REPUBLIC OF MALI

MALI PROGRAM FOR THE MILLENNIUM CHALLENGE ACCOUNT

MONITORING and EVALUATION PLAN
2nd Version

February 2011

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1. INTRODUCTION

This document is the second version of MCA Mali's Monitoring and Evaluation Plan. Revisions reflect significant changes on the Alatona Irrigation project where the project scale was substantially reduced. Indicators have been validated by M&E focal points and contractors implementing project activities to ensure that performance is properly measured and data collection procedures are practical and appropriate. This version also reflects recent modifications to memorialized in MCC's policy for monitoring and Evaluation of Compacts and Threshold Programs[1].

The main revisions in this version of the Plan include:

- Refinements to indicator definitions and calculation methodologies, reflecting practical limitations of data collection and reporting
- Adjustments to indicators and targets due to changes in the scope of the Alatona Irrigation project (reducing the targeted area from 16,000 hectares to 5,200 hectares)
- Changing monitoring and evaluation procedures (such as MCC requirements for process milestones and common indicators)

MCA-Mali and MCC have collaborated in conducting these revisions by identifying indicators where targets were linked to the project scope changes. Target modifications were also aligned with a recalculation of the Project economic rate of return model. Finally, indicators not deemed critical for monitoring MCA project performance were removed to facilitate reporting and ensure a manageable and effective monitoring and evaluation framework.

2. GENERAL OVERVIEW

On November 13, 2006, the United States of America, acting through the Millennium Challenge Corporation (MCC), and the Government of the Republic of Mali signed a Compact aimed at sustained poverty reduction and economic growth. The Mali Compact consists of the Airport Improvement project and the Alatona Irrigation project. Each project includes multiple activities that are managed and implemented according to project level work plans. The Millennium Challenge Account (MCA Mali) is the local accountable entity that manages the program implementation. MCA Mali includes a General Director and Director of Operations, project directors (Alatona and Airport), transversal directors for Monitoring and Evaluation, the Environmental and Social Assessment, Procurement, Administration and Finance, as well as a legal adviser. Moreover, a Procurement Agent and a Fiscal Agent (both contracted to Emerging Markets Group) manage procurement and financial activities respectively. The board of directors supervises and approves the various activities implemented within the MCA Mali framework. In addition, each project has an advisory board that provides guidelines and recommendations for improving project implementation.

[1] http://www.mcc.gov/mcc/bm.doc/policy-051209-mande.pdf

Monitoring and Evaluation (M&E) is essential for a results-based approach to program management. It was a key component of program design and remains incorporated into all facets of the program cycle through program close-out.

The objective of monitoring and evaluation is to measure progress during each stage of activity implementation and thereby identify required adjustments to maximize project success and achievement of project goals. This document describes how MCA Mali will measure its performance on key objectives, monitor activities and report results. It is based on Annex III of the Compact which outlines how progress toward Compact results will be measured.

Specifically, this Monitoring and Evaluation Plan:

- Details how MCA Mali will approach project monitoring, including performance indicator tables, data collection methods and quality control strategy

- Presents the proposed evaluation strategies and activities for each project

- Serves as a strategic management tool for projects directors by enabling a continuous monitoring of activity implementation and by providing a framework for identifying problems and making corrective adjustments.

- Enhances understanding of Program targets and objectives, and thereby serve as a guide for program implementation and management for the Board of Directors, the Advisory councils, MCA Mali and its implementing agencies.

- Establishes a process for alerting Board members, the Advisory Boards, MCA Mali, beneficiaries and other stakeholders, as well as MCC of implementation problems.

This M&E Plan is considered a binding document. Failure to comply with its stipulations could result in suspension of disbursements. All M&E plan modifications must comply with the MCC *Policy for Monitoring and Evaluation of Compacts and Threshold Programs*[2], as noted in section 6.6 below.

3. SUMMARY OF PROGRAM AND PROJECT ACTIVITIES

3.1. Description of projects and activities

The Mali Compact consists of the Airport Improvement Project and the Alatona Irrigation Project.

[2] http://www.mcc.gov/mcc/bm.doc/policy-051209-mande.pdf

The Bamako-Sénou Airport Improvement Project

The objective of the Project is to establish a secure and independent link with the regional and international markets. The project is expected to remove constraints to air traffic growth and to increase airport capacity by developing infrastructure and establishment of appropriate institutional mechanisms to ensure effective long term management, operation, and maintenance of the Airport facilities.

The project contains three activities:

1. *Airside improvement* activity includes reinforcement overlay to, and expansion of, the runway, taxiway, and apron areas; replacement of deteriorating navigational equipment; and Airport security systems upgrades.

2. *Landside improvement* activity includes (i) construction of a new passenger terminal; (ii) enhancement of support facilities and equipment for ground support vehicles and materials, airport maintenance and auxiliary equipment areas; (iii) development of access roads and parking lots; and (iv) construction of supporting utility infrastructure to handle the projected service requirements of the Airport. In particular, wastewater, water, solid waste, power, telecommunications, and drainage systems will be improved and enhanced.

3. *Institutional Strengthening* activity consists of: (i) technical and organizational assistance to ANAC (Agency of Regulation and Surveillance of Civil Aviation), ASECNA (Agency for Air Navigation Security in Africa and Madagascar) and ADM (Aeroport du Mali) and (ii) support reform and enhance private sector participation in the airport management.

In 2008, the Mali Compact was re-scoped to eliminate an Industrial Park Project and the related funds were redirected towards the Airport Improvement Project. Section 3.2 and Annex 6 detail how this re-scoping impacted the Airport Project's economic rate of return model.

The Alatona Irrigation Project

The objective of the Alatona Irrigation Project (AIP) is to increase agricultural production and productivity, improve land rights security, and modernize irrigated production systems. The Project has been re-scoped in 2009 and will open 5,200 new hectares to irrigation in the Office du Niger (ON) zone and introduce innovative agricultural, land tenure, and water management practices. The original project objective is documented in the MCA-Mali Compact.[3]

[3] http://www.mcc.gov/mcc/bm.doc/compact-111306-mali.pdf

The project includes six activities:

1. *Niono-Goma Coura Road Activity* will rehabilitate and pave 81 km of the Niono-Diabaly-Goma Coura road.

2. *Irrigation Activity* includes (i) the development of the irrigation system of the Alatona zone through the construction of a primary canal and networks of secondary and tertiary canals and drains; (ii) the expansion of the main conveyance system of the Office du Niger canal by removing the central island separating the two branches of the *Canal Adducteur*; widening the *Canal du Sahel* over 23 km and raising the banks of the *Fala du Molodo* along approximately 8 km; and (iii) the implementation of a more efficient water management system in the Office du Niger.

3. *Land Activity* includes (i) creating land parcels from the 5200 hectares of newly irrigated farm land, specifically mapping and registration of 5-hectare parcels and market garden plots for women; (ii) a land rights education program and an information and awareness campaign to disseminate information on opportunities to acquire titled land in Alatona and help land recipients understand their rights and obligations; (iii) updating the land registry system in partnership with the National Directorate for State Property and Cadastre; and (iv) the allocation of plots to eligible households through the creation of a Land Commission, the publication of selection criteria, and a lottery system for assigning land parcels. Households that receive land through the lottery are referred to as New Settlers (NS).

4. *The Community Activity* includes(i) the resettlement and compensation of about 800 families living presently in the Alatona zone and that will be affected by irrigation works- these individuals are also known as the Project Affected People (PAPs); (ii) the development of social infrastructure and equipment to facilitate the provision of health and education services.

5. *Agriculture Activity* includes (i) an applied agricultural research grant facility that provides grants for field-level, applied technology research; (ii) training and technical assistance to farmers on improved farming practices for irrigated production; (iii) support to the development and management of farmers' and women's producer organizations; and (iv) support to the development and management of water users associations.

6. *Financial Activity* includes (i) establishing a loan guarantee fund for Alatona farmers; (ii) capacity building for financial institutions active in the zone; and (iii) direct grant support to farmers to facilitate their access to a first loan.

Due to contingency requirements and price proposals in excess of the originally budgeted amount, the Alatona Irrigation Project was scaled back from the original target of completing 16,000 hectares to 5,200 hectares by the end of the Compact. With this target, all PAPs will be compensated and resettled onto 5-hectare parcels as originally planned. However, a significantly smaller number of New Settler concessions will benefit from access to newly

irrigated parcels. Sections 3.3 and 3.4 describe the implications for the benefits of the Mali compact. Annex 6 documents specific changes in the ERR model related to the Alatona project re-scoping.

3.2. PROGRAM LOGIC

The MCA Mali program aims to reduce poverty in Mali through economic growth. More specifically, the program aims at increasing agricultural production and productivity, expanding the volume of freight and the number of foreign visitors in Mali (tourists) and improving Mali's access to regional and international markets.

The Program logic is as follows:

Compact Goal: Reduce poverty through economic growth by increasing agricultural production and productivity and expanding Mali's access to trade and international markets

Outcomes:

- The poverty rate of the Alatona zone residents decreases
- The income generated from irrigated agricultural production in the Alatona zone is increased
- Women's income in the Alatona irrigated perimeter is increased
- Firms servicing the Airport experience a higher revenue stream
- The wage bill of firms servicing the Airport is increased
- The wage bill in the tourism industry is increased
- Tourism revenue is increased

Alatona Irrigation Project:

Objective: Increase agricultural production and productivity in the Alatona zone of the Office du Niger

Outcomes:

- Expected agricultural yields are achieved
- Diversification in favour of higher value crops has been achieved
- Irrigated agricultural production in the dry season has become feasible
- Agricultural employment has been created
- Farm products are effectively marketed
- Transport costs have been reduced

Airport Development Project

Objective: Establish a secure and independent link with regional and international markets.

Outcomes:

- The number of foreign visitors has increased
- The services of the passenger terminal have been improved
- Air freight has increased
- Employment has been created

Activities

1. Niono-Goma Coura Road
2. Irrigation Activity
3. Land Activity
4. Community Activity
5. Agriculture Services Activity
6. Credit Activity

Activities

1. Airside Infrastructure Activity
2. Landside Infrastructure Activity
3. Institutional Strengthening Activity

Note: Due to project re-scoping agricultural employment is no longer a relevant outcome for the Alatona project. However it will continue to be monitored as part of the M&E plan.

3.3. Economic Impacts and Beneficiaries

All projects submitted for MCC funding are analyzed in the light of their impacts on economic growth and poverty reduction. MCC economists conduct cost-benefit or internal economic rate of return analysis for each project and these analyses weigh in financing decisions. The ERR (Economic Rate of Return) is calculated through estimates of the quantifiable benefits of a project relative to the costs. Specifically, the net benefits (benefits minus costs) anticipated with a project are compared to the net benefits that would have accrued without the project. Benefits and costs are projected over 20 years, which is a standard life-span for an infrastructure. An economic model is developed for any component with distinct and quantifiable benefit streams. These models are in Excel, documented, and are publicly available on MCC website.[4]

Annex 6 describes how re-scoping impacted each project's economic rate of return. The ERR models can be referred to for further information on the model's sensitivity to varying assumptions. Table 1 illustrates the ERR originally calculated for project justification, as well as updated ERR figures after re-scoping the Airport (2008) and Alatona (2009) Projects.

Table 1: Original and Re-Scoped Economic Rates of Return (ERR) of the Airport Improvement and Alatona Irrigation Projects

Project / Activity	Original estimate	Re-scoped estimate
Airport Improvement Project	13.4%	8.6 %
Alatona Irrigation Project (Main System Improvement, Alatona Perimeter, Road Activity)	15.3 %	13.1%
Alatona Irrigation Project (Alatona perimeter only)	9.0 %	1.2 %
Alatona Irrigation Project: (Main System Improvement only)	38.7%	35.5%
Alatona Perimeter and Main System Improvement	15.3%	13.9%
Alatona Irrigation Project: Road ERR	9%	--[5]

[4] ERR models for the MCA Mali projects are available on the MCC website: http://www.mcc.gov/mcc/panda/activities/err/err-countries/err-mali.shtml. The updated Alatona ERR model is forthcoming.

[6] http://www.mcc.gov/mcc/bm.doc/guidance-economicandbeneficiaryanalysis.pdf

Program beneficiaries

In accordance with the MCC Guidelines for Economic and Beneficiary Analysis[6], beneficiaries are defined as individuals that are expected to experience an income increase due to Compact activities. These beneficiaries are identified by examining the benefit streams included in the Economic Rate of Return analysis to determine what kind of households or businesses are expected to experience an increase in income as a result of the project.

