



Environmental and Social Review Summary

Chobe Agrivision Company Ltd.

This Environmental and Social Review Summary (ESRS) is prepared by MIGA staff and disclosed in advance of the MIGA Board consideration of the proposed issuance of a Contract of Guarantee. Its purpose is to enhance the transparency of MIGA's activities. This document should not be construed as presuming the outcome of the decision by the MIGA Board of Directors. Board dates are estimates only.

Any documentation which is attached to this ESRS has been prepared by the project sponsor, and authorization has been given for public release. MIGA has reviewed the attached documentation as provided by the applicant, and considers it of adequate quality to be released to the public, but does not endorse the content.

Country: Zambia
Sector: Agribusiness
Project Enterprise: Chobe Agrivision Company Ltd (Mushiwemba Intermediate Dam and Whispering Hope II Dam)
Environmental Category: B
Date ESRS Disclosed: May 25th 2012
Status: Due Diligence

A. Project Description

MIGA entered into a Master Contract (MC) in May 2010 with Chayton Atlas Investments of Mauritius (“Chayton Atlas”), to support planned agribusiness investments into existing farming operations in Zambia and Botswana. In early 2011, Chayton Atlas made an equity investment in Chobe Agrivision Company Ltd (“Chobe”) to acquire two adjacent farms (Whispering Hope and Parklands) in the Mkushi farm block in the Central Province of Zambia. In November 2011, Chayton Atlas made a further equity investment into the first acquisition in order to construct two earth dams on the land. These dams will feed the irrigation systems of Whispering Hope and Parklands, as well as future planned acquisitions such as Amasenga which was acquired in January 2012. ([see separate ESRS](#)) The first dam, Munshiwemba Intermediate dam, will be located on land adjacent to the Munshiwemba River. The river is a tributary of the Lunsemfwa River. The second dam, Whispering Hope II dam, is located on land adjacent to the Mangambwa stream, a tributary of the Munshiwemba River therefore this dam could affect water flow into the Munshiwemba river and the Ishiba dam which belongs to a third party, the Ishiba syndicate.

The Munshiwemba Intermediate dam has a holding capacity of 3.5 million m³ at full supply level and is therefore classified as a large dam under the International Commission on Large Dams (ICOLD), criteria for dams. The dam wall length will be



approximately 300m and the height of crest above river will be approximately 11.485 m. The catchment area is around 513 Km².

The Whispering Hope II dam has a holding capacity of 900,000 m³ at full supply level therefore classified as a small dam under ICOLD criteria. The dam wall length will be approximately 450m and the height of crest above river will be approximately 7.85 m. The catchment area is around 9.39 Km². There are no communities living downstream of either dam and minimal fishing is permitted. The construction phase of this project consists of land clearing; dam construction; and pipeline line excavation and construction. The dams will be constructed on the farm in line with international good practices for Environmental Health and Safety (EHS) and Occupational Health and Safety (OHS).

On average, the annual rainfall in this area is 1,100 mm most of which falls between October and April. The catchment area has been determined from Shuttle Radar Topographic Image (SRTM) using Arc GIS and also from Topographical Survey sheets. Land surveys have been conducted at the dam sites using GIS in order to calculate the general basin characteristics.

This ESRS will address the impacts of both dams.

B. Environmental and Social Categorization

This project is categorized B under MIGA's Policy on Social and Environmental Sustainability, because the potential social and environmental impacts are limited, few in number, site-specific, largely reversible and readily addressed through mitigation measures. The expected risks and impacts are related to water availability and quality; flow patterns and impacts on fish and other aquatic species; sedimentation; liquid and solid wastes, noise pollution; soil compaction and erosion due to the use of heavy machinery; and social issues related to workers health and safety; and community health and safety related to increased traffic during construction; and the use of security guards.

C. Applicable Standards

While all Performance Standards are applicable, based on our current information it is expected that the investment will have impacts which must be managed in a manner consistent with the following Performance Standards:

- Performance Standard 1: Social and Environmental Assessment and Management System
- Performance Standard 2: Labor and Working Conditions
- Performance Standard 3: Pollution Prevention and Abatement



- Performance Standard 4: Community Health, Safety and Security
- Performance Standard 5: Land Acquisition and Involuntary Resettlement
- Performance Standard 6: Biodiversity Conservation and Sustainable Natural Resource Management

The project is not expected to have any impact on Indigenous Peoples, therefore PS 7 is not triggered. PS8: Cultural Heritage is not triggered except for the need to implement “chance finds” procedures.

