected families (i.e. both the relocatees and their hosts). It may be important for rural resettlement programs, to ensure that a whole community or village is resettled together. Agricultural or pastureland provided through land-for-land resettlement should be equal or better in quality, including access to safe drinking water and irrigation water for agricultural lands. Other infrastructure and public services such as access roads, community centers, education and health services should be provided as necessary to improve living standards of the displaced population and host communities. The procedures for allocation of plots should be agreed with families and should be transparent. When rural communities are relocated, the move may involve domestic animals as well as people. Adequate arrangements must be made to ensure that animals can be watered, fed and housed at the temporary relocation site. Serious considerations

and adequate measures must be implemented to mitigate negative environmental and social impacts at the relocation site.

Legal and Institutional Framework

- 4.1.8 The resettlement plan should be consistent with the national legislation of the borrower as well as the requirements set in this policy. The resettlement plan should also be in line with the national poverty reduction strategic paper (PRSP) as well as the development policy and plans of the borrower. The plan should identify the institutional responsibilities and should address the choice of agency for plan implementation, the staffing requirements, capacity building, and interagency coordination.
- 4.1.9 The plan should include detailed timetable, covering all components of the resettlement program such as, transport, storage and any temporary dwelling arrangements for the move. The timetable should be coherent and consistent with the overall project schedule. The timetable should also take into account social including religious and economic calendars to avoid interruption of school year, planting or harvesting seasons, etc. Project completion phase should take into account the completion of all resettlement activities planned.
- 4.1.10 The resettlement plan should also include a detailed budget breakdown by components, agency and calendar year. The total cost of the project should include the full cost of all resettlement activities. The budget should clarify the source of funds for the resettlement activities (for example, counterpart financing, Bank funding, or bilateral sources). The plan should be submitted as a formal document to the relevant national, local and/or municipal agencies and to the Bank, and should include an executive summary detailing the size of the affected populations, the proposed resettlement measures and activities, key definitions and outstanding issues.
- 4.1.11 The arrangement for reporting, monitoring and evaluation, consistent with the overall project planning and scheduling, should be included in the plan. The implementing agency should be responsible for reporting the progress of the plan implementation, typically quarterly. An independent third party should monitor large resettlement plan implementation with regular feedback from the affected people. Monitoring activities should include a review of the grievance mechanism, to ensure both that there is an adequate channel for affected people to express their concerns and grievance, and that those grievances are being addressed in a timely manner. Monitoring should cover the impact of the plan as well as its physical progress. Monitoring should also evaluate the borrower's commitment to the resettlement plan, and the availability of sufficient financial resources (as identified in the budget) for accomplishment of the resettlement plan. An independent ex-post evaluation should be carried out by the borrower and the Bank, and should be included in the budget of the plan.

4.2 Operational Strategy

- 4.2.1 **Identification:** At project identification phase, the project Task Manager (TM) in the Bank with the support of Bank Sustainable Development Unit (PSDU) should assess government policies, experience, commitment, institutions, and the legal framework covering resettlement. The TM must also evaluate the gaps, if any, between the borrower's legal framework and Bank policy, and steps that are being taken in the project or at the national level to address those gaps and ensure that borrower practice is consistent with the requirements of Bank policy. Once it has been established that the project would involve involuntary resettlement, the TM should briefly summarize in the Project Brief, the magnitude, strategy and timing of the resettlement. He or she should inform the borrower of the Bank's resettlement policy; invite agencies responsible for resettlement to discuss their policies, plans, and institutional, consultative, and legal arrangements for resettlement. Furthermore, where appropriate, it should be ensured that technical assistance is provided early to borrowers, for example, through the use of Bank's Project Preparation Facility (PPF) resources for resettlement planning and building institutional capacity. The Task Manager should consider the advisability of providing a training program on this policy and effective resettlement implementation for the various agencies responsible for resettlement.
- 4.2.2 **Preparation:** If the initial assessment identifies that resettlement is likely to be involved in a Bank financed project, the terms of reference of the resettlement plan should be prepared, preferably in conjunction with preparation of the project feasibility study. At this stage, the gathering of baseline data and/or conducting social economic surveys should start. The Bank preparation mission should determine the feasibility of the resettlement plan, discuss and agree on the strategy with the executing agency, and estimate the budget for the resettlement activities to be included in the project costs. The mission team should also ascertain the adequacy of the consultation process with the affected persons as well as the host communities. The Project Brief should specify the key environmental issues including any resettlement impacts on the host environment, or environmental hazards to which the resettled communities might be exposed. Project planners should bear in mind that resettlement impacts (including the numbers of people to be affected) and costs are often under-estimated. The budget should therefore include a contingency fund for "unanticipated problems," which will allow planners to budget additional funds in advance instead of being in the difficult position of trying to solve escalating problems without sufficient funds. The project TM examines the type, location, sensitivity, scale of the proposed project, as well as the nature and magnitude of the project cycle.
- 4.2.3 **Appraisal:** The borrower should submit to the Bank a draft resettlement plan prior to the launching of appraisal mission of a Bank's financed project which includes a time-bound resettlement component and budget. The plan should conform to this policy, and the borrower should disclose it at a place accessible to