Airport Improvement Project

The Airport ERR model is based on the underlying assumption that the runway rehabilitation and construction of a new passenger terminal will lead to an increase in air traffic, particularly foreign passenger traffic. The model assumes that without airport rehabilitation and expansion, airport services will not be able to accommodate the expected air traffic increase. The airport project will also enable the creation of semi-specialized employment (aeronautics, security and safety) and non-specialized employment (airport services areas, terminal maintenance, baggage handling). The improvement of airport services and the terminal construction will result in time savings for passengers. The Project is considered broad-based and therefore the project beneficiaries are people living in Bamako as the main catchment area.

The beneficiaries are therefore:

- Hotels and restaurants in Bamako
- Salaried employees in the Bamako tourism industry
- Population of Bamako (through increases in tourism and related income sources)
- ASECNA, ADM and ASAM-SA employees
- Owners and employees of companies providing services at the airport (shops, restaurants, etc)
- Malian travellers due to reduced opportunity cost related to the use of the airport.

An estimated 2,186,986 individuals are expected to be project beneficiaries by 2026. Updated estimates of the number of beneficiaries by project are publicly available on the MCC's website.[7]

Alatona Irrigation Project

The Alatona Irrigation Project has several activities. The economic model includes distinct ERR calculations for the Road Activity, the main system improvement sub-activity, and the Alatona perimeter as a combination of all Activities except the Road. The ERR presented above is an aggregate one, combining the three individual ones. The main benefit stream identified for the Alatona perimeter is the increase in agriculture value-added due to rice yield improvement from

[6] http://www.mcc.gov/mcc/bm.doc/guidance-economicandbeneficiaryanalysis.pdf
[7] http://www.mcc.gov/mcc/panda/activities/beneficiary.shtml

irrigation and emphasis on high value crops. For the main system improvement, the benefit stream is the prevention of a loss in rice yield inevitable without repairs and improvement in water delivery. For the Road, the benefit streams are in terms of cost reduction, from vehicle operation and transport of goods

The key assumptions in the models include the average water availability during the dry season as expressed by cropping intensity (the proportion of irrigable land in the dry season), estimated at 15%. Another key assumption is the rice yield, which is expected to reach 6 tons per hectares in Year 4 for the PAP and in Year 2 for the New Settlers. Since the PAPs have limited experience with irrigated agriculture, it will take longer for them to achieve these yields that are more common in the ON. However, since the New Settlers will be chosen in part because of previous experience with irrigated agriculture, it is expected that two years will be sufficient to achieve the target yield. Finally, the timeline of when production starts and what is being produced are key in bringing benefits to farmers..

The project beneficiaries include:

- Approximately 1000 concessions (corresponding to approximately 10,000 individuals) farming in the Alatona (resettled and new settlers) who will reap the benefits of new irrigated agriculture production on 5,200 hectares
- Users of the road Niono – Goma Coura, who will see their costs decrease.
- The entire farming population of the Office du Niger who will be able to avoid a loss in water flow and thus maintain their yields at current level.

The number of project beneficiaries is expected to reach 649,592 individuals by 2030. Estimates of the number of beneficiaries by project are publicly available on the MCC's website.[8]

3.4. Risks and Hypotheses

The program logic for the MCA Mali Compact is based on evidence and specific assumptions about the linkages between individual project activities and the long-term goal of economic growth and poverty reduction. Internal and external risks during program implementation can call into question underlying assumptions of the economic rate of return analysis and thus affect the success of interventions. To the extent possible, risk mitigation measures are undertaken to ensure that assumptions are met and that risks are avoided. In some cases, these risk mitigation measures have been used to condition disbursements of Program and Project funds in the Program Implementation Agreement. In other cases it is necessary to monitor risks and if necessary initiate mitigation measures.

[8] http://www.mcc.gov/mcc/panda/activities/beneficiary.shtml

3.4.1. Alatona Irrigation Project

As noted above, the ERR model of the Alatona Irrigation Project is based on key assumptions about rice yields and water availability. In turn, these assumptions may be influenced by challenges encountered during project implementation, such as considerable delays in project mobilization or establishment of water and land payment entities. The table below details the key risks on the Alatona project based project status in compact year 3 and describes the risks, implications and potential mitigation measures. Health and safety risks are also included as these can lead to substantial project cost increases and thereby undermine the project's net benefit.

Yield risk for Rice Production	Main season rice yields in the Alatona zone may be significantly lower than anticipated, potentially due to inadequate planting conditions, water availability problems, or low adoption of newly acquired rice farming techniques. Implications: • Directly undermines the project's economic return • Could compromise PAP livelihoods, food security issues may arise and farmers may have insufficient resources or inputs for subsequent planting seasons • Poor first season outcomes could discourage PAPs from continuing rice farming on their parcels
Mitigation	MCA Mali will carefully monitor Alatona rice yields and may support Alatona farmers with additional seeds and fertilizer for their next planting season.
Yield risk for Market Gardens	Seasonal market garden yields in the Alatona zone may be significantly lower than anticipated, potentially due to inadequate planting conditions, water availability problems, and availability of inputs. Implications: • Directly undermines the project's economic return • Could compromise PAP livelihoods, food security issues may arise and women may have insufficient resources or inputs for subsequent planting seasons • Lack of viable associations and coordination for titling activity could lead to delays in farming and lower returns
Mitigation	D08 with support from MCA Mali will develop a work plan so that market gardens are allocated, inputs are delivered, titling arrangements are decided upon, women's associations are formed, and women may begin fully farming these plots.

Operational/ Implementation risks **Mitigation**	• Coordination challenges during project implementation • Lack of project learning • Lack of project planning • Ineffective technical functioning of equipment (ensure water availability) • Negative experience with the first planting season could discourage the first PAP group (and subsequent groups) from continuing rice farming or lead to low interest in farming on the Alatona land Implications: • Coordination problems could lead to further implementation delays, escalate costs or result in a situation where there is no feasible solution • Lack of project learning- mistakes made during first stages of land development, village construction, resettlement are not detected or corrected. • Lack of water availability could contribute to yield risk • Low take-up rate of land and farming techniques could complicate the project roll out procedure Coordination risks are being addressed through the Project Coordination Unit (B-10) as well as MCA Mali efforts to ensure effective communication among all stakeholders. A mid-term review may contribute to project learning. Technical system review of equipment should ensure functionality.
Sustainability risks **Mitigation**	Due to project implementation delays, water and land management entities may not gain sufficient experience during the compact time frame to become functional, embedded institutions. The project area may not be large enough to sustain these complex institutions. Low yields and revenues from farming may also limit the resource base available for sustaining these institutions (especially in the case of the water management entity). Implications: • If fees are insufficient to sustain management entities, there may be inadequate resources to ensure the satisfactory system operation and long term maintenance. • Lack of operation and maintenance could undermine water availability in the medium and long term The Government of Mali has established a Secretariat on the Office du Niger that could support a sustainability plan for challenging elements of the Alatona project (such as the water management entity or land

	payment entity).
Reputation/ political risks **Mitigation**	Project implementation delays and cost overruns may deteriorate the Government of Mali's support for the project, which is critical for ensuring that key project sustainability challenges are addressed and that the Alatona model can be sustained. MCA Mali engages in continuous communication and coordination with the Government of Mali on early project results and sharing information about on-going problems and how these are being addressed.
Health and Safety risks **Mitigation**	• Inadequate performance of contractors on occupational health and safety • Presence of the public along the 81 km construction site for the NGC road Implications: • Inadequate contractor performance can result in accidents that impact workers, the public and MCA's reputation. The local population might be impacted by road accidents and other safety and health issues do to their proximity to the construction area. MCA Mali must implement a proactive Health and Safety Program. The Niono – Goma Coura road construction site will also require proactive physical and social interventions.

3.4.2. Airport Improvement Project

The project's key economic benefit stream is through accommodating growth in air traffic and passengers. The relevant risks are those factors that would undermine this benefit stream. For example, project cost escalations resulting from logistical or execution/ operations risks could undermine project completion and increase in air traffic that could not be accommodated as a result. Ineffective airport functioning, management or maintenance (linked in part to sustainability risks) could also limit the airport capacity to accommodate increased air traffic.

Logistical risk	• Underdeveloped supply chain for materials required for airport construction (such as materials coming through West African ports) could lead to delays or increased costs (due to tariffs and other cost fluctuations) • Airport designs are not completed in time to correspond with contractor's construction work; lack of appropriate oversight could improper implementation of designs and result in legal and cost issue. • Poor coordination between project stakeholders and lack of project phase coordination during construction could disrupt daily airport

	operations and impact air traffic.
Mitigation	• MCA Mali takes and active role in managing the construction supervision firm, pro-actively tracking issues, coordinating with affected stakeholders through regular communications • MCA Mali investigates Malian government funding sources and processes for contract transfer to the Malian government as required when construction work is incomplete at the end of the compact. • Effective and detailed implementation schedule to ensure construction does not interrupt airport functioning
Execution/ operation risk	• Inadequate air traffic management during the runway construction could impact air traffic and create safety risk • Improper construction techniques, Labor and environmental risks, delay, weather, claims, force majeure could lead to significant cost overruns on the project • Completion risk- if construction must continue beyond the compact end it may be difficult to acquire financing and pay for the completion
Mitigation	MCA must develop and execute both a Scope Management Plan and a Change Management Plan with delineated and approved processes to evaluate change in respect to scope, budget, risks, time and quality.
Sustainability risk	• Delayed Implementation of the private public partnership could result in a difficult institutional transition and undermine effective management of the new terminal and airport infrastructure. • Lack of effective maintenance plan and execution of the maintenance planning (including appropriately trained staff) for the new terminal could lead to progressive breakdown and deteriorating conditions of the terminal and runway.
Mitigation	MCA Mali must ensure that the equipment acquired and materials used can be serviced locally. MCA Mali must lead the coordination with donors and local stakeholders to ensure timely implementation of the PPP to include the integration of a management concession.
Political risk	High level pressure for changes in airport design during construction could result in considerable delays and cost escalations. Quality and safety could also be compromised.
Mitigation	These risks could be mitigated by managing expectations and communicating clear priorities on safety, security and cost effectiveness.
Health and Safety risks	Inadequate performance of contractors on occupational health and safety

	Implications: Inadequate contractor performance can result in accidents that impact workers, the public and MCA's reputation.
Mitigation	MCA Mali must implement a proactive Health and Safety Program.

4. MONITORING COMPONENT

The monitoring and evaluation plan includes a monitoring component indicating how program outcomes will be assessed using quantitative, objective, and reliable data. Specific, precise indicators correspond to project objectives, outcomes, output, and milestones. Indicator target values are also aligned with anticipated program implementation.

Monitoring key indicators during implementation helps track Program and Project performance, ensures that the posited economic benefits are being realized, and allows for necessary adjustments to improve Project and overall impact.

4.1. Indicators

Performance indicators help in assessing implementation progress throughout the five years of the Compact. These indicators are usually quantitative measures. Annex 1 presents in table form the short, medium and long term performance indicators selected for monitoring the MCA Mali program with their baseline and target values. All tables follow the same format. There is an indicator table corresponding to each project activity. Each table is organized by indicator type (objective, outcome, output, process milestone) and includes:

- Indicator title
- Indicator definition
- Classification (cumulative, level, date)
- Unit of measurement
- Data source or entity providing information
- Baseline value
- Annual target values for the duration of the Compact[9]

MCC has introduced a set of common indicators for external reporting across all MCC Compacts. MCC sector experts have developed these indicators to document sector level progress relevant to different project activity types. The common indicators relevant to the MCA Mali Compact

[9] Goal indicators are often only measured at the beginning (reference value) and at the end of the Compact. In these cases there no yearly target values.

were added to this version of the M&E plan for the agriculture, irrigation, land and road activities of the Alatona Irrigation Project. Common indicators do not all require targets.

MCA Mali will also report on a number of key health and safety indicators for both the Alatona Irrigation Project and Airport Improvement Project. These indicators shall assist MCA Mali in monitoring health and safety risks that are prevalent in construction activities (both for workers and the immediately affected population). While this information will be reported in the Indicator Tracking Table, the MCA Mali health and safety specialist will be responsible for obtaining information from the monthly construction supervision reports and providing it to the MCA Mali M&E unit.

4.2. Baseline Values and Target Values

Each performance indicator is associated with a baseline value and a series of annual target values or in some cases, according to other frequency (see footnote on goal indicators for instance. Some indicators related to agricultural activities will be measured seasonally). Baseline values and target values are presented in the indicators tables in Annex 1. Unless otherwise noted, baseline values refer to values measured in 2006 or early 2007 (at the beginning of Compact implementation).

Note that many of the airport indicators have a Year 5 target only as the project benefits are expected only once construction activities on the landside and airside are completed.