In addition, the following World Bank Group Environmental, Health and Safety (EHS) Guidelines are applicable to this project:

- World Bank Group General EHS Guidelines
- World Bank Group EHS guidelines for Construction Materials Extraction

D. Key Documents and Scope of MIGA Review

A MIGA Social and Environmental (S&E) specialist visited the project site between February 12 and 14, 2012 and met with project staff and management. In addition to the site visit, the Definitive Application for a MIGA Guarantee and other communication with the project and sponsor, MIGA has reviewed the following Chobe general documents relating to all acquisitions:

- Environmental Impact Assessment for Munshiwemba Intermediate Dam Project November 2011, Envsol Consult
- Environmental Impact Assessment for Whipsering Hope Dam and Beckett Dam Project November 2011, Envsol Consult
- Chobe Agrivision Ltd Workplace Health and Safety Policy Statement, February 2011
- Chobe Agrivision Ltd Environmental Policy Statement, March 2011
- Chayton Atlas Agricultural Company: response to Questions on EIA December 2011
- Chobe Agrivision Ltd Recruitment Policy and Procedure, April 2011
- Chobe Agrivision Ltd Human Resources Policy and Procedures Manual
Conservation Activity Manual, including: Nutrient Management Plan; Woodland Management Plan; Irrigation Water Management Plan and Pest Management Plan, March 2011
- Chobe Agrivision Ltd Traffic Management Plan, March 2011
- Chobe Agrivision Ltd Occupational Health and Safety Procedures, March 2011
- Chobe Agrivision Ltd Emergency Preparedness and Response Plan, (EPR) March 2011



E. Key Issues and Mitigation

PS1: Social and Environmental Assessment and Management Systems

An Environmental Impact Assessment (EIA) was completed for each proposed dam, in November 2011 and has been submitted to the Zambian Environmental Management Agency (ZEMA) which requires an EIA for dam projects. ¹ The letter of approval and environmental permit is still outstanding. MIGA considered the scope of the EIA appropriate considering the nature of the project and covers each phase, including construction, operation and decommissioning. Annual monitoring reports will be submitted to MIGA and ZEMA. An Environmental Policy Statement has been developed as well as a Workplace Health and Safety Policy Statement. Chobe has also developed the following manuals:

- Conservation Activity Manual, including: Nutrient Management Plan; Woodland Management Plan; Irrigation Water Management Plan and Pest Management Plan
- Traffic Management Plan
- Human Resources Policy and Procedures Manual including Employee Grievance Mechanism
- Occupational Health and Safety Procedures
- Emergency Preparedness and Response Plan
- Community Grievance Mechanism

The on-site farm managers are familiar with the EIAs and are committed to managing the dams' construction and operation in line with international good practice. An Environmental and Social Management Plan (ESMP) has been developed to include measures to mitigate potential impacts. Staff will receive clear guidance and training as necessary from Chobe and Chayton senior management.

The dams have been designed by a competent consultant to international standards and the engineers reports have been submitted to the water board for water rights extraction approval. An independent review was carried out by a dam specialist and concluded that the design of both dams are acceptable given the relatively simple type of structures. The specialist provided comments on the design details which the engineer will take in to account. The dams will be constructed by Chobe staff with the assistance of contractors. The dam engineer will be on site during construction to provide quality controls during the construction phase. Chobe staff will be responsible for monitoring the dams during operation to ensure they are not at risk of leaks, sedimentation, weed build up, increase in mosquito larva, etc.

^{1 1} The Second Schedule of the Environmental Impact Assessment Regulations of 1997, as recently reformulated under the Environmental Management Act of 2011 to replace the Environmental Protection and Pollution Control Act of 1990 and 1999 demands an environmental impact assessment (EIA)



PS2: Labor and Working Conditions

During the construction phase the project is expected to employ approximately 30 workers. Wages and benefits will be above the national minimum and no lower than sector or countrywide commercial standards. Chobe's existing human resources manual consistent with the national law and PS2 will be used for this project. The construction will be carried out according to international good practice in terms of safety, working conditions and other relevant aspects. Chobe's existing Emergency Preparedness and Response (EPR) Plan has been developed and implemented for life and fire safety, and hazardous spills or accidents. Existing Occupational Health and Safety (OHS) guidelines have been developed to include all operations on the farm and appropriate Personal Protective Equipment (PPE) has been issued to all staff including contractors. Contractors will also be obliged to comply with Chobe's HR manual and OHS policy and will be provided adequate housing whilst employed by Chobe.

A limited supply of first aid is available on the farm at the clinic which is managed by a qualified health worker. Malaria testing can be carried out there and drugs provided, however, in case of more serious illnesses, the company offers transportation to the local hospital. Specific data will be collected on water borne diseases to monitor if the increase in standing water is impacting on the health of the workers.