- displaced persons and local NGOs, in a form, manner, and language that are understandable to them. Affected persons and local NGOs should be offered a meaningful opportunity to comment on the draft plan. The appraisal mission should ascertain how and to what extent the human hardship in the involuntary resettlement can be minimized, and whether the borrower has adequate capacity to manage the resettlement process. The Bank must carefully assess the adequacy of the plan, including the timetable and budget for resettlement and compensation, and the soundness of the economic and financial analysis. Finally, the availability and adequacy of relocation sites and funding for all resettlement activities including the feasibility of the implementation arrangements and the extent of involvement of beneficiaries should be verified during the appraisal mission. PSDU Unit will clear the finalized resettlement plan before it is translated and forwarded by the project Task Manager to the Board prior to project approval.
- 4.2.4 **Negotiation:** At the negotiation stage, the borrower and the Bank should agree on the resettlement plan. The resettlement plan and borrower's obligation to carry it out must be covenanted. The borrower will agree in the loan agreement to comply with all relevant Bank policies; the loan agreement should specify the environmental and social policies that apply to the project. The Appraisal Report should summarize the plan and clearly indicate that it meets the Bank policy requirements.
- 4.2.5 **Implementation and Supervision:** Resettlement component will be supervised throughout the implementation of the project. Bank's supervision missions will be staffed with requisite environmental, social, economic, and technical expertise. These missions will also ensure that the borrower's implementing agencies also have the requisite environmental, social, economic and technical expertise to properly implement the project. The Bank's supervision missions will work with the implementing agency staff to solve implementation problems as they arise. For any Bank financed project that involves a significant number of people to be displaced, in-depth Annual Bank reviews and midterm progress reports will be prepared. Project involving large-scale or complicated resettlement activities should be independently monitored.
- 4.2.6 Upon completion of the project, the borrower will undertake an assessment of the success of the resettlement plan. This should be followed by Bank's Project Completion Report (PCR).
- 4.2.7 **Post-Evaluation:** The evaluation mission will review the Bank's Project Completion Report (PCR) to evaluate resettlement and its impacts on the quality and standards of living of the resettlers and the host communities.

4.3 Institutional Strategy

Bank's Role and Responsibility

- 4.3.1 The Bank will support borrower's efforts on projects involving involuntary resettlement through i) assistance to the executing agencies to adopt and operationalise objectives and principles of this policy; ii) assistance in formulating and implementing resettlement policies, laws, regulations, specific plans and strategies; and (iii) direct financing of the investment costs of resettlement.
- 4.3.2 The Bank will also support the capacity building, as required of executing agencies to plan and implement involuntary resettlement in all projects and provide technical assistance to strengthen the organizational, managerial and implementation capacity of agencies responsible for resettlement including, as noted in paragraph 4.2.5, strengthening the environmental, social, economic and technical expertise of these agencies. The Bank will also finance eligible costs for resettlement. Bank financing of resettlement can thus be provided as a component of the project involving displacement and requiring resettlement.
- 4.3.3 In particular, the Bank will examine the extent to which project design alternatives (including the alternative of not proceeding with the project) and options to avoid, minimize and mitigate involuntary resettlement impacts have been considered during the pre-identification phase.
- 4.3.4 The Bank will ensure that appropriate social, technical and legal experts review the adequacy of the resettlement plan, and that field visits of the possible resettlement sites are organized to review its suitability. During this field visit, a dialogue with local authorities and civil society organisations, the resettled population and the host community should also be organized.
- 4.3.5 The Sustainable Development Unit (PSDU) should be consulted in the preparation of the summary resettlement plan. For Bank's financed project involving resettlement of a significant number of people, this summary should be submitted, together with the environmental and social impact assessment summary, to the Board and made available to the public through the Bank's disclosure policy and ESAP 2001 before the project is approved. For projects in which the number of people to be displaced is small, the prepared abbreviated resettlement plan should be submitted to the Board together with the environmental annex of the Bank's Appraisal Report.
- 4.3.6 At project identification phase, the TM with the support of PSDU should assess government policies, experience, commitment, institutions, and the legal framework covering resettlement. An analysis should be made to determine the nature of the legal framework for the resettlement envisaged, including (a) the

nature of compensation associated with it, both in terms of the valuation methodology and the timing of payment; (b) the legal and administrative procedures applicable, including the appeals process and the normal time-frame for such procedures; (c) land titling and registration procedures; and (d) laws and regulations relating to the agencies responsible for implementing resettlement and those relating to land compensation, consolidation, land use, environment, water use, and social welfare. Particular attention should be paid to provisions in the legal framework relating to disadvantaged groups.

- 4.3.7 Once the Bank accepts the resettlement Plan, the Bank will make it available to the public through the Bank's Public Information Center (PIC), as part of the Bank's Public Disclosure policy.
- 4.3.8 The Bank will regularly supervise the implementation of the resettlement plan to assess compliance with respect to the plan. These supervision efforts should include independent meetings with affected persons and host communities, and a review of activities under the grievance redress process. The Bank will ensure that compliance problems are addressed promptly, and if resettlement implementation is not in compliance with this policy, the Bank will take immediate steps to halt disbursements or undertake other remedial measures until such time as the project is brought into compliance with this policy and the project-specific resettlement plan.
- 4.3.9 The Bank will review the experience of the Involuntary Resettlement policy after the policy has been implemented for about three years. A report on this review, including any recommended adjustments to the policy, should be submitted to the Board.