4.2.1. Data Sources

When indicators are derived from the economic analysis, baseline values and target values are derived from the economic analysis. For some indicators baseline values come from administrative data or from surveys or specific data collection financed by the Compact. Target values and definitions have been validated by technical experts and by activity implementation teams. Specific data sources are comprehensively documented in a data reference sheet for each indicator, with one example provided in the annex (Annex 5). A data reference sheet has been developed for each indicator and is updated as needed.

Data is collected both as part of regular project monitoring activities and through surveys. The Alatona baseline household survey (conducted in 2009) and follow up surveys (scheduled for 2011 and 2012) are described in greater detail in Annex 4. The road evaluation survey scheduled to take place in 2011 will focus on households, villages, local markets, and transporter focus groups that are expected to benefit from the Niono-Goma Coura road activity. The follow up survey for the road evaluation is anticipated in 2012.

For the Airport Improvement Project, a baseline survey was conducted in 2007-2008 to track time required for arrival and departure procedures and passenger satisfaction with the airport services. In 2010 another baseline survey measured the revenues, profits and salaries of

businesses and employers providing services at the Bamako Senou Airport. Follow up surveys are planned for each of these surveys in 2012.

4.2.2. Data Collection Frequency

In most cases, performance data will be collected by implementation entities, contractors, or consultants according to a pre-established calendar and then transmitted to MCA Mali. For indicators with quarterly reporting requirements, data will be reported with approximately one quarter lag. The data collection frequency is determined based on the type of data. A lot of agricultural data, for instance, will be collected on a seasonal basis[10]. Further details on data collection and quality control processes are provided in Annex 4.

4.2.3. Data Disaggregation

To the extent possible and as relevant, data collection and analysis of indicators must enable disaggregation by sex, age and income group. The disaggregation desired for each of the indicators is documented in data reference sheets. Annex 1 also documents the disaggregation that will be reported for relevant indicators. Specifically, Table 3 notes the indicator disaggregation that will be available quarterly. Further disaggregated data will also be made available upon request.

4.2.4. Data Sharing

In support of MCC's policy for promoting transparency and publicly disseminating projects results, all studies, survey instruments and data collected using MCA Mali funding should be made publicly available, following the MCC *Guidelines for Public Use Data* (forthcoming) and in agreement with relevant MCA Mali partners.

4.3. Reporting

Each quarter MCA Mali must submit a disbursement request to the MCC, including a fully populated Indicator Tracking Table (ITT). This indicator tracking table includes cumulative past performance through the end of the past compact year and percent deviation from the cumulative target. More importantly, this table includes the indicator value for the past 2 quarters and the percent deviation from the target value. If this percentage surpassed 10 per cent, an explanation must be provided in the quarterly narrative report. The table also reports the indicator value for the previous quarter, the remaining target values for the current year and the annual target values up to the end of the Compact.

Disbursement requests and therefore ITTs are submitted to the MCC four times a year, 20 days before the end of the quarter, that is March 10, June 10, September 10 and December, 10.

[10] In Mali, the temporary agricultural data of the ongoing year are generally available in November and the final data in the following year June.

At the program conclusion, MCA Mali will prepare a Compact Completion Report (CCR) as part of its closeout procedures. The CCR shall be prepared according to the guidelines provided by MCC taking into consideration, among other things, the objectives and content of the Impact Evaluation.[11] MCC guidance on the CCR is forthcoming.

All reports should be posted on the MCA Mali website.

4.4. Data Quality Review

To ensure that data and data sources related to the assessment of program performance are objective and reliable, the monitoring and evaluation unit has developed and implemented a data quality control strategy. This strategy defines the responsibilities of each project team and the implementing agencies in data collection and management and includes an external evaluation to be conducted by independent consultants. The internal data quality control system corresponds to the decentralized nature of data collection. As projects will provide most data, the monitoring and evaluation team must ensure that their data collection procedures do not present risks to data quality. The risk mitigation strategy required that the data collection process and indicator monitoring requirements have been incorporated in the contracts of implementing entities or partners in a clear and transparent manner. In addition, the M&E unit provides periodic training and technical assistance to the consultants and implementation agents responsible for data collection. Finally, the M&E unit carries out internal checks such as random field visits.

In the fourth compact year, MCA Mali plans to launch an external data quality review to be conducted by an independent consultant. This study will analyze data quality based on its validity, accuracy, reliability and appropriateness and will provide practical recommendations to improve deficient processes. Annex 4 “Data collection strategy and data quality control” discusses different elements of the proposed strategy in greater detail.

5. EVALUATION COMPONENT

The evaluation component allows for ex-post analysis of the results achieved compared to the expected impacts and determines if these results are attributable to the interventions. Program performance evaluations will be conducted by independent evaluators at the end of the Compact. In addition, an impact evaluation will examine a certain number of key hypotheses using a rigorous methodology and should indicate to what extent the impacts observed are attributable to the project intervention.[12] Finally, several ad hoc studies may be conducted to meet an emerging need or a new opportunity to inform MCA Mali and MCC on the activities’ unanticipated outcomes.

[11] Guidance forthcoming

[12] Should we note that project impacts may not materialize until after the compact- and will require further data collection and follow up by MCC

5.1. Final Evaluation

The final program evaluation will be launched during the 5th year of the Compact. It will be conducted by an evaluator or a team of independent evaluators who will be in charge of a retrospective analysis to assess whether the Compact objectives have been achieved. A household survey was conducted during the 2nd year of the Compact on a sample of households affected by the program and on a sample of households not affected by the interventions and that will serve as comparison groups. A follow up survey using the same sample will provide data to be analyzed in the final evaluation. This data will also be compared to the baseline data. In addition to analyzing effects on the beneficiaries, the final evaluation will attempt to provide evidence on:

- Expected outcomes of the program implementation framework. Both positive and negative outcomes will be assessed.
- The sustainability of long term results
- The difference between real program cost and expected cost used in economic rate of return analysis
- Lessons that could be applied to other projects.

5.2. Impact Evaluations

MCC selected a firm specialized in impact evaluation to design and implement an evaluation of the Alatona Irrigation Project using statistically rigorous methods. The MCA monitoring and evaluation team is working closely with the impact evaluation team to support the development and implementation of this study, sponsored by MCC. Annex 7 provides a brief and preliminary description of the Alatona Irrigation Project impact evaluation.

The airport project does not lend itself to a rigorous impact evaluation as it is not feasible to identify a control or comparison group for this intervention. MCC will support an evaluation of the Airport project and separately for the Alatona Road activity. For both evaluations, it was not feasible to identify a rigorous design including a counterfactual as part of project activities. As noted in section 4.2, a separate survey will serve as the data source for Alatona Road activity evaluation.

5.3. Household surveys

The household survey conducted in the Office du Niger zone (Alatona Irrigation Project) established the baseline situation and identified beneficiaries' socio-economic and demographic characteristics.

This survey provides baseline data for the impact evaluation. In order to meet this evaluation's specific needs, the sample was designed to include the populations affected by the project (PAP), a group representing new settlers (the geographic origin of the new settlers is yet

unknown) as well as comparison groups. The household survey was conducted between February 2009 and June 2009 by a specialized agency contracted by MCA Mali. Follow up surveys are scheduled for compact years 4 and 5. In order to capture project impacts that are not likely to materialize until after the project completion, MCC will also plan for follow up surveys after the compact.

6. MANAGEMENT AND ADMINISTRATION OF MONITORING and EVALUATION

6.1. Management and monitoring and evaluation responsibilities

MCA Mali's monitoring and evaluation unit is led by a Director responsible for the management and coordination of all MCA Mali monitoring and evaluation activities. The MCC M&E lead provides support to the MCA Mali M&E team to facilitate implementation of monitoring and evaluation activities.

While some tasks are the sole responsibility of the M&E team, other tasks will be closely linked to activity implementation by consultants and contractors. Data collection, processing, and transmission involve a number of different steps but should follow a clear trail. Some examples follow.

1. The MCA Mali Monitoring and Evaluation Team communicates with the implementing agencies in order to acquire information necessary for activity monitoring
2. The Project and activity managers provide data necessary to the monitoring of indicators relevant to their activities
3. The M&E Director will launch a request for proposal for studies or specific data collection
4. Focal points have been appointed within the project and activity technical teams to ensure links and coordination of relevant activities for monitoring and evaluation and the transmission of indicator data.

Key responsibilities of the monitoring and evaluation team

- Establish an M&E system that integrates data collection, analysis, verification, validation and centralization of the performance indicators information.

- Develop an M&E procedural manual to be used as reference for the implementation of M&E activities by MCA Mali and the project implementation agencies/ teams.

- Develop training material and deliver training on the M&E procedures, data quality controls and verification to be delivered to various MCA-Mali technical teams and implementing entities.

- Disseminate information and project results, performance and impacts to the broader Malian public and thereby contributing to transparent communication on the Program.

- Develop and implement a data quality control strategy including both internal and external reviews (See Annex 4).

- Develop annual M&E work plans and provide quarterly work plan updates. These work plans are subject to the approval of the MCA Mali Supervisory Board and MCC.

- Prepare terms of reference and organize the selection of independent and qualified consultants for data collection, the final evaluation, data quality reviews and all ad hoc studies. If necessary, manage partnership agreements with government entities.

- Ensure that data collection requirements and coordination needs are incorporated in the terms of reference of all project consultants and contractors.

- Facilitate the work of the impact evaluation team mainly by supporting the preparation of their missions and request for meetings, incorporating their suggestions and recommendations related to data collection for the household surveys. This support will also include field coordination during the household surveys (sampling, questionnaire testing, enumerator training, field supervision, data entry and analysis). In addition the M&E team will coordinate with the impact evaluation team in disseminating the evaluation results[13].

- Support coordination and collaboration for knowledge sharing initiatives and dissemination of Program performance information.

6.2. Management Information System

The M&E team has recruited a consultant to develop and implement a management information system which will meet the specific M&E needs of MCA Mali.

6.3. Budget

The Compact budget allocated for M&E activities is 4,905 million (US) dollars. This budget was based on the anticipated costs for key M&E tasks, including data collection, training, data quality review consultants, ex post evaluations and other activities enabling a more efficient and informed management of performance monitoring.

[13] Note that the impact evaluation is financed and therefore managed by MCC while the household survey is financed and managed by the MCA. The MCA Monitoring-Evaluation team will be in charge of ensuring the coordination between the two activities to ensure the efficient implementation and outcomes.

6.4. Monitoring and Evaluation Communication strategy

In general, M&E communication is integrated into MCA Mali's broader communication strategy. Thus, the MCA Mali reports will include indicator tracking information and conclusions. In particular, the indicators tracking tables and the M&E reports will be provided to implementing agents, project managers, partners and the public, through the appropriate distribution channel and format for each audience. All reports should be posted on the MCA Mali website.

6.5. Annual Reviews and Modifications to the Monitoring and Evaluation Plan

The monitoring and evaluation plan is a management tool. It must be well adapted, useful and facilitate project decision making. For this reason the MCA Mali M&E team may conduct an annual review of the M&E plan with the entire MCA-Mali team. This review may be conducted after submission of the annual report to the MCC in which the main program outcomes and achievements are analysed. This review shall also complement the development of annual work plans for each project. The annual review of both the M&E plan and overall management approach should ensure that the documents as well as M&E procedures are accessible and practical for implementing partners, and that program changes are adequately reflected in the M&E plan. In particular this annual review should verify if the results expected in the indicators tracking table corresponds to the activity implementation schedule. Indicator definitions should be appropriate and unambiguous and the target values should be realistic and meaningful.

Revisions to the M&E plan

Any changes proposed for the M&E plan, including indicators, definitions and targets, must be approved by MCC and be in accordance with *MCC Policy for Monitoring and Evaluation of Compacts and Threshold Programs*[14]. Any substantial changes to the M&E plan must be appropriately justified, documented, and approved by the MCA Mali Board and MCC.