PS3: Pollution Prevention and Abatement

The ESMP's applicable to this project include adequate measures to mitigate potential environmental impacts which have been identified as pollution of air, soil, surface water and ground water through construction activities. During construction, air pollution will be minimized through regular watering of construction site and construction work will be limited to day time only in order to reduce noise pollution. Soil erosion will be reduced by developing buffers and terracing where appropriate. Restoration, revegetation and reforestation will be applied to exposed areas. Ground and surface water quality will be protected by prohibiting discharge of any organic or non-organic material into the water course or dam. Ground water and surface water quality will be tested annually for ecoli and other pollutants. In order to reduce sedimentation deposits at entrance to dam, these areas will be flushed to clear out any blockages. Proliferation of aquatic weeds in the reservoir and downstream will be minimized through clearing woody vegetation from the dam zone prior to flooding and through the regulation of water discharge and manipulation of water levels. A portion of the cleared woody vegetation will be used as part of the dam construction and the remainder will be used for firewood. Chobe will also control the use of any agro-chemicals around the dams and keep vehicles well maintained in order to avoid oil spillages that may leak into the dam and from there, impact on downstream users and aquatic life. Liquid and solid waste will be managed accordingly to avoid any contamination of the dam and downstream.



Water resource management is the largest impact of these constructions. Chobe has obtained water flow statistics from various entities including the members of the Ishiba Dam syndicate, as well as the Water Board. This data indicated that on average there was sufficient water in the catchment to allow construction of the two dams and to meet the needs of other users in the area; however, at the request of the Water Board it has been decided to form a steering committee to undergo further studies. Chobe, along with other affected farmers within the community will be members of the committee. The role of the committee is to facilitate the water board consultant who will undertake the studies; however, the water board has responsibility for interpreting the results and allocating water rights accordingly. Community consultations will be ongoing where information will be shared regarding the results of the studies. Chobe has submitted an application to the Zambian Water Board for water rights request and whilst in Zambia, MIGA's environmental specialist met with the Water Board representative to discuss the application process. All applications are publically disclosed and the water board also carries out a field study to determine minimum and maximum river flow, water availability, effects on other water users, etc and makes a recommendation to the board.

All support services for the dam construction and operation will be provided by the existing services unit at Whispering Hope Farm, including refueling vehicles, fuel storage, vehicle washing site, vehicle maintenance and solid and liquid waste management in line with Performance Standards and EHS guidelines.

Gravel will be extracted from a Borrow Pit on existing land. A plan is included in the EIA which provides sufficient details on mitigation of impacts as well as rehabilitation. A contractor will operate the borrow pit and will be obliged to comply with Chobe's HR manual and OHS policy. Appropriate PPE will be provided by the contractor. Top soil shall be removed and stockpiled close by for final stages of rehabilitation. Excavation for gravel shall be limited to 1.5 m deep. A temporary access road to the pit shall be opened and rehabilitated once extraction is complete. The pit shall be clearly marked to ensure safety of humans. The borrow pit will be managed in line with the EHS Guidelines for Construction Materials Extraction

PS4: Community Health, Safety & Security

Potential impacts on community health, safety and security have been identified and mitigation measures are planned which are expected to comply with PS4. The dam sites are located within the Mkushi farming block and there are no communities nearby. Fencing will be erected around the perimeter of the property, and unarmed security guards will be stationed at the main entrances. Signage will be placed around the dams to advise of deep water and that no swimming is allowed. The Emergency Response Action Plan (ERAP) provides details of what to do in the event of a major flood and breaching of



the dam walls. In the unlikely event of the Munshiwemba Intermediate dam wall breaching, land belonging to the Mkushi Country Club and other commercial farms with associated infrastructure, such as roads, will be inundated. Consultations have taken place with potentially affected downstream users, such as the Ishiba Dam syndicate and these are ongoing. There are no communities immediately downstream of the dams or within the stream basin.

In the unlikely event of the Whispering Hope II dam wall breaching; only access roads to neighbouring farms would be inundated. Chobe management will be responsible for maintaining the dams and the operation manager assisted by a team of engineers will be responsible for its safe operation. The ERAP will be periodically reviewed, updated and tested. Training of staff members of staff to handle an emergency at the dams will be a continuous process. Annually, a simulation emergency dam breach exercise, involving local authorities will take place in order to test the ERAP and the response of the safety staff.

The Traffic Management Plan guides staff on safety and security when operating machinery in order to avoid accidents on site.

Performance Standard 5: Land Acquisition and Involuntary Resettlement

Potential impacts on land acquisition and involuntary resettlement have been identified and mitigation measures are planned which are expected to comply with PS5. No dwellings are found on the land. Munshiwemba Intermediate dam will be located on land which already belongs to Chobe except for two areas:

1. Twenty five (25) hectares of land belonging to the Mkushi Country Club. The chairman of the club has been consulted regarding this area and the chairman and members of the Country Club do not object to the dam construction as long as adequate water to irrigate the golf course is provided. An agreement between Chobe and the Mkushi Country Club has been signed confirming this arrangement.
2. A small portion of land not more than 25 ha belonging to an individual farmer will also be inundated by the dam. An agreement has been reached for using the land for the dam providing a fence is moved and that the land owner is allowed a moderate percentage of water rights to the dam. An agreement between Chobe and the individual farmer has been signed confirming this agreement.