Borrower's Responsibility

- 4.3.10 The borrower is responsible for preparing, implementing and monitoring a resettlement plan that conform to this policy. The borrower may need assistance to manage the studies, review the results, determine whether or not changes are needed, and to ensure consultation with affected groups. It may be necessary for the Bank to provide or budget for short or long-term technical assistance to the borrower for such management functions. The organisation responsible for resettlement should be strengthened when entities executing infrastructure or other sector specific projects lack the experience and outlook needed to design and implement resettlement. One alternative is to create a special resettlement unit within the project entity; this can facilitate the involvement of other line agencies. The Bank can provide assistance to identify qualified NGOs, consultants or firms, prepare TORs and help locate sources of funds. The resettlement plan could be financed from a project preparation facility (PPF) or from bilateral sources.

- 4.3.11 The borrower will ensure that the resettlement plan is fully consistent with the project implementation plan.
- 4.3.12 The borrower will provide to the Bank a draft resettlement plan that conforms to this policy prior to the launching of the appraisal mission for a project involving significant number of people to be displaced. However, where impacts on the displaced population are small, an abbreviated resettlement plan may be agreed with the borrower during appraisal mission. The resettlement plan will also be disclosed at a place accessible to the displaced population and NGOs, in a form, manner and language that are comprehensible to them. Displaced persons and NGOs will be invited to provide comments and critiques of the draft plan, and the borrower should take these comments into consideration in any revised draft.
- 4.3.13 It is the borrower's responsibility to implement the resettlement plan and keep the Bank informed of its progress.
- 4.3.14 The borrower is responsible for monitoring and evaluation of the activities set out in the resettlement plan.
- 4.3.15 Upon completion of the project, the borrower will prepare a Project Completion Report (PCR). This should be followed by the Bank's own PCR. If either assessment reveals that any key objectives of the resettlement plan were not achieved, follow-up measures should be developed in consultation with the borrower and the project affected persons to remedy the situation.

Monitoring and Evaluation by the Bank

- 4.3.16 Monitoring is important in observing whether the mitigative measures planned are in fact implemented in order to make adjustments in project plan, design and implementation if and where required. These adjustments should be summarized and included in the monitoring reports. Monitoring should include all social and environmental impact indicators, which during project identification and preparation have been identified as crucial.
- 4.3.17 Quarterly reviews of large-scale resettlement operations are recommended and in-depth reviews of mid-term progress, consistent with the overall project scheduling are critical. Such reviews should be planned from the beginning to allow the executing agencies and the Bank to make the necessary adjustments in project implementation.
- 4.3.18 The effectiveness of mitigation measures recommended and implemented should be evaluated, and the lessons learned utilized for the formulation of similar types of projects in the future. The evaluation should compare the actual situation with the planned or predicted (including, in particular, the number of people affected),

and review the assumptions, the resettlement induced and associated risks, as well as uncertainties encountered.

- 4.3.19 The resettlement component of an operation must be fully and specifically covered in the reports on the progress of the overall project, and included in the logical framework of the operation.
- 4.3.20 The monitoring activities will focus on compliance with the resettlement plan in terms of the social and economic conditions achieved or maintained in the resettled and host communities. The plan and the loan agreement will specify the monitoring and evaluation requirements and their timing.
- 4.3.21 Whenever possible, qualitative and quantitative indicators will be included as benchmarks to evaluate those conditions at critical time intervals related to the progress of overall project execution. The final evaluation will be scheduled at a targeted date estimated for completion of the plan, defines as the date on which it is expected that the living standards the plan was designed to provide are achieved. This evaluation will provide the opportunity to assess the accuracy of that target date, and whether resettlement activities should be continued beyond the target completion date in order to meet the policy objectives. Independent supervision and multidisciplinary evaluation will be provided to the extent required by the complexity of the respective resettlement plan.

V. CONCLUSIONS

- 5.1 This policy has been developed in response to the involuntary displacement and resettlement of people arising from development projects. The goal of the policy is to ensure that Bank's projects involving resettlement are implemented in a manner, which would allow affected populations to be treated equitably, and share in the benefits of the project that involves their resettlement. The present policy is meant to assist the Bank and borrowers to address resettlement issues in order to mitigate the negative impacts of displacement and resettlement and establish sustainable economy and society.
- 5.2 The policy defines the affected population in a resettlement program, describes the modes of identifying their loss of assets/income resources or access to assets, eligibility and entitlements within the context of a resettlement plan. It emphasizes a development approach, which offers the displaced persons and host communities, development options for reconstructing their productive activities and income sources, as well as their active participation in the design of the resettlement plan.
- 5.3 In order to safeguard against ill-prepared and poorly implemented resettlement plans, the Bank's policy establishes the operational procedure and institutional strategy to be followed in the implementation process of a resettlement plan.
- 5.4 Good resettlement plan would be beneficial from economic, social and environmental considerations and should contribute to improved project quality and impact. It would also promote more equitable development.

GLOSSARY

Affected Population	Defined as those who stand to lose, as a result of the project, all or part of their physical and non-physical assets, such as homes, communities, productive lands, resources such as forests, range lands, fishing areas, important cultural sites, commercial properties, tenancy, income-earning opportunities, and social and cultural networks and activities.
Compensation	Money or payment in kind to which the people affected by the project are entitled to, as decreed by government regulations or laws in order to replace the lost asset, resource or income.
Disadvantaged Groups	Distinct groups of people that may suffer dis-proportionally from project related activities (e.g. female-headed households, children, elderly, ethnic, religious and linguistic minorities, handicaps, etc.).
Expropriation	The action of a government in taking or modifying property rights of an individual in the exercise of its sovereignty.
Entitlement	Range of measures comprising compensation, income restoration, transfer assistance, income substitution, and relocation which are due to affected people, depending on the nature of their losses, to restore and improve their economic and social base.
Full Cost of Resettlement	Compensation based on the present value of replacement of the lost asset, resource or income without taking into account depreciation.
Host Community	Community residing in or near the area to which affected people are to be relocated.
Involuntary Resettlement	Development project results in unavoidable resettlement losses, that people affected have no option but to rebuild their lives, incomes, and asset bases elsewhere. Involuntary resettlers are thus people of all ages, outlooks and capabilities, many of whom have no option but to give up their assets. Bank policy designates involuntary resettlers as requiring assistance.

Project Area	Areas in and adjacent to the construction areas and other areas to be modified by the project (e.g. impoundment of reservoirs, rights of way for infrastructure projects, irrigation command areas).
Relocation	Rebuilding housing, assets, including production land, and public infrastructure in another location.
Rehabilitation	Re-establishing incomes, livelihoods, living, and social systems.
Resettlement	The entire process of relocation and rehabilitation caused by project related activities.
Resettlement Impacts	The direct physical and socio-economic impacts of resettlement activities in the project and host areas.
Resettlement Plan	A time-bound action plan with budget setting out resettlement strategy, objectives, entitlement, actions, responsibilities, monitoring and evaluation.
Voluntary resettlers	Voluntary resettlers are generally self-selected, young, and willing to pursue new opportunities. Voluntary settlement may form part of a resettlement plan, provided measures to address the special circumstances of involuntary resettlers are included.

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Annex A: Outline of a Typical Full Resettlement Plan

1. Description of the project, project area and area of influence

General description of the project and the area of influence.

2. Potential Impacts

Description of the project components or activities that would give rise to resettlement, zone of impact of such activities, and the alternatives considered to avoid or minimize resettlement.

3. Organizational Responsibility

The institutional arrangements within the executing agency and provision of adequate resources to this institution should be discussed and all inter-agency coordination should be described. The capacity and commitment of the institution to carry out the resettlement plan should also be evaluated. If necessary, strengthening of this institution should be considered and the steps that will be taken, together with a timetable and budget, should be described at the project preparation phase. There should be considerable scope for involving the local people and NGOs in planning, implementing and monitoring resettlement.

4. Community participation

A description of the consultation and participation of the displaced and hosts communities in the design and implementation of the resettlement activities including a summary of the views expressed and how these views were taken into account in preparing the resettlement plan.

A review of the resettlement alternatives presented and choices made by displaced persons, including choices related to forms of compensation and resettlement assistance, to relocating as individual families or as part of pre-existing communities, and to retaining access to cultural property (e.g., places of worship, cemeteries, etc.).

Description of procedures for redress of grievances by people affected to project authorities throughout the planning and implementation.

5. Integration with host communities

Consultations with host communities and local governments and arrangements for prompt tendering of any payments due to the hosts for land or other assets should be provided to resettlers. Arrangements for addressing any conflict that may arise between the resettlers and host communities should also be made.

Appropriate measures should be taken to augment public services (e.g. education, water, health, and production) in host communities to make them comparable to services provided to resettlers.

6. Socio-economic studies

- (a) A population census covering current occupants of the affected area, including the description of the production systems, household organisation, baseline information on livelihoods and standards of living of the displaced population;
- (b) An inventory of assets of displaced households; the magnitude of the expected loss – total or partial for individual or group assets, and the extent of physical and economic displacement;
- (c) Information on disadvantaged groups or persons for whom special provisions may have to be made;
- (d) Provisions to update information on the displaced people's livelihoods and standards of living at regular intervals so that the latest information is available at the time of their displacement;
- (d) Description of land tenure systems, including common property and non-title based land ownership or allocation system recognized locally and related issues;
- (e) Public infrastructure and social services that will be affected; and
- (f) Social and cultural characteristics of displaced communities.

7. Legal framework including mechanisms for conflicts resolution and appeals

- (a) The applicable legal and administrative procedures, including a description of the remedies available to displaced persons in the judicial process, and the normal time frame for such procedures; and available

alternative dispute resolution mechanisms that may be relevant to the project ;

- (b) Laws and regulations relating to the agencies responsible for implementing resettlement activities; and
- (c) Any legal steps necessary to ensure the effective implementation of resettlement activities, including a process for recognizing claims to legal rights to land – including claims that derive from customary and traditional law and usage.

8. Institutional Framework

- (a) The identification of agencies responsible for resettlement activities and NGOs that may have a role in project implementation; and
- (b) An assessment of the institutional capacity of such agencies and NGOs.

9. Eligibility

Definition of displaced persons and criteria for determining their eligibility for compensation and other resettlement assistance, including relevant cut-off dates.

10. Valuation of and compensation for losses

- (a) The methodology to be used in valuing losses to determine their replacement cost; a description of the proposed types and levels of compensation under local laws and such supplementary measures to achieve replacement cost for lost assets; and
- (b) A description of the packages of compensation and other resettlement measures that will assist each category of eligible displaced persons to achieve the objectives of this policy.

11. Identification of alternative sites and selection of resettlement site(s), site preparation, and relocation.

- (a) Institutional and technical arrangements for identifying and preparing relocation sites, for which a combination of productive potential, locational advantages, and other factors is at least comparable to the

ancillary resources ;

- (b) Procedures for physical relocation under the project, including timetables for site preparation and transfer;
- (c) Any measures to prevent influx of ineligible persons at the selected sites; and
- (d) Legal arrangements for regularizing tenure and transferring titles to resettlers.

12. Shelter, infrastructure, and social services

Plans to provide or finance housing, infrastructure (e.g. roads, water supply, etc.) and social services (schools, health services); plans to ensure comparable services to host populations; and any necessary site development.

13. Environmental protection

An assessment of the environmental impacts of the proposed resettlement and measures to mitigate and manage the impacts.

14. Implementation schedules

An implementation schedule covering all resettlement activities from preparation through implementation, including target dates for achievement of expected benefits to resettlers and hosts and terminating the various forms of assistance.

15. Costs and budget

Tables indicating breakdown of cost estimates for all resettlement activities, including allowances for inflation and other contingencies; timetable for expenditures; sources of funds; and arrangements for timely flow of funds.

16. Monitoring and evaluation

Arrangements for monitoring of resettlement activities by the implementing agency; supplemented by independent monitors as appropriate, to ensure complete and objective information; performance monitoring indicators to measure inputs, outputs, and outcomes for resettlement activities; evaluation of the impacts of resettlement for a reasonable period of time after the resettlement activities have been completed.

Annex B An Abbreviated Resettlement Plan

1. A census survey of the expected size of the displaced persons, their socio-economic status including the value of their assets and other sources of livelihood should be carried out.
2. The displaced people and the host population should be consulted about acceptable project alternatives and should be informed about project's potential impacts on them.
3. Description of compensation options to be offered and other resettlement assistance to be provided should be documented and discussed with the resettlers including their preferred choice. It would be preferable to use local NGOs in this process.
4. Institutional responsibilities for implementation of the resettlement plan including involvement of NGOs in monitoring the plan should be established; and
5. The schedules, budget and sources of funds should be agreed upon with the executing agency.

APPENDIX C

METHODOLOGY FOR THE ESTIMATION OF COMPENSATION RATES

The methods used to estimate indicative compensation rates for the different types of land and assets are broadly described in the sections below.

Horticultural Land

Elements of a compensation package for the loss of agricultural land drawn from World Bank and African Development Bank experience include:

- If 25 percent or more of the land is required, the GCP Affected Person is entitled to sell the entire land to the GCP and receive compensation accordingly;
- If less than 25 percent of the land is required and the remaining land is not economically viable for production the GCP Affected Person is entitled to sell the entire land to the GCP and receive compensation accordingly;
- The replacement value of the land is its local market value of the year in which the compensation is paid;
- The compensation can be cash or the provision of replacement land of equal size and productivity (in the vicinity of the home lot).

There are few commercial exchanges of land in the GCPDA, and thus no easily discernable market value for agricultural land. Due to the lack of an active market for land sales in rural parts of Senegal it is recommended that compensation should be determined based on the average productive value of land, the intensity of land use, and 7 years of harvest value.

$$\text{Land value} = \text{Ave value production} \times [\text{Land Use Intensity Factor}] \times 7 \text{ yrs}$$

Land value is function of its intensity of use, which itself is a function of availability, access to water for irrigation, soil type and proximity to village. For the purpose of this assessment it is assumed that the intensity of use for horticultural land in the GCPDA is uniform i.e. the *Land Use Intensity Factor* = 1. In reality however there is localised variability in land use intensity, due for example to variability in the availability of water and the impacts of salinisation. GCO may need to account for this variability in the implementation of its compensation program.

$$\text{Land value} = \text{Ave value production} \times 7 \text{ yrs}$$

The annual value of production also varies considerable in the GCPDA according to the types of crop grown, the quality of production and prevailing farm-gate prices for produce. The seasonal variation in farm-gate prices for common vegetables is shown in Figure C.1. Prices during the second cycle from February to May are lowest, when conditions for horticultural production are favourable and the market is over supplied. Prices are generally at their highest during the wet season from June to September when conditions for horticultural production are most difficult and supply is limited.

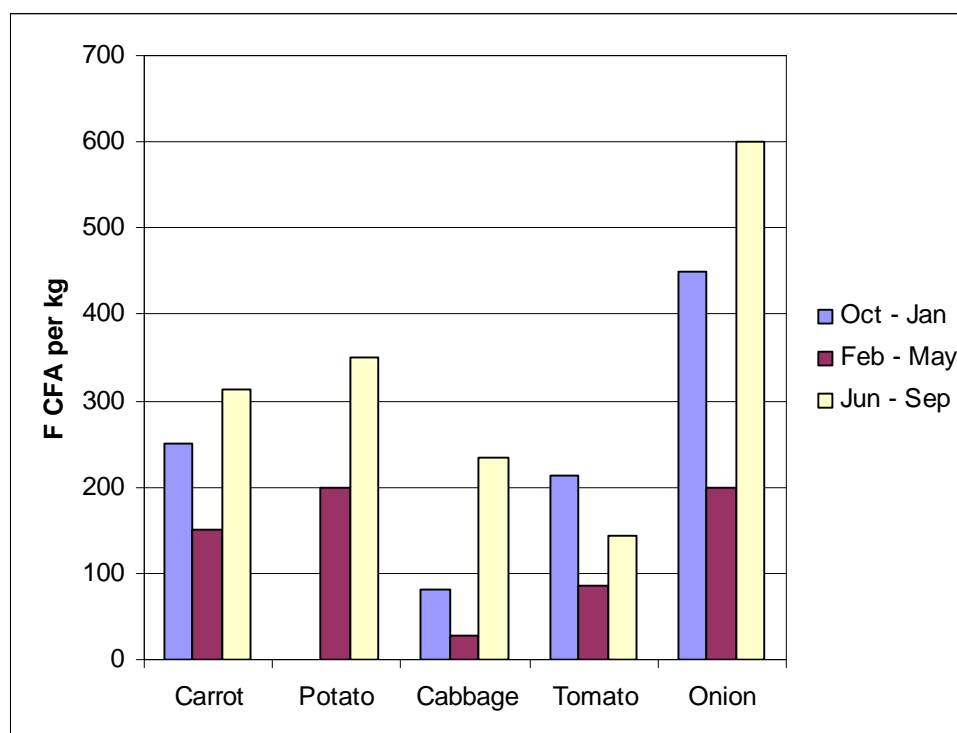


Figure C-1: Seasonal variation in farm-gate prices for vegetables

Based on the results of the household livelihood survey the average annual income per hectare for the dune settlements varies between 1,300,000 and 1,850,000 FCFA (3,000 to 4,173 USD) as shown in Table C.1. The amount for hinterland settlements is higher at 2,250,000 FCFA (5,127 USD). The amount for coastal settlements has not been assessed because the income levels declared by households included both horticultural and fisheries income, however it is likely to be similar to that for dune settlements. Note, there is potential that these figures underestimate the productive value of horticultural land if households have made deductions for on-farm expenses.

Table C.1 Average productive value per hectare

Settlement Cluster	Ave Productive Value per Ha (FCFA)	Ave Productive Value per Ha (USD)
Foth	1,446,000	3,294
Diourmel	1,832,000	4,173
Diogo hamlets	1,298,000	2,957
Hinterland	2,251,000	5,127
Coastal	Not assessed	Not assessed

For the purpose of this compensation assessment an average annual value of 1,750,000 FCFA (3,986 USD) per ha has been adopted for horticultural land currently under production (i.e. 'active')

horticultural land). Hence the approximate replacement value for *permanent loss* and *semi-permanent loss* is:

$$\text{Agricultural land (active)} = (1,750,000 \text{ F CFA per ha per yr}) \times 7 \text{ yrs}$$

If by chance the land is under fallow during the period of *permanent loss* and *semi-permanent loss*, we have assumed a value that is one fifth of the value per ha for 'active' horticultural land for the seven year period i.e.

$$\text{Agricultural land (fallow)} = (1,750,000 \text{ F CFA per ha per yr} / 5) \times 7 \text{ yrs}$$

For *temporary loss* of 'active' and 'fallow' horticultural land we have assumed a rental allowance equivalent to the value of lost production i.e. 1,750,000 F CFA (3,986 USD) per ha per annum for 'active' land and 350,000 F CFA (797 USD) for 'fallow' land. For horticultural land located with the proposed mining area and buffer zone it is assumed that the period of temporary loss until full restoration of productivity is 2 years, thus requiring payment of the rental allowance over this period.

It is expected that *temporary disturbance* will probably require a cash disturbance allowance per household. This is nominally costed this at the productive value multiplied by a disturbance factor of 0.2.

Horticultural Land – Compensation Estimates	
<i>Permanent / Semi-Permanent Loss - Active</i>	<i>1,750,000 F CFA (3,986 USD) / ha x 7</i>
<i>Permanent / Semi-Permanent Loss – Fallow</i>	<i>350,000 F CFA (797 USD) / ha x 7</i>
<i>Temporary Loss – Active</i>	<i>1,750,000 F CFA (3,986 USD) / ha per year</i>
<i>Temporary Loss – Fallow</i>	<i>350,000 F CFA (797 USD) / ha per year</i>
<i>Temporary Disturbance</i>	<i>1,750,000 F CFA / ha x 0.2</i>

Orchard / Tree Plot

The value of a garden or orchard will vary tremendously depending on what is grown and the age of the trees.

Circular 2237/DGIA (October 07, 1974), provides a price scale for trees and crops according to their type, age and quality. In 1974, a good quality mango tree for example was valued from 7,000 to 15,000 F CFA (16-34 USD). Average productivity and prevailing market prices will need to be considered in the determination of compensation rates.

No gardens or tree plots were identified in the GCP development area and hence no assessment has been made for estimating the value of lost or disturbed gardens.

Other Private Assets

Other private assets likely to be disturbed by project development include fencing, used both to enclose agriculture fields and pen livestock.

Decree 88-074 (January 18, 1988), which updated Decree 81-683 (July 07, 1981), provides a price scale for enclosures according to their standard of construction and location within Senegal. Category 7 applies to fences made from local materials (bamboo and straw) and in 1988 was valued at 1,150 F CFA (3 USD) per linear meter.

The use of trees as live fences and windbreaks is a current practice in horticulture. These trees protect the fields in the depressions against roaming livestock and help to fix the movement of the dunes.

Compensation rates applicable to fences and other private assets, should they be disturbed, will need to be confirmed in consultation with local authorities and PAPs.

Huts and Buildings with Metal Roofs

The most common form of housing in the GCPDA are huts constructed from locally available materials including wood, reeds and grass. Some families are now constructing houses from imported materials such as cement, used for brick manufacture, and corrugated galvanised iron for roofing.

Elements of a compensation package for the loss of housing drawn from World Bank and African Development Bank experience include:

- The labour cost associated with the dismantling of existing house;
- Transportation of dismantled housing materials to new house;
- Provision of new materials for construction of new house equivalent or better in standard than those of the existing house;
- Construction of new house or equivalent labour cost paid;
- Concrete floor;
- Basic fixtures;
- House design to be approved by the village but based on standard designs;
- Minimum housing area not less than existing area
- All adults should be considered as eligible for construction of their own hut, or room in the case of a house;
- Dry "long-drop" toilet;

- An external cookhouse constructed from similar materials to the house;
- Sheds, animals pens, other outbuildings and fencing;
- Temporary accommodation in the event that the permanent accommodation is not complete in advance of resettlement, and all short-term provisions.

Construction of a 4 m diameter hut is estimated to cost between 120,000 and 150,000 F CFA (273-342 USD), equivalent to about 12,500 F CFA / m² (28 USD / m²). A medium house constructed from concrete bricks and metal roofing is estimated to cost 17,500 F CFA / m² (40 USD / m²).

Land may also need to be purchased, which could be in the order of 1,500 to 5,000 F CFA (3-11 USD) per m² extra.

Temporary loss of a hut or building for any period greater than a few months will probably provide justification for a replacement structure to be provided. We have therefore, assessed *temporary loss* of these structures in the same manner as a *permanent loss*.

Housing – Compensation Estimates	
<i>Permanent and Temporary Loss – Building (metal roof)</i>	17,500 F CFA (40 USD) / m ²
<i>Permanent and Temporary Loss - Hut</i>	12,500 F CFA (28 USD) / m ²
<i>Temporary Disturbance</i>	Not Assessed

Other Infrastructure

Other infrastructure refers to infrastructure that was not classifiable based on visual interpretation of January 2008 aerial photography. Field work will be required to confirm the existence, type and currency of this infrastructure. It may include out-buildings, huts, houses or other infrastructure. As per section above, the replacement structures should be of equal size and quality as the original – or slightly better.

Temporary loss of infrastructures for any period greater than a few months will probably provide justification for a replacement structure to be provided. *Temporary loss* has therefore been assessed in the same manner as a *permanent loss*.

As this categorisation may include a number of different types of buildings, for the purpose of our assessment we have erred on the conservative side and used the same figure for buildings with metal roofs - 17,500 F CFA (40 USD) / m² for both *permanent* and *temporary loss*.

Other Infrastructure – Compensation Estimates	
<i>Permanent Loss –</i>	17,500 F CFA (40 USD) / m ²
<i>Temporary Loss -</i>	17,500 F CFA (40 USD) / m ²
<i>Potential Temporary Disturbance</i>	Not Assessed

Community Infrastructure

This category includes a wide range of buildings such as cement brick mosque or school, etc. As per other infrastructure, replacement structures for mosque or schools should be of equal size and quality as the original – or slightly better.

Temporary loss of a structure for any period greater than a few months will probably provide justification for a replacement structure to be provided. We have therefore, assessed *temporary loss* of housing in the same manner as a *permanent loss*.

For the purpose of our assessment we have used the same figure used for housing - an average figure of 17,500 F CFA (40 USD) / m² for both *permanent* and *temporary loss*.

Other Buildings – Compensation Estimates	
<i>Permanent Loss</i>	<i>17,500 F CFA (40 USD) / m²</i>
<i>Temporary Loss</i>	<i>17,500 F CFA (40 USD) / m²</i>
<i>Potential Temporary Disturbance</i>	<i>Not Assessed</i>

Water Sources

Household investment in the development of a well or borehole can exceed 70,000 and 400,000 FCFA (159-911 USD) respectively. For the purpose of this compensation assessment it is assumed that the replacement cost of a well and bore hole is 15,000 FCFA (34 USD) and 40,000 FCFA (91 USD) per m depth respectively. The replacement cost of a trench is based on a unit labour cost where one unit equals the cost of excavating one cubic metre (1 m³) of earth.

Any temporary loss of a water source will probably justify a replacement source being provided. Therefore, *temporary loss* of water sources is assessed in the same manner as a *permanent loss*.

Water Sources – Compensation Estimates	
<i>Permanent and Temporary Loss - Well</i>	<i>15,000 F CFA (34 USD) / m</i>
<i>Permanent and Temporary Loss - Bore</i>	<i>40,000 F CFA (91 USD) / m</i>
<i>Temporary and Permanent Loss - Trench</i>	<i>5,000 F CFA (XX USD) / m³</i>
<i>Potential Temporary Disturbance</i>	<i>Not Assessed</i>

Other Community Assets

Other community assets include cemeteries, sports fields, and other cultural sites.

Cemeteries are likely to require relocation to an alternative site outside project development areas. Cemeteries and other sacred sites are also likely to require an appeasement ceremony for project

related disturbance at the expense of GCO. Compensation measures will need to be developed in close consultation with community and religious leaders as well as the affected people.

Community Land

“Community land” encompasses all other public land (*domaine nationale*) in the GCPDA including scrub, wood and grass land, revegetation areas, unexploited terrestrial dune depressions and barren land. Administration of this land falls under the responsibility of the Rural Council.

For the purposes of this compensation assessment, barren land is defined as all land with less than 5% canopy or vegetative cover.

Community land use encompasses activities including: grazing; harvesting of timber and non-timber forest products; and hunting. Both timber and non-timber forest products (T&NTFPs) play an important role in the livelihoods of communities – forest products are used for firewood, construction and household implements, handicrafts, medicine and as a food source.

New community land will presumably need to be allocated at a village level where this is lost to the GCP. Unit rates per hectare for replacement land are estimated in Table C.2.

Table C.2 Compensation rates for replacement of community resources

Community Land Type	Unit Price (F CFA per ha)	Unit Price (USD per ha)
Scrub and wood land	200,000	456
Scrub and grassland	150,000	342
Scrub land	100,000	228
Terrestrial Dune Depression	150,000	342
Barren land	0	0

However, to ensure that PAPs will be compensated so that they can restore their land livelihood it may be necessary to provide additional compensation for loss of access to community land – although this is unlikely to have a legal basis for compensation. Estimates for production of forest products will vary significantly from area to area. Indicative compensation rates for timber and non-timber forest products are presented in Table C.3.

Table C.3 Livelihood restoration allowance for timber and non-timber forest products

Item	Unit Price (F CFA)	Unit Price (USD)
Timber	62,500 / m ³	142 / m ³
Fire wood	25,000 / m ³	57 / m ³
Reeds	15,000 / m ³	34 / m ³
Pasture	10,000 / m ³	23 / m ³
Non-timber forest products: fruits and vegetables	250 / kg	1 / kg

It is proposed that the restoration allowance is a one off cost to compensation for *permanent* and *temporary loss* of forest access. If however replacement community land cannot be found or allocated the compensation methodology would need to be revised.

It is also recommended that GCO evaluate options for the development of sustainable sources of domestic fuel in the design of dune rehabilitation and social development programs, to compensate for the loss of dune biomass.

Displacement

The purpose of this Section is to identify and describe the 'total' livelihood of project affected households, and the extent to which this 'total' livelihood may be affected by the GCP. This is considered to be the most meaningful method to develop appropriate compensation strategies for the affected households.

For the purpose of this assessment, it has been assumed that the GCP will have a 'significant' impact on households if they:

- a. Lose 30% or more of their productive assets, in which case they should be entitled to economic displacement, and/or
- b. Are physically displaced from housing.

Economic Displacement

PAPs subject to a loss of productive assets arising from dredging within the proposed mining area, are unlikely to be eligible for economic displacement provided assets can be replaced or restored to full productive value within an acceptable period from the time of loss i.e. less than 24 months. PAPs will however be entitled to temporary compensation equivalent in value to the loss in production during this period. As a priority it is recommended that GCO assess the feasibility of restoring agricultural productivity on the littoral dune following dredging activities, and the strategies and timeframe for accomplishing this objective.

There is also potential for there to be semi-permanent or permanent loss of some productive assets within the buffer zone. Although unlikely some PAPs may be subject to a loss equivalent to 30% or more of their productive assets and hence be eligible for economic displacement.

Physical Displacement

Physical displacement of all households currently residing in the proposed mining area under the first six years of the current 10 year mine plan would affect approximately 109 households. A further 13 households within the buffer zone may potentially be affected. Settlements within the 14 habitation areas identified in the proposed mining area in years seven to ten of mining will also require physical displacement.

For the purpose of this compensation assessment it is assumed that the GCP will result in physical resettlement of all households located within the proposed mining area and buffer zone. It is

proposed that GCO will assess the financial and social feasibility of relocating settlements to sites outside project development areas.

Disturbance and Relocation Allowance

There will be costs associated moving possessions from one site to another. In addition, a subsistence allowance should also be provided to each projected affected village where agricultural land has been lost within the GCPDA to compensate for the immediate loss of agricultural products. It is expected that this cost will be required over a 12 month period and could be provided to the village in food or cash compensation.

An allowance of \$2,500 USD per household requiring resettlement has been identified as an appropriate allowance for these circumstances. At least some of this allowance should be provided as cash compensation.