[14] http://www.mcc.gov/documents/guidance/policy-051209-mande.pdf

Annexes

Abbreviations for indicator sources

ADM	*Aéroport du Mali*
AIR-A01	Airside Infrastructure Design and Construction Supervision, and Landside Infrastructure Design and Construction Supervision
ALA-A07	Niono – Goma Coura Road Construction Supervision
ALA-B02	Construction Supervision and Contract Coordination for all Irrigation Infrastructure
ALA-B10	Project Implementation Support Unit
ALA-B14	Water Management Unit
ALA-C01	Land Rights Education
ALA-D08	Resettlement Implementation and Community Support Services
ALA-E01	Agriculture Systems Development (farmer organization training and agriculture extension) and Institutional Strengthening of Financial Institutions
ANAC	*Agence National de l'Aviation Civile du Mali*
ASECNA	*Agence pour la Sécurité de la Navigation Aérienne en Afrique et Madagascar*
CSCOM	*Centre de Santé Communautaire*
DNR	*Direction Nationale des Routes*
FAA	Federal Aviation Authority
IGM	*Institut Géographique du Mali*
OMATHO	*Office Malien du Tourisme et de l'Hôtellerie*

Annex I: Performance Indicator Tables by Project and Activity

1. Bamako-Sénou Airport Improvement Project

1.1 Goal Level Indicators

Indicator	Definition	Unit	Classification	Data Source	Baseline Value	Year 1	Year 2	Year 3	Year 4	Year 5	Year 10
Total revenue of firms servicing the Airport	Total value-added of firms servicing the airport	Million FCFA (2007)	Level	Airport enterprise survey	50,459[15]					59,542	69,129
Total wage bill of firms servicing the Airport	Total annual real wages paid by Airport operation (ADM) and firms servicing the airport	Million FCFA (2007)	Level	Airport enterprise survey	12,212					14,654	15,998
Real wages in the tourism industry	Average total wages paid at hotels and restaurants in Bamako	Million FCFA (2006)	Level	OMATHO	6,312					8,521	11,414
Annual Incomes of the hotels and restaurants in Bamako	Total revenue of hotels and restaurants in Bamako	Million FCFA (2006)	Level	OMATHO	70,045					91,385	118,687

[15] Baseline value comes from the airport enterprise survey conducted in 2010 with retrospective data to 2008.

1.2 Project Level Indicators

Indicator	Definition	Unit	Classification	Data source	Baseline Value	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact Target
Annual number of foreign visitors, non-residents	Annual number of foreign and non-resident passengers arriving to Bamako-Senou airport	Number	Level	OMATHO	129,876	135,013	140,999	148,463	156,402	164,779	164,779
Volume of freight	Volume of air freight	Metric Tons	Level	Customs/ ADM	6,524	6,654	6,787	6,923	7,062	7,203	7,203
Number of full time jobs at the ADM and firms servicing the airport	Number of full time jobs at the ADM and firms servicing the airport	Number	Level	Airport enterprise survey	1,182					1,279	1,279

1.3 Airside Activity Indicators

Indicator	Definition	Unit	Classification	Data Source	Baseline Value	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact Target
Outcome Level											
Average Number of weekly flights (arrivals)	Commercial and non commercial aircraft arriving at the airport per week	Number	Level	ASECNA	87	89	91	93	95	97	97
Number of direct air connections	Number of direct air connections between Bamako-Senou and other non-Malian airports	Number	Level	ANAC / ADM	14	14	14	14	14	16	16
Passenger traffic (Annual number of arrivals)	Annual number of passengers arriving at Bamako-Senou airport	Number (thousands)	Level	ASECNA / ADM	236	248	261	275	291	297	297
Output Level											
Percentage work completed on the airside infrastructure	Percent of total value of airside construction contract that has been disbursed	%	Cumulative	MCA-Mali/ Supervision consultant	0				20	100	100

1.4 Landside Activity Indicators

Indicator	Definition	Unit	Classification	Data source	Baseline Value	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact Target
Outcome Level											
Time required for arrival procedures and formalities	Average time required from disembarking the airplane until exiting the passenger terminal, per passenger	Minute	Level	Survey of airport formalities and procedures	94					34	34
Passenger Satisfaction Level	Percentage of airport users expressing dissatisfaction with airport services	%	Level	Survey of airport client satisfaction	34					5	5
Output Level											
Percentage work completed on the landside infrastructure	Percent of total value of terminal construction contract that has been disbursed	%	Cumulative	MCA-Mali/ Supervision consultant	0				35	100	100[16]

[16] Due to severe delays in design, procurement and mobilization, landside construction may not be completed at the end of the Compact Term. Any work needed to complete the landside construction after the end of the Compact Term will be the responsibility of the Government of Mali and the handover of the remaining work will be included as part of the closure of the Compact Term.

1.5 Institutional Strengthening Indicators

Indicator	Definition	Unit	Classification	Data source	Baseline Value	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact Target
Outcome Level											
Security and safety deficiencies corrected at the airport	Number of deficiencies corrected or resolved via provision of information after review by ICAO/ Number of deficiencies identified by the FAA, ICAO, and other agencies	%	Level	FAA / ANAC	56				97	97	97
Airport personnel have acquired competencies in safety and security	Number of training participants scoring a passing grade on FAA evaluation of competencies/ Number of participants evaluated	%	Level	FAA/ANAC	NA					TBD[17]	TBD
Output Level											
Number of Airport stakeholders trained	Number of ADM, ANAC, and DNACPN stakeholders that have completed one training module in improved safety and security procedures, environmental and social management, or public private partnership	Number	Cumulative	MCA Mali	0					TBD[17]	TBD

[17] Target will be defined based on the "Training Report" the C0 2a (institutional strengthening) contractor will produce outlining a training plan for the duration of its contract. This report is expected at the end of April 2011.

2. Alatona Irrigation Project

2.1. Goal Indicators

Indicator	Definition	Classification	Unit	Data Source	Baseline Value	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact Target
Poverty Rate of existing Alatona zone population	Poverty Headcount Ratio of current Alatona Population	Level	%	Alatona household survey	TBD[18]					TBD	TBD
Real income from irrigated agricultural production in the Alatona	Real income from sale of agricultural production per household member in the Alatona	Level	FCFA	Alatona household survey	0					488,400	488,400
Women's income from market gardens	Real net income of women's market garden production (per concession)	Level	FCFA	Alatona household survey	0					130,074	130,074

[18] Baseline and end of Compact targets will be obtained from the Alatona Household Survey. The data is not yet available but is expected by June 2011.

2.2 Project Objective Indicators

Indicator	Definition	Classification	Unit	Data source	Baseline Value	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact Target
Main season rice yields	Average rice yield during the rainy season (agronomic performance of Paddy) in the Alatona zone[19]	Level	Tons/ ha	MCA-Mali / ASDA	0				4	4.5	4.5
Cultivation intensity during the dry season	Percent of total area irrigated during the dry season	Level	%	MCA-Mali / ASDA	0				20	20	20
Value of agricultural products sold by farmers	Total annual value of agricultural products sold through the producers organizations	Cumulative	Million s FCFA	MCA-Mali / ASDA	0					11.14	11.14
Cost of transporting products	Unit cost per ton to transport goods from Diabaly to Niono	Level	FCFA/ Tons	MCA Mali / Road survey	5,000	5,000	5,000	5,000	5,000	2,500	2,500

[19] The Year 4 target corresponds to the yields achieved during Year 3 (2010) main season of PAPs cultivation since harvest occurs in Compact Year 4. The Year 5 target corresponds to yields to be achieved in Year 4 (2011) main season. Expected yields in subsequent years are 5.5 for the 2012 season and 6.0 for then on. These are the assumptions made in the ERR model for the PAPs. New Settlers are assumed to reach 6.0 tons/ha within 2 years of cultivation in the Alatona.

2.3 Niono-Goma Coura Road Activity Indicators

Indicator	Definition	Classification	Unit	Data Source	Baseline Value	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact Target
Outcome level											
International Roughness Index for the Niono-Goma Coura Road	Measure of the roughness of the road surface, in meters height per kilometer of distance traveled	Level	Meter/ km	DNR	17	17	17	17	17	2	2
Traffic on the Niono-Diabaly road segment	Annual average daily vehicle count on the Niono-Goma Coura road (AADT)	Level	Number /day	DNR	148					297	297
Traffic on the Diabaly-GomaCoura road segment	Annual average daily vehicle count on the Niono-Goma Coura road (AADT)	Level	Number /day	DNR	60					120	120
Annual road maintenance completion rate	Percentage of scheduled Annual Routine Maintenance completed for the Niono-Goma Coura Road	Level	%	DNR	50					100	100
Output level											
Percentage of work completed on the Niono-Goma Coura road	Contract amount disbursed for rehabilitation works of the Niono- Goma Coura road/ Total contract value	Cumulative	%	MCA-Mali / ALA A 07	0			35	65	100	100
Number of affected people who have been compensated	Number of people who have been physically or economically affected by road construction, who have been compensated (in compliance with the MCA Mali Road Resettlement Action Plan)	Cumulative	Number	MCA Mali	0	29	29	29	29	29	29
Kilometers (km) of roads completed	The length of roads in kilometers on which construction or rehabilitation is complete	Cumulative	km	MCA-Mali / ALA A 07	0					81	81

Indicator	Definition	Classification	Unit	Data Source	Baseline Value	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact Target
Process Milestones											
Value of signed contracts for road works[20]	Value in US$ of all contracts that MCA Mali has signed with contractors for construction of new or rehabilitated roads.	Cumulative	USD	MCA-Mali / B 10							
Kilometers (km) of roads under works contracts	Length of roads in kilometers under works contract for construction or rehabilitation	Cumulative	km	MCA-Mali / B 10	0		81	81	81	81	81
Total value disbursed on road works	Total contract value disbursed for rehabilitation works of the Niono- Goma Coura road	Cumulative	USD	MCA-Mali / B 10							
Total value disbursed on road studies	Total contract value disbursed for studies and supervision of the rehabilitation of the Niono-Goma Coura road	Cumulative	USD	MCA-Mali / B 10							

[20] MCC Common indicators may not have targets.

2.4 Irrigation Activity Indicators

Indicator	Definition	Classification	Unit	Data source	Baseline Value	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact Target
Outcome level											
Hectares under new irrigation	Total irrigable land in the Alatona zone	Cumulative	ha	MCA-Mali / ALA B02	0			1,000	3,900	5,200	5,200
Hectares under improved irrigation[21]	Total number of hectares served as phases of the rehabilitation of the existing irrigation system of the Office du Niger are completed. The new hectares in the Alatona are not counted here.	Cumulative	ha	MCA-Mali / B 03	0					104,881	104,881
Volume of water provided to secondary canal water users associations during the rainy season	Total volume of water provided at the head of the secondary canals during the rainy season in the Alatona zone/ total surface cultivated during the rainy season	Level	m^3/ ha	MCA-Mali / Water Management Unit	NA				14,000	14,000	14,000
Volume of water provided to secondary canal water users associations during the dry season	Total volume of water provided at the head of the secondary canals during the dry season in the zone of Alatona / total surface cultivated during the dry season	Level	m^3/ ha	MCA-Mali / Water Management Unit	NA				3,500	3,500	3,500

[21] This is an MCC common indicator and new to this version. It will be measured as the sum of new hectares (as in the previous indicator) and existing hectares, as per the definition. The end of Compact target is obtained from the ERR model, and corresponds to existing land under irrigation in the Office du Niger at the beginning of the Compact (82,000 ha) plus planned expansion (22,881 ha as a conservative estimate from what is being reported in the *ON Contrat Plan 2008-2012* on page 38). How it will be monitored and reported has yet to be determined.

Indicator	Definition	Classification	Unit	Data source	Baseline Value	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact Target
Irrigation system efficiency of the Alatona Canal	Water supply at the headworks of the Alatona Canal (subtracting rain water supply) as a share of crop water requirements in the rainy season and in the dry season	Level	%	MCA-Mali / Water Management Unit	NA				40	45	45
Water fee collection rate	Fees recovered/Fees charged	Level	%	MCA-Mali / Water Management Unit	35				80	90	90
Output level											
Percent of contracted irrigation construction works disbursed	Percentage of total contract value disbursed on tranche 1 irrigation network and on the main system equipment rehabilitation	Cumulative	%	MCA Mali	0			25	65	100	100
Main ON hydraulic system transit capacity at the level of the *Canal Adducteur*	Estimated capacity, confirmed by available performance data	Level	m^3/ second	Office du Niger	190				286	286	286
Main ON hydraulic system transit capacity at the level of the *Canal du Sahel*	Estimated capacity, confirmed by available performance data	Level	m^3/ second	Office du Niger	120				190	190	190
Process Milestones											
Value of irrigation construction contracts signed	Total value of contracts signed for irrigation construction contracts	Cumulative	USD	MCA Mali							
Value of irrigation feasibility and/or detailed design contracts signed	Total value of contracts signed for irrigation design studies and supervision	Cumulative	USD	MCA Mali							
Value of irrigation feasibility and/or detailed design contracts disbursed	Total contract value disbursed for irrigation construction contracts	Cumulative	USD	MCA Mali							
Value of irrigation construction contracts disbursed	Total value of contracts signed for irrigation construction disbursed	Cumulative	USD	MCA Mali							

2.5 Land Activity Indicators

Indicator	Definition	Classification	Unit	Data Source	Baseline Value	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact Target
Outcome level											
Market garden parcels allotted to PAP or New Settler women	Number of market garden parcels allotted to the women of PAP families or New Settler families	Cumulative	Number	MCA-Mali / ALA D08	0				520	1,034	1,034
Rural Hectares (Ha) formalized	Number of land properties hectares recorded at the Segou Regional Land Property and Land Registry office	Cumulative	Ha	Segou Regional Land Property and Registry office	0			910	2,600	5,200	5,200
Output level											
Percentage of farmers up to date with land payments	Number of farmers up to date with land payments/Number of farmers who have received a land title	Level	%	MCA-Mali / Revenue Authority	0				90	95	95
Number of 5 hectare land parcels distributed to new settlers	Number of 5 hectare land parcels distributed to new settlers through the land selection lottery (including use rights)	Cumulative	Number	Land Attribution Commission	0					234	234
Process Milestones											
Rural Hectares mapped	Incremental rural hectares mapped through field survey in the Alatona zone	Cumulative	Number	IGM	0			910	2,600	5,200	5,200
Number of Stakeholders Reached	Number of landholders, private sector and civil society representatives, and public officials reached through public outreach	Cumulative	Number	MCA-Mali / ALA C 01	0				800	800	800
Buildings Built or Rehabilitated	Number of land registration offices rehabilitated (Niono Land Registration office)	Cumulative	Number	MCA Mali	0			1	1	1	1

Indicator	Definition	Classification	Unit	Data Source	Baseline Value	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact Target
Stakeholders Trained	Number of public officials, customary authorities, project beneficiaries, and private sector representative receiving training or technical assistance	Cumulative	Number	MCA-Mali / ALA C 01	0			575	575	575	575
Equipment Purchased	Value of equipment in US$ purchased for land, cadastral or registry offices.	Cumulative	USD	MCA Mali	0			288,426	288,426	288,426	288,426

2.6 Community Services Activity Indicators

Indicator	Definition	Classification	Unit	Data Source	Baseline Value	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact Target
Outcome Level											
Net Primary School Enrollment Rate (Alatona Zone)	% of primary school age population (ages 7-13) enrolled in Alatona zone schools	Level	%	MCA-Mali / ALA D 08	1				50	60	60
% of Alatona population with access to improved drinking water	Cumulative percentage of the Alatona population having access to water points (modern wells and drillings) built by the project	Cumulative	%	MCA-Mali / ALA D 08	0			9	100	100	100
Health Center use	Annual number of patients receiving consultation by the health centers built or rehabilitated by the project	Cumulative	Number	MCA-Mali/ CSCOM / ALA D 08	12,000[22]					24,000	24,000

[22] Baseline is estimated from the number of visits to the Diabaly health center from 2007 and 2006 population data. Targets are based on observed growth in health center use between 2007 and 2009 (average growth of 15%). Resettled concessions are anticipated to make the same use of health centers as the Diabaly and Dogofry population.

Indicator	Definition	Classification	Unit	Data Source	Baseline Value	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact Target
Output Level											
Number of schools available in the Alatona	Number of schools built and equipped (school equipment and wages of the personnel assured) by the project	Cumulative	Number	MCA-Mali / ALA B 10	0				9	9	9
Number of health centers available in the Alatona	Number of health centers available in Alatona (rehabilitated and constructed by the project)	Cumulative	Number	MCA-Mali / ALA B 10	0			1	3	3	3
Number of concessions that have been compensated	Number of concessions affected physically or economically by the Project having received compensations (as identified in the MCA Mali Irrigation Resettlement Action Plan)	Cumulative	Number	MCA-Mali / ALA D 08	0			200	520	793	793
Number of concessions resettled	Number of concessions affected physically or economically by the Project that have been resettled (into new villages or reconfigured villages)	Cumulative	Number	MCA-Mali / ALA D 08	0			200	793	793	793

2.7 Agriculture Services Activity Indicators

Indicator	Definition	Classification	Unit	Data Source	Baseline Value	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact Target
Outcome Level											
Number of farmers that have applied improved techniques	Number of PAP or New Settler concessions adopting at least one new extension technique	Cumulative	Number	MCA-Mali / ASDA	0			197	416	1,129	1,129
Participation rate in producer organizations	Percentage of farms/ concessions in the Alatona zone with at least one member belonging to an agricultural cooperative	Level	%	MCA-Mali / ASDA	0			50	70	80	80
Number of functional producer organizations	Number of producer organizations having had at least a statutory meeting and one type of services offered to its members	Cumulative	Number	MCA-Mali / ASDA	0			7	23	30	30
Number of functional women's producer organizations	Number of women's producer organizations that have held at least on one formal meeting and offer one type of service to its members	Cumulative	Number	MCA-Mali / ASDA	0			4	16	20	20
Hectares under production (rainy season)	Number of hectares cultivated during the rainy season	Level	Ha	MCA-Mali / ASDA	0			1,000	2,600	5,200	5,200
Hectares under production (dry season)	Number of hectares cultivated during the dry season	Level	Ha	MCA-Mali / ASDA	0				200	1,040	1,040
% dry season area planted cultivated in non cereal crops	Percentage of total hectares of dry season land that is planted in non cereal crops	Level	%	MCA-Mali / ASDA	0				20	20	20
Rate of market garden use by PAP women	Percentage of all market-garden area allocated to PAP women that is being cultivated	Level	%	MCA-Mali / ASDA	0				90	90	90

Indicator	Definition	Classification	Unit	Data Source	Baseline Value	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact Target
Average daily milk production per head of livestock	Average quantity of milk produced by day and per head of livestock	Level	Liter	MCA-Mali / ASDA	0.5			0.5	0.75	1	1
Amount of rice available for sale	Total production of rice less household consumption[23]	Cumulative	Ton	MCA-Mali / ASDA	0				2,190	6,019	6,019
Output Level											
Number of farmers trained	Number of PAPs or New Settlers having completed at least one training module[24]	Cumulative	Number	MCA-Mali / ASDA	0			372	1,254	2,054	2,054
Number of OERS Established	Total number of secondary canal water users associations established	Cumulative	Number	MCA-Mali / ASDA	0			3	17	17	17
Process Milestones											
Establishment of a water management entity	Water management entity is established, operational and collecting water fees	Date	Date	MCA-Mali / ASDA	NA				June 2010		June 2010

[23] See Table 5 below how targets were calculated.
[24] The targets reflect the assumption that in every household, whether PAP's and New Settler's, both a man and a woman will be trained.

2.8 Credit Activity

Indicator	Definition	Classification	Unit	Data Source	Baseline Value	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact Target
Outcome Level											
Value of agricultural and rural loans	Real value of loans obtained by Alatona farmers	Level	Millions of FCFA	MCA-Mali / ASDA	0				60	250	250
Loan recovery rate among Alatona farmers	Percentage of total loan amounts of Alatona farmers that has been repaid to the financial institutions	Level	%	MCA-Mali / ASDA	NA					90	90
Output Level											
Number of active MFI clients	Number of producer organizations and/or Alatona farmers who have opened a bank account in an Alatona Financial Institution	Cumulative	Number	MCA-Mali / ASDA	0				200	793	793
Number of banks and MFIs receiving training	Number banks and MFIs receiving training and/or technical assistance	Cumulative	Number	MCA-Mali / ASDA	0				4	4	4
Credit Information Bureau is operational	Database for the Credit Information Bureau is operational and used by the financial institutions for loan decisions[10]	Date	Date	MCA-Mali / ASDA	NA					June 2012	June 2012
Number of farmers having received a direct support for their first loan from a financial institution	Number of Alatona zone farmers that have received a direct loan support for their first loan from a financial institution or as part of a loan to a producers' organization	Cumulative	Number	MCA-Mali / ASDA	0				200	800	800

3. Health and Safety Indicators

Indicator	Definition	Classification	Unit	Data Source	Baseline Value	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact Target
Number of consecutive serious incident free months	Number of consecutive months free of serious incident including fatality, dismemberment, permanent disability and significant lost worker time	Level	Month	Supervision consultants for Airport Improvement and Alatona Projects	NA				12	24	24
Acquire appropriate Health and Safety Resource	Hire or contract full time health and safety specialist with sufficient construction related experience to assist in policy development, implementation, and tracking	Date	Date	MCA Mali	NA				Nov. 2010		November 2010
Develop and Implement MCA Mali Health and Safety Program	Compact wide program that identifies MCA's commitment and approach to improving safety on all projects gains formal acceptance by MCA Mali General Director	Date	Date	MCA Mali	NA				Nov. 2010		Nov-10
Develop, communicate, implement and track performance of new policy/program regarding reporting, prevention, and oversight	New health and safety policy/ program gains formal acceptance by MCA Mali General Director	Date	Date	MCA Mali	NA				January 2011		January 2011
Implement Health and Safety Reporting Mechanisms	Develop interim and long term methodology for reporting including both immediate incident reporting to MCA and MCC as well as standardized metrics, reporting tools and format for regular reporting to stakeholders.	Date	Date	MCA Mali	NA				Nov. 2010		November 2010

4. Indicator Disaggregation

Indicator Title	Definition	Disaggregation
Poverty Rate of existing Alatona zone population	Poverty Headcount Ratio of current Alatona Population (percent)	• By sex • By resettlement group • By PAP/ New Settler
Real income from irrigated agricultural production in the Alatona	Real income from sale of agricultural production per household member (FCFA) in the Alatona	• By rainy/dry season • By resettlement group • By PAP/ New Settler
Women's income from market gardens	Real net income of market garden production (per concession)	• By rainy/dry season • By resettlement group • By PAP/ New Settler
Main season rice yields	Average rice yield during the rainy season (agronomic performance of Paddy) in the Alatona zone	• By resettlement group • By PAP/ New Settler
Rural Hectares (Ha) formalized	Incremental number of land properties hectares recorded at the Segou Regional Land Property and Land Registry office	• Rice parcel or market garden • By village • By women's association
Number of Stakeholders Reached	Number of landholders, private sector and civil society representatives, and public officials reached through public outreach	• By sex • By type of stakeholder
Stakeholders Trained	Number of public officials, customary authorities, project beneficiaries and representatives of the private sector, receiving training or technical assistance	• By sex • By type of stakeholder
Net Primary School Enrollment Rate (Alatona Zone)	% of primary school age population enrolled in Alatona zone schools	• By sex • By village • By school
Health Center use	Annual number of patients receiving consultation by the health centers built or rehabilitated by the project	· By age group · By village · By school
Hectares under production	Number of hectares cultivated by crop during the rainy season	· By crop · By New settler/ PAPs · By parcel or market garden
Rate of market garden use by PAP women	Market garden area cultivated as a share of all market-garden area allocated to PAP women	· By village · By women's association
Number of farmers trained	Cumulative number of PAPs or New Settlers having completed a training module	· By sex · By training module · By PAPs/ New Settlers

5. Marketable Rice Quantity Calculation

	Year 3 (realized in Year 4)	Year 4 (realized in Year 5)	Year 5 (realized in Year 6)
Paddy yield (tons/ha)	4	4.5	5.5
Area under cultivation (ha)	1,000	2,600	5,200
Hulling rate	0.65	0.65	0.65
Production of edible rice (tons)	2,600	7,085	17,225
Number of people[25]	2,000	5,200	10,400
Average per capita annual consumption (kg)[26]	205	205	205
Total volume of rice consumed per year (tons)	410	1,066	2,132
Commercial surplus (tons)	**2,190**	**6,019**	**15,093**

[25] Assuming 5-ha plot and 10 people per household

[26] Source: The Food Security Commission in Mali uses the figure of 204 kg/person/year for all types of cereals (main staple), including 54 Kg of rice and the rest composed of millet/sorghum/maize and some wheat. For simplification, we assume that all the diet is rice and that the nutritional value is the same, and hence we use the figure of 205 Kg of rice as an approximation for per capita annual consumption need.

ANNEX 2: Performance Indicator Revisions and Modifications

Date of proposed modifications: October 2010

Note that health and safety indicators are not included as part of this indicator modification annex

Project: Airport Improvement Project

Project Objective: Establish a secure and independent link with regional and international markets.

Outcomes:
- The number of foreign visitors has increased
- The services of the passenger terminal have been improved
- Air freight has increased
- Employment has been created

1. Goal Level Indicator Modifications

Indicator Title:	Total revenue of firms servicing the Airport
Indicator Level:	Goal
Modification:	Targets Changed
Justification:	Baseline modified due to availability of new, credible information

Indicator Title:	Total wage bill of firms servicing the Airport
Indicator Level:	Goal
Modification:	Targets changed
Justification:	Baseline modified due to availability of new, credible information

Indicator Title:	Real wages in the tourism industry
Indicator Level:	Goal
Modification:	Targets changed
Justification:	Baseline and targets modified due to availability of new, credible information

1.1. Project Level Objective Indicator Modifications

Indicator Title:	Annual Incomes of the hotels and restaurants in Bamako
Indicator Level:	Goal
Modification:	Targets changed
Justification:	Baseline and targets modified due to availability of new, credible information

Indicator Title:	Improved Airport Safety and Security
Indicator Level:	Objective
Modification:	Targets Changed
Justification:	At this time we are still awaiting baseline information for this indicator

Indicator Title:	Number of full time employment at the ADM and firms servicing the airport
Indicator Level:	Objective
Modification:	Targets changed
Justification:	Baseline modified due to availability of new, credible information

1.1.1 Airside Activity Indicator Modifications

Indicator Title:	Average Number of weekly flights (arrivals)
Indicator Level:	Outcome
Modification:	Targets changed
Justification:	Indicator name changed to allow for greater precision in measurement

Indicator Title:	Number of direct air connections
Indicator Level:	Outcome
Modification:	Targets changed
Justification:	Interim targets dropped as project not anticipated to impact this indicator before completion in year 5

Indicator Title:	Passenger traffic (Annual number of arrivals)
Indicator Level:	Outcome
Modification:	Targets changed
Justification:	Indicator name changed to focus on arrivals and to improve indicator relevance and accuracy

Indicator Title:	Percentage work complete on the airside infrastructure
Indicator Level:	Output
Modification:	Targets changed
Justification:	Interim targets changed to improve indicator relevance and accuracy

Landside Activity Indicator Modifications

Indicator Title:	Time required for arrival procedures and formalities
Indicator Level:	Outcome
Modification:	Targets changed
Justification:	Baseline modified due to availability of new, credible information

Indicator Title:	Passenger Satisfaction Level
Indicator Level:	Outcome
Modification:	Targets changed
Justification:	Baseline modified due to availability of new, credible information

Project: Alatona Irrigation

Project Objective: Increase agricultural production and productivity in the Alatona zone of the Office du Niger

Outcomes:
- Expected agricultural yields are achieved
- Diversification in favour of higher value crops has been achieved
- Irrigated agricultural production in the dry season has become feasible
- Farm products are effectively marketed
- Transport costs have been reduced

2.1 Goal Level Indicator Modifications:

Indicator Title:	Real income from irrigated agricultural production in the Alatona
Indicator Level:	Goal
Modification:	Added
Justification:	End of compact targets modified due to changes in project scope and ERR

Indicator Title:	Women's income from market gardens
Indicator Level:	Goal
Modification:	Targets Changed
Justification:	Original M&E plan did not include an end of compact target, this target reflects rescoping on the Alatona Irrigation Project

Indicator Title:	Real wage income in Alatona Zone
Indicator Level:	Goal
Modification:	Dropped
Justification:	Indicator is no longer relevant due to changes in project or activity scope

2.2 Project level Indicator Modifications

Indicator Title:	Main season rice yields
Indicator Level:	Objective
Modification:	Targets changed
Justification:	Interim and end of compact targets modified due to project re-scoping

Indicator Title:	Cultivation intensity during the dry season
Indicator Level:	Objective
Modification:	Targets changed
Justification:	Interim targets modified due to implementation delays

Indicator Title:	Value of agricultural products sold by farmers
Indicator Level:	Objective
Modification:	Targets changed
Justification:	End of compact targets modified due to changes in project scope and ERR

Indicator Title:	Agricultural Employment Created in the Alatona Zone

Indicator Level:	Objective
Modification:	Dropped
Justification:	Indicator is no longer relevant due to changes in project or activity scope

Indicator Title:	Cost of transporting products
Indicator Level:	Objective
Modification:	Targets changed
Justification:	Interim targets modified due to implementation delays

2.3.1 Niono-Goma Coura Road Activity Indicator Modifications

Indicator Title:	International Roughness Index for the Niono-Goma Coura Road
Indicator Level:	Outcome
Modification:	Targets changed
Justification:	Interim targets modified due to implementation delays

Indicator Title:	Traffic on the Niono-Diabaly road segment
Indicator Level:	Outcome
Modification:	Targets Changed
Justification:	Interim targets modified due to implementation delays

Indicator Title:	Traffic on the Diabaly- Goma Coura road segment
Indicator Level:	Outcome

Modification:	Targets Changed
Justification:	Interim targets modified due to implementation delays

Indicator Title:	Annual road maintenance completion rate
Indicator Level:	Outcome
Modification:	Targets Changed
Justification:	Interim targets modified due to implementation delays

Indicator Title:	Percentage of work completed on the Niono-Goma Coura road
Indicator Level:	Output
Modification:	Added
Justification:	Interim targets modified due to implementation delays

Indicator Title:	Value of signed contracts for road works
Indicator Level:	Process milestone
Modification:	Added
Justification:	Indicator added to meet MCC common indicator requirements

Indicator Title:	Kilometers (km) of roads under works contracts
Indicator Level:	Process milestone
Modification:	Added

Justification:	Indicator added to meet MCC common indicator requirements

Indicator Title:	Kilometers (km) of roads completed
Indicator Level:	Output
Modification:	Added
Justification:	Indicator added to meet MCC common indicator requirements

Indicator Title:	Total value disbursed on road works
Indicator Level:	Process milestone
Modification:	Added
Justification:	Indicator added to meet MCC common indicator requirements

Indicator Title:	Total value disbursed on road studies
Indicator Level:	Process milestone
Modification:	Added
Justification:	Indicator added to meet MCC common indicator requirements

2.3.2 Irrigation Planning and Infrastructure Activity Indicator Modifications

Indicator Title:	Hectares under improved irrigation
Indicator Level:	Outcome
Modification:	Targets changed
Justification:	End of compact targets modified due to changes in project scope and ERR

Indicator Title:	Volume of water provided to secondary canal water users association during the rainy season
Indicator Level:	Outcome
Modification:	Targets changed
Justification:	Interim targets modified due to implementation delays

Indicator Title:	Volume of water provided to secondary canal water users association during the dry season
Indicator Level:	Outcome
Modification:	Added
Justification:	Indicator added because existing indicators were inadequate in measuring progress towards results

Indicator Title:	Water fee recovery rate
Indicator Level:	Outcome
Modification:	Targets changed
Justification:	End of compact targets modified due to implementation delays (improvement in repayment rates anticipated to come with each year of additional experience)
Indicator Title:	Percent of contracted irrigation construction works disbursed
Indicator Level:	Output
Modification:	Added
Justification:	Indicator added to meet MCC common indicator requirements and has replaced the following indicator: Percentage works complete on main system equipment rehabilitation

Indicator Title:	Rate of completion of the works of building of sections 2 and 3 of Alatona
Indicator Level:	Output
Modification:	Dropped
Justification:	Indicator is no longer relevant due to changes in project or activity scope

Indicator Title:	Percentage works complete on main system equipment rehabilitation
Indicator Level:	Output
Modification:	Dropped
Justification:	Indicator replaced with MCC common indicator

Indicator Title:	Main ON hydraulic system transit capacity at the level of the Alatona canal (rainy season)
Indicator Level:	Output
Modification:	Added
Justification:	Indicator disaggregated to allow for greater precision

Indicator Title:	Main ON hydraulic system transit capacity at the level of the Alatona canal (dry season)
Indicator Level:	Output
Modification:	Added
Justification:	Indicator disaggregated to allow for greater precision

Indicator Title:	Main ON hydraulic system transit capacity at the level of the Sahel Canal (rainy season)

Indicator Level:	Output
Modification:	Indicator added to specify disaggregation by season
Justification:	Indicator disaggregated to allow for greater precision

Indicator Title:	Main ON hydraulic system transit capacity at the level of the Sahel Canal (dry season)
Indicator Level:	Output
Modification:	Indicator added to specify disaggregation by season
Justification:	Indicator disaggregated to allow for greater precision

Indicator Title:	Value of irrigation construction contracts signed
Indicator Level:	Process milestone
Modification:	Added
Justification:	Indicator added to meet MCC common indicator requirements
Indicator Title:	Value of irrigation feasibility and/or detailed design contracts signed
Indicator Level:	Process milestone
Modification:	Added
Justification:	Indicator added to meet MCC common indicator requirements

Indicator Title:	Value of irrigation feasibility and/or detailed design contracts disbursed
Indicator Level:	Process milestone
Modification:	Added

Justification:	Indicator added to meet MCC common indicator requirements

Indicator Title:	Value of irrigation construction contracts disbursed
Indicator Level:	Process milestone
Modification:	Added
Justification:	Indicator added to meet MCC common indicator requirements

2.3.3 Land Allocation Activity Indicator Modifications

Indicator Title:	Area used for rice by the new settler households during the rainy season
Indicator Level:	Outcome
Modification:	Dropped
Justification:	Indicator has been aggregated as part of the indicator hectares under production (MCC common indicator requirement)

Indicator Title:	Market garden parcels allotted to PAP or New Settler women
Indicator Level:	Outcome
Modification:	Combined indicators on market garden parcels allotted to PAPs and parcels allotted to New Settler women
Justification:	This indicator name has been changed and the previous indicators were dropped, targets modified accordingly

Indicator Title:	Rural Hectares (Ha) formalized
Indicator Level:	Outcome
Modification:	Added
Justification:	Indicator added to meet MCC common indicator requirements, substituted indicator “Number of land titles granted for 5 or 10 hectare farms”

Indicator Title:	Number of 5 hectare land parcels distributed to new settlers
Indicator Level:	Output
Modification:	Indicator name and targets changed
Justification:	End of compact target modified due to changes in project scope and ERR, name changed to reflect that 10 hectare parcels will not be available

Indicator Title:	Rural Hectares mapped
Indicator Level:	Process milestone
Modification:	Added
Justification:	Indicator added to meet MCC common indicator requirements

Indicator Title:	Total amount of land payments
Indicator Level:	Output
Modification:	Dropped
Justification:	Indicator dropped due to redundancy

Indicator Title:	Number of Stakeholders Reached
Indicator Level:	Process milestone
Modification:	Added
Justification:	Indicator added to meet MCC common indicator requirements

Indicator Title:	Buildings Built or Rehabilitated
Indicator Level:	Process milestone
Modification:	Added

Justification:	Indicator added to meet MCC common indicator requirements

Indicator Title:	Stakeholders Trained
Indicator Level:	Process milestone
Modification:	Added
Justification:	Indicator added to meet MCC common indicator requirements

Indicator Title:	Equipment Purchased
Indicator Level:	Process milestone
Modification:	Added
Justification:	Indicator added to meet MCC common indicator requirements

2.3.4 Resettlement, Social Infrastructure and Social Services Activity Indicator Modifications

Indicator Title:	Net Primary School Enrollment Rate (Alatona Zone)
Indicator Level:	Outcome
Modification:	Indicator name changed
Justification:	Indicator changed from attendance to enrollment rate, to facilitate data collection. Targets based on ELIM 2006 Rural Segou enrollment average.

Indicator Title:	% of Alatona population with access to improved drinking water
Indicator Level:	Outcome
Modification:	Indicator name changed

Justification:	Indicator name changed to reflect project activity, targets established based on social infrastructure work plan

Indicator Title:	Health Center use
Indicator Level:	Outcome
Modification:	Targets changed
Justification:	Baseline modified due to availability of new, credible information
Indicator Title:	Number of schools available in the Alatona
Indicator Level:	Output
Modification:	Targets changed
Justification:	Targets established based on social infrastructure work plan

Indicator Title:	Number of health centers available in the Alatona
Indicator Level:	Output
Modification:	Targets changed
Justification:	End of compact targets modified based on project work plan

Indicator Title:	Number of drinking water points accessible to the concessions
Indicator Level:	Process milestone
Modification:	Dropped
Justification:	Indicator dropped due to redundancy

Indicator Title:	Number of concessions having received compensations
Indicator Level:	Output
Modification:	Targets changed
Justification:	Interim targets modified due to implementation delays

Indicator Title:	Number of concessions resettled
Indicator Level:	Process milestone
Modification:	Added
Justification:	Indicator added because existing indicators were inadequate in measuring progress towards results

2.3.5 Agricultural Services Activity Indicator Modifications

Indicator Title:	Number of farmers that have applied improved techniques
Indicator Level:	Outcome
Modification:	Added
Justification:	Indicator unit changed from % to number to meet MCC common indicator requirement, replaced indicator "Adoption rate of extension techniques by new settlers"

Indicator Title:	Adoption of Rate of Extension Techniques by New Settlers
Indicator Level:	Outcome
Modification:	Dropped
Justification:	Indicator replaced by MCC common indicator

Indicator Title:	Establishment of a water management entity
Indicator Level:	Process Milestone
Modification:	Added
Justification:	Indicator added because existing indicators were inadequate in measuring progress towards results

Indicator Title:	Participation rate in producer organizations
Indicator Level:	Outcome
Modification:	Indicator name change
Justification:	Indicator name changed

Indicator Title:	Number of functional producer organizations
Indicator Level:	Outcome
Modification:	Indicator name and targets changed
Justification:	Indicator name and targets adjusted due to implementation delays

Indicator Title:	Number of functional women's producer organizations
Indicator Level:	Outcome
Modification:	Indicator name and targets changed
Justification:	Indicator name and targets adjusted due to implementation delays

Indicator Title:	Hectares under production (rainy season)

Indicator Level:	Outcome
Modification:	Added
Justification:	Indicator name changed to reflect MCC common indicator requirements, interim and end of compact targets changed due to project re-scoping

Indicator Title:	Hectares under production (dry season)
Indicator Level:	Outcome
Modification:	Added
Justification:	Indicator name changed to reflect MCC common indicator requirements, interim and end of compact targets changed due to project rescoping

Indicator Title:	% dry season area planted cultivated in non cereal crops
Indicator Level:	Outcome
Modification:	Added
Justification:	Indicator added because existing indicators were inadequate in measuring progress towards results/ replaced indicator "surface planted with shallots during the dry season"

Indicator Title:	Market garden use by PAP women
Indicator Level:	Outcome
Modification:	Targets Changed
Justification:	Interim targets modified due to implementation delays

Indicator Title:	Amount of rice available for sale

Indicator Level:	Outcome
Modification:	Targets changed
Justification:	End of compact targets modified due to changes in project scope and ERR

Indicator Title:	Surface planted with shallot during the dry season
Indicator Level:	Outcome
Modification:	Dropped
Justification:	Indicator name changed

Indicator Title:	Number of farmers trained
Indicator Level:	Output
Modification:	Targets changed
Justification:	Indicator added to meet MCC common indicator requirements

Indicator Title:	Number of people having completed the adult literacy module
Indicator Level:	Output
Modification:	Dropped
Justification:	Indicator substituted by MCC common indicator: Number of Farmers Trained

Indicator Title:	Number of people having completed the land titling module
Indicator Level:	Output

Modification:	Dropped
Justification:	Indicator substituted by MCC common indicator: Number of Farmers Trained

Indicator Title:	Number of PAP men or women having attended the entire training module on rice and shallot production
Indicator Level:	Output
Modification:	Dropped
Justification:	Indicator substituted by MCC common indicator: Number of Farmers Trained

Indicator Title:	Number of participants in the financial and organizational management training
Indicator Level:	Output
Modification:	Dropped
Justification:	Indicator substituted by MCC common indicator: Number of Farmers Trained

Indicator Title:	Number of people having completed the module on strengthening services for the members of the organizations
Indicator Level:	Output
Modification:	Dropped
Justification:	Indicator substituted by MCC common indicator: Number of Farmers Trained

Indicator Title:	Number of women having completed the module on the market gardening

Indicator Level:	Output
Modification:	Dropped
Justification:	Indicator substituted by MCC common indicator: Number of Farmers Trained

Indicator Title:	Number of OERS Established
Indicator Level:	Output
Modification:	Targets Changed
Justification:	Interim targets modified due to implementation delays

Indicator Title:	Farmer Organizations Established in the Alatona zone
Indicator Level:	Output
Modification:	Dropped
Justification:	Indicator dropped due to redundancy

Indicator Title:	Number of functional women's cooperatives
Indicator Level:	Output
Modification:	Dropped
Justification:	Indicator dropped due to redundancy

2.3.6 Financial Services Activity Indicator Modifications

Indicator Title:	Value of agricultural and rural loans

Indicator Level:	Outcome
Modification:	Targets changed
Justification:	End of compact targets modified due to changes in project scope and ERR

Indicator Title:	Number of active MFI clients
Indicator Level:	Output
Modification:	Targets Changed
Justification:	Definition changed to allow greater precision in measurement, targets changed based on availability of new information

Indicator Title:	Loan Portfolio quality of Alatona MFIs: portfolio at risk
Indicator Level:	Outcome
Modification:	Dropped
Justification:	Indicator is no longer relevant due to changes in project or activity scope

Indicator Title:	Number of banks and MFIs receiving training
Indicator Level:	Output
Modification:	Targets changed
Justification:	Interim targets modified due to implementation delays

Indicator Title:	Claims to the Risk Sharing Fund by financial institutions as a percent of total loans outstanding
Indicator Level:	Output

Modification:	Dropped
Justification:	Indicator is no longer relevant due to changes in project or activity scope

Indicator Title:	Credit Information Bureau is operational
Indicator Level:	Output
Modification:	Targets changed
Justification:	Interim targets modified due to implementation delays

Indicator Title:	Loan recovery rate among Alatona farmers
Indicator Level:	Outcome
Modification:	Targets changed
Justification:	End of compact target modified due to changes in project scope and ERR (delays in implementation imply credit activities will only become relevant late in the compact)

Indicator Title:	Number of farmers having received a direct support for their first loan from a financial institution
Indicator Level:	Output
Modification:	Targets Changed
Justification:	Interim targets modified due to implementation delays

Annex 3: High Level Monitoring and Evaluation Work Plan

	Year 1				Year 2				Year 3				Year 4				Year 5			
	Q 1	Q 2	Q 3	Q 4	Q 5	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
M&E Planning																				
Recruitment																				
Develop M&E plan																				
Develop and update annual work plan																				
M&E management tools																				
Management Information system																				
Annual M&E review																				
Training																				
Internal MCA Mali training																				
Training implementation partners																				
Implementation																				
Monitoring																				
Compile and analyze data for indicators																				
Submission of indicator tracking table																				
Submission of annual workplan																				
Surveys																				
Alatona household survey																				
New Arrivals household survey																				
Road Evaluation survey																				
Airport User's Satisfaction study																				
Airport arrival time and procedures study																				
Airport businesses survey																				
Evaluation																				
Midtermevaluation																				
Final evaluation																				
External data quality review																				
Coordination with impact evaluation																				
Communication																				
Develop communication tools																				
Study tours and conferences																				

Annex 4: Data Collection and Data Quality Control Strategy

1. Objective

Implementing the monitoring and evaluation framework will require significant data collection in order to monitor activities and measure progress towards the anticipated Compact outcomes and objectives. Thus appropriate data collection approaches and data quality assurance are critical. The key objective of the data collection, management and data quality strategy is to ensure that information used for measuring Program performance is relevant, precise, reliable, timely, and that this information reflects the reality on the ground and is useful for management and evaluation purposes.

2. Tasks and Responsibilities

a) MCA Mali Monitoring and Evaluation team

The M&E director is responsible for developing, supervising and implementing the entire data collection and data quality strategy. The director will develop a schedule for executing internal quality control measures with the MCA Mali M&E team, project leads, relevant partner organizations and implementation teams (contractors).

The M&E statistician will act as a second level of data quality control. Tasks will include verifying data files related to project information (such as data gaps, omissions, or inconsistencies) before data is used for secondary analysis. The statistician will perform data analysis and develop relevant data tables for different reporting needs.

The field specialist represents the initial level of data quality control- by verifying the data source and addressing errors or omissions before the data is transmitted to the M&E team for further analysis. The field specialist is the M&E focal person related to the Alatona Irrigation Project and is anticipated to be based in the field as much as possible.

b) Collecting data for performance indicators

The MCA Mali Monitoring and Evaluation plan specifies the indicator source and calculation methodology. The monitoring and evaluation manual provides more detailed information through data reference sheets for each indicator. Data for multiple indicators will be provided by consultants or contractors implementing relevant project activities. The relevant indicator definitions and calculations are included in the contract terms of reference and the consultants are required to transmit the pertinent data to MCA Mali according to a pre determined schedule. The indicator definitions, collection methods and schedule cannot be modified without prior consent by MCA Mali and MCC. The MCA Mali field specialist will collaborate closely with implementation teams (consultants and contractors) and verify that appropriate data collection methods and data analysis have been applied.

c) Data for ad hoc studies

For ad hoc studies, consultants recruited for executing these studies will be responsible for data collection and quality verification. Where surveys are required, the consultants shall propose a data collection methodology and data quality strategy that MCA Mali will validate. In any case, the MCA Mali M&E team will maintain their responsibility for verifying data quality both in data collection and transformation stages.

3. Implementation

a) Data collection

MCA Mali will recruit a specialized consultant for surveys conducted as part of the M&E framework. Based on the terms of reference, the consultant shall submit recommendations to MCA Mali on methodological aspects such as questionnaires, sampling strategy, training manuals, and statistical analysis. MCA Mali will approve all methodological aspects before survey implementation, as well as observe enumerator training and conduct supervision missions. The consultant or other relevant party will submit all data collected, along with completed questionnaire and other data collection instruments to MCA Mali.

b) Timing/ frequency

The implementing entities/ partners will provide information as specified in relevant Terms of reference and based on the frequency indicated in the MCA Mali M&E plan.

The approach for transmitting data to MCA Mali will be determined based on the type of information, schedule and other data characteristics.

The data collection and reporting schedule for seasonal indicators (for example based on the rainy or dry season) will entail greater flexibility as the length of the rainy season can vary from year on year. However, measurements should be comparable across years independent of the rainy season length

c) Data processing

For the Alatona Irrigation Project, the field specialist will conduct initial data verification based on data collection forms and files. The field specialist will ensure that all forms that have been completed inaccurately are corrected before being transmitted to Bamako.

The second data quality verification will be conducted by the M&E team along with project teams, who will validate data and explain deviations from targets in excess of 10%. The M&E team will complete this analysis and generate the indicator tracking tables to be submitted to MCC.

The M&E team shall also conduct supplementary data collection and analysis in order to inform various reporting tools and public dissemination of program results.

d) Quarterly cycle of M&E activities

The disbursement requests for the upcoming quarter must be submitted to MCC no less than 20 days before the end of the current quarter. The indicator tracking table is a required document in this disbursement request. In order to comply with MCA Mali's submission timeline, the M&E team must verify and validate indicators at least 5 days before the submission date. Data collection and all relevant activities must be organized to ensure data is available by this date (and procedures will need to be adjusted based on the nature and characteristics of required data).

4. Data quality risks and solutions

Data quality criteria	Definition	Verification and solution	Responsible party
Validity	Indicators can be adequately measured through data collected	Verify indicator definitions with technical and field specialists to ensure that indicators definitions are appropriately defined and unambiguous, they can be effectively measured (data exists) Conduct training on indicators and definitions	MCA Mali M&E team
Reliability	Data collection procedures are stable and appropriate; non biased; data is comparable over time and space; data collection instruments are reliable	Verify that data collection tools produce the same measurements (across time and different locations) Conduct training on collection methods and instruments	MCA Mali M&E team Field specialist: verify collection methods and identify problems
Practicality	Data is accessible and can be collected in a reasonable time frame and cost	Implement simple data collection procedures and ensure that the data collection and transmission schedule is feasible. If data cannot be collected as frequently as	MCA Mali M&E team

		anticipated, reduce the reporting frequency.	
Pertinence/ Adequacy	Data is sufficient to measure progress and activities	Verify how users apply data and whether it suffices to measure what is intended Test alternative data sources and definitions	MCA Mali M&E team

Annex 5: Example of Indicator Reference Sheet

PERFORMANCE INDICATOR : REFERENCE SHEET

Compact Goal: To reduce poverty by the economic growth through the increase in the agricultural production and the productivity and the access of Mali to the sub-regional and international markets

Project Objective : To make the circulation of the goods and services fluid in the zone of Alatona

Activity Outcome: Reduction in the cost of transport of the goods and services

Sub-Activity Outcome (if applicable if): Building of the tarred Road Niono – GomaCoura

Performance Indicator Title: Percentage of completion of the works

Is This an Annual Report Indicator? ~~No~~_____ Yes_____, for Reporting 2 Year(s)

DETAILED DESCRIPTION OF THE INDICATOR

Precise Definition(s) : Percentage of completion of the works of rehabilitation of the road Niono – Goma Coura

Definition of Indicator Components if Index or Composite Indicator : Composite

Unit Of Mesure : Percentage

Calculation Methodology : Deal of work realized on the total deal envisaged multiplied by 100

Disaggregated by : n/a

Justification & Management Utility : To see whether the estimated time will be respected and to take corrective measures which are essential.

PLAN FOR DATA AQUISITION BY MCA Mali Country Governing/Accountable Entity

Data Collection Method :

Data Source(s) : Consultant or the supervision of works

Method of Data Acquisition by MCA Mali Country Governing/Accountable Entity : Consultant's report

Frequency and Timing of Data Acquisition by MCA Mali Country Governing/Accountable Entity : quarterly

Individual(s) Responsible at MCA Mali Country governing/Accountable Entity : Bengali Cissé/TIGANA Kalilou

Entity and Responsible for Providing Data to MCA Mali Country governing/Accountable Entity : Consultant

Location of Data Storage : SIG MCA Mali

DATA QUALITY ISSUES

Date of Initial Data quality Review : Annual

Procedures for Initial Data Quality Review : Field survey

Known Data Limitations and Significance (if any) : n/a

Action Taken or Planned to Address Data Limitations : n/a

Did the Last Data Quality Review Resulted in any Modification(s) how? n/a

OTHER NOTES

Notes on Baselines/Targets :

Other Notes :

PERFORMANCE INDICAOR VALUES

Year	Target	Current	Notes
1 (2007-2008)	**n/a**		
2 (2008-2009)	**35**		
3 (2009 – 2010)	**65**		
4 (2010-2011)	**n/a**		
5 (2011-2012)	**n/a**		

Annex 6: Economic Rate of Return Analysis and Revisions

1. Main Results from Revisiting the ERR Model of the Alatona Project

The original 2006 ERR model was used as the basis to analyze the impact of the proposed re-scoping of the Alatona Irrigation Project on the net expected benefits of the Project. The original model had three separate ERRs to capture the effects of the Project. The Alatona benefits were modeled separately from those of the main system improvements and the Road activity. All three ERRs were then combined to produce a single summary statistic for the Project as a whole. For the purpose this exercise, the Road Activity is not included; its ERR has not been revisited or recalculated. The discussion below pertains to the Alatona and the Main System Improvement calculations only. Note that large components of the original model were modified and simplified to accommodate updated information on Project implementation and model parameters.

The key drivers of the original and current model are: (1) the yields of the major crops expected to be grown (rice during the rainy season and vegetables during the dry season); (2) the number of hectares made irrigable and available for production; (3) the reliability of water access, notably during the dry season, allowing high-value added crops to be grown to complement household revenues; and (4) the creation of a new class of agricultural laborers.

(1) Expected yields are not expected to change from the original analysis, as per the judgment of both MCC and MCA Mali experts. Yields in this model are being realized through the combination of interventions of the Project, including land titling, agricultural services, training, credit, and community services. Therefore, the various activities of the Project are not modeled separately, but are underlying conditions necessary to achieving superior yields.

(2) The number of hectares made irrigable and available for production is significantly reduced from the original Project, from 16,000 ha to 5,200 ha. We are assuming for the purpose of the ERR analysis that 5,200 ha will be done by the end of the Compact with the available Compact funds ($197.5 million, excluding the Road Activity).

(3) The reliability of the water throughout the year is guaranteed by the improvements of the main system. This component of the model has been updated to reflect the higher cost of this work. Since it is assumed that improving the main system will positively impact all farmers in the Office du Niger, the ERR is very large, even after the cost is increased from $17 million, as originally planned, to $47 million, as currently estimated.

(4) The labor benefits have been eliminated in the current analysis since we no longer have the large farms that were planned in Tranche 2 and 3 and were the source of agricultural job creation. Although it is likely that even a reduced Alatona perimeter will attract agricultural labor, without further evidence and additional information on labor markets, it is difficult to argue that this should be treated as a net benefit (as if this labor comes with zero opportunity

cost or perhaps a totally new labor market would be created). The hiring of paid labor and the cost and movement of agricultural labor will be carefully monitored during implementation, but without a set of pre-established assumptions, as was the case before the re-scoping.

The table below summarizes the impact of the re-scoped project on the ERR values and on the main benefit streams incorporated in the M&E Plan.

Main Results	**2006**	**2009**
ERR		
Alatona Perimeter Only	9.0%	1.2%
Main System Improvement	38.7%	35.5%
Combined	15.3%	13.9%
Key Benefit Streams		
Land Brought under Irrigation	16,000	5,200
Hectares under production during the rainy season	16,000	5,200
Hectares under production during the dry season	3,200	1,040
Number of agricultural jobs created in the Alatona zone	23,807	n/a
Number of land titles granted to New Settlers to the Alatona	1,187	240
Number of Women's Market Gardens allocated to New Settlers Households	615	240

2. Airport Improvement Project Re-scoping and ERR Recalculation[27]

The Investment Memorandum for the Compact estimated the economic rate of return (ERR) for the Airport Project as a whole to be 13.2%. This overall ERR was the combination of two separate ERR, one for the landside component and one for the airside. The estimate was recomputed in 2008 after the cost of doing the Project was re-assessed and came out much larger than originally anticipated. The new ERR for the project as a whole (airside and landside) was then estimated at 9%. The Landside investment has an estimated ERR of 1%, while the ERR for the airside remains strong at 8%. Indeed, the fact that this ERR is low implies that the Landside investment may not generate income benefits that fully recoup the original investment including opportunity costs of capital. However, as part of an investment package with an ERR above the Compact hurdle, it is recommended that the terminal be included in the

[27] This information is based on Compact restructuring memo to the Investment committee **(**14 April 2008)

investment package since there are a series of non-economic issues such as safety and security that argue in its favor.

Under the proposed Compact restructuring, the underlying sources of benefit for the Airport Project would be unaltered: projected increases in passenger traffic with the project are the same and the size and functions of the airport at the end of the Compact will be the same as originally envisaged. Therefore, the projected impact is expected to be the same.

Improved airside infrastructure will accommodate more flights and larger aircraft and thus a larger inflow of passengers. Currently over 50 percent of air traffic passengers arriving at the Bamako airport are non-resident. An increase in passenger traffic will have a direct impact on the tourism industry and on employment and revenues for hotels and restaurants. The landside improvements are expected to impact the population through increased employment for maintenance and handling of airport procedures and additional revenues for shops, restaurants, and other services at the airport.

The impact on tourism is by far the main source of benefits for the population. The impact on the tourism industry could benefit over 17,000 people by 2026. Most of these beneficiaries will be new employees in the hotel and restaurant sector, earning formal sector wages. Average wages in the hotel and restaurant sector are relatively high as compared to other services, such as transport and commerce and have a real potential to reduce poverty. In addition, it is estimated that over 6,000 direct jobs could be created at the airport, for the maintenance and handling of airport operations and in services by 2026. Although some of these jobs will be for skilled workers specialized in civil aviation, a large number are expected to benefit low-skill workers and have the potential to reduce poverty. The new jobs in maintenance are likely to benefit men more than women, although new jobs in sales and catering are likely to favor women.

Activity	**Original Compact**		**1st Re-scoping (June 2008)**	
	Cost (millions USD)	**ERR**	**Cost (millions USD)**	**ERR**
Airport Improvement Project	**89.6**	**13.4%**	**183.9**	**8.4%**
Airside	30.0	17.2%	61.6	14.8%
Terminal	58.6	7.1%	112.2	0.5%
Institutional Strengthening	1.0	--	1.0	--

Annex 7: Impact Evaluation

Alatona Irrigation Project

A rigorous impact evaluation is planned for the Alatona Irrigation Project with the objective of establishing a causal link between project activities and observed impacts among beneficiaries. As a suitable control group cannot be identified readily for the Airport Project, a different evaluation approach will be used for this project.

The impact evaluation for the Alatona Irrigation project is conducted by *Innovations for Poverty Action* (IPA), an international consultant with recognized expertise in rigorous evaluation of development projects. The main data source is a detailed household survey administrered to the households in the Alatona and in selected areas in and around the Office du Niger for the control population. The first survey was conducted in 2008-09 by a local survey firm and overseen by MCA Mali. Difficulties in entering and cleaning the data were encountered and as a result the dataset is only now made available. Follow-up interim surveys are planned for 2011 and 2012 and a final complete survey for the end of 2012.

Evaluation Purpose

This rigorous evaluation should establish a causal relationship between Program interventions and observed results by using a valid counterfactual. From this evaluation we expect to learn about:

- AIP impact on income and poverty reduction.
- AIP impact on agricultural production and productivity.
- Attribution of the identified impact to specific activities under the AIP (land titling, agriculture support services, etc.), to the extent that the overall impact can be disaggregated.
- How water is used in the Alatona and the associated value for beneficiaries.[28]

Evaluation Methodology

This evaluation will examine impacts for two groups of beneficiaries: the New Settlers and the Project Affected People (PAPs). These impacts will be determined through a combination of before and after data and the comparison of beneficiary and control groups. Different counterfactuals will need to be estimated to understand the program effect for the New Settlers (those moving to the Alatona Zone from elsewhere in the Office du Niger or other regions of Mali) and for the Project Affected People, or PAPs (those who currently live in or have land rights to the Alatona Zone).

[28] For irrigation water, the evaluation should identify the water use for purposes other than crop production. For social infrastructure wells, the evaluation should identify the uses of water other than for drinking. In both cases, the evaluation should identify the benefits associated with these 'unintended' uses of water. Ideally, the same counterfactual(s) would be used to address the water use topic as the other three evaluation objectives.

As the New Settlers should be selected through a lottery, this process will create the comparison and beneficiary groups required for a rigorous impact evaluation. The basic idea is to compare households who won the lottery to those who were similarly qualified but who did not win the lottery, as fewer plots are available than expected applicants. The lottery removes any observable or unobservable differences across beneficiary and comparison households.

All PAPs will receive project benefits as compensation for involuntary resettlement. The potential comparison group will be established through propensity score matching. The idea of propensity score matching is to use statistical techniques and high quality baseline data to match each program participant with one or more non-participant who are similar based on observable characteristics. The approach relies on the un-testable assumption that, conditional on observed factors, there are no systematic unobserved differences between the participants and their matched pairs.

There may be two potential comparison groups for the PAPs. The first group would be comprised of household which are just outside of the Alatona. Comparing households who reside just outside the AIP project boundary to households who benefited as PAPs will provide one estimate of total project impacts. Macina is the most likely location to find secondary comparison households, as there are a large number of Peulh households and geographically they may have the opportunity to provide wage labor in the ON.

Research questions

1. What is the impact of land titling on agricultural productivity and investment?
2. How do social spillovers and social network-based learning improve agricultural productivity and perhaps reinforce formal extension programs?
3. How does the composition and diversity of farmer association affect organization effectiveness and decision-making?

Data source and collection

In addition to the planned household surveys, the impact evaluation may also take advantage of data collected for MCA Mali monitoring purposes. Supplemental data may also come from the information gathered for resettlement planning. If the impact evaluation design requires data that cannot be met by the M&E Plan, the Contractor may propose additional and complementary data collection to be reviewed by MCC.

Implementation

In addition to the survey activities mentioned above, some activities anticipated in the implementation of the impact evaluation include:

- in depth analysis of baseline survey data
- involvement in the selection process of the new settlers

- preparing the follow up household survey (which may occur throughout the compact)
- observing or informing AIP activities related to impact evaluation design
- MCA Mali should inform the impact evaluation consultant of data monitored (indicators) that is relevant to the impact evaluation design or data interpretation
- Analysis on final household survey and establishing the impacts of AIP

Niono – Goma Road Impact Evaluation

MCA Mali has planned an evaluation of the Road's impacts on measures such as income level, livelihood patterns, access to social services, and the availability and cost of goods and transport. If feasible, propensity score matching will be used to establish the treatment and comparison groups for this evaluation. The data source will be a survey conducted by a local firm (in the intervention area, the NGC road, and the comparison area, the Niono Molodo road). This survey will include an establishment survey, small household survey, transporters focus groups and market surveys. The approximate sample size will be 30 treatment villages and a comparable number of villages for the comparison group.

This survey aims to capture the social and economic baseline conditions in an area that will be affected by the Niono – Goma Coura (NGC) road construction. The survey will also establish the baseline for a comparison area (the Molodo – Goma Coura or MGC). The survey will focus on livelihood patterns, costs, time and availability of transportation, local market activity (product prices and availability) and access to social services such as health centers and schools. Data collection will focus on village level questionnaires, a small sample of household questionnaires to verify employment and income sources, market surveys and focus groups with transportation providers in the region. Geospatial data will also be collected.

The sample frame will consist of all villages located along the NGC road (intervention area) and all villages located along the MGC road (comparison area).

These villages will be determined using both the census frame and through a listing exercises (that will be conducted by a local survey firm). As the survey will include a small sample of concessions/ families within each village, these will be identified through an initial listing exercise.

The sample of treatment villages should reflect the distribution of the following characteristics (representative of the population of villages in the treatment area).

- Principal economic activity: Agricultural vs. non agricultural
- Distance from Road
- Distance from main market

It is likely that all villages along the intervention road will be included in the treatment sample. To the extent possible, the comparison sample of villages should be selected to match the distribution