The Whispering Hope dam will be constructed on land entirely belonging to Chobe.



Performance Standard 6: Biodiversity Conservation and Sustainable Natural Resource Management

Although the project comprises of already converted land with modified habitats typical for agricultural areas and is not located in or near any protected areas, potential impacts on biodiversity conservation and sustainable natural resource management have been identified and mitigation measures are planned which are expected to comply with PS6. As a result of the dams construction, approximately 15 out of 1140 hectares of Miombo woodland is being removed. No critical habitat and no endangered species are found although some species classified as “least concern” on the IUCN Red List have been identified. The borrow pit rehabilitation plan provides details of how the site will be regenerated once gravel has been removed. Tree planting with indigenous species will take place around the dam in order to create appropriate habitats to encourage regeneration of species habitats and to reduce soil erosion.

In order to protect aquatic species downstream of the dams, Chobe will ensure minimum flows in the drier months and will clear all deadwood and vegetation prior to dam filling.

F. Environmental Permitting Process and Community Engagement

An EIA for each dam has been submitted to ZEMA and is awaiting approval. The Zambian Water Board must also issue water extraction permits and is currently reviewing the Chobe’s applications. It is understood that ZEMA and the Water Board approvals will be issued simultaneously.

Each farm in the immediate Mkushi farming block, will appoint a water bailiff who will take responsibility for monitoring water allocations. The responsibility will be shared on a rotating basis. Public consultation and community engagement has taken place in order to discuss the details of the project and the impacts on the local community through the EIA process. Several community meetings have so far been held between August 2011 and May 2012 with people from the immediate farming community and Ishiba Dam Syndicate whose farms could be impacted by the construction of the dams. The community raised concerns regarding the following:

- i. The Munshiwemba catchment was fully subscribed and can no longer accommodate additional reservoirs
- ii. The developer should take into account future water requirements of other stakeholders with reference to existing water rights.
- iii. Clarification was also sought on details such as dam location, capacity and potential impacts to downstream users.
- iv. The data provided in the dam design reports was not accurate, specifically that mean annual precipitation of 1100 mm was too high and that it should be below 1000mm per year.



- v. They felt that Chobe Agrivision should allow other farmers in the area to abstract water in the proposed dams on agreed upon terms.

In response to concerns under (i), (ii) and (iii) above, Chobe has obtained water flow statistics from various entities including the members of the Ishiba Dam syndicate, as well as the Water Board. This data indicated that on average there was sufficient water in the catchment to serve the needs of this farm and other users in the area; however, at the request of the Water Board, a steering committee has been formed to carry out further studies. Chobe, along with other affected farmers within the community will be members of the committee. The role of the committee is to facilitate the Water Board consultant who will undertake the studies; however, the Water Board has responsibility for interpreting the results and allocating water rights accordingly. Community consultations by the committee will be ongoing where information will be shared regarding the results of the studies. In response to (iv) Chobe informed the meeting participants that the dam designs were accurate and mean annual rain fall data was correct. In response to (v) raised by Ishiba Dam Syndicate, Chobe agreed that prior water rights would be observed and any other relevant legislation. Ongoing discussions are being held to reach an amicable solution.

The Ishiba Dam Syndicate continue to raise objections to the construction of the dams, stating that it does not believe there will be sufficient water for its dam which is downstream of the proposed new dams. Several meetings have taken place among the syndicate, Chobe, the Zambian Water Board and ZEMA, most recently on 21st May, where this matter was discussed. According to the client, the Water Board has reiterated that water volumes are sufficient in the river to meet the requirements of the existing dams as well as these two proposed new dams. Chobe has indicated its commitment to abide by its water extraction permit conditions, and construction will not begin until all permits are in place.

A grievance mechanism is in place for community members to discuss issues with management. This is done via a formal process whereby a grievance application form can be completed and items are dealt with at the monthly executive meetings which includes Chobe and Chayton senior management. Regular meetings take place in order to update the impacted communities on progress with the dam construction as well as responses to their concerns, especially surrounding water availability.

G. Availability of Documentation

The following documentation is available electronically as PDF attachments to this ESRS at www.MIGA.org, local administrative offices and Chobe farm offices.



Multilateral Investment Guarantee Agency
World Bank Group

- [Environmental Impact Assessment for Munshiwemba Intermediate Dam Project](#)
November 2011, Envsol Consult
- [Environmental Impact Assessment for Whipsering Hope Dam and Beckett Dam Project](#)
November 2011, Envsol Consult

The Corporate Social Responsibility policies of Chobe can be made available upon request to Zaida Adams at Chayton Africa, Zaida.Adams@Chaytonafrica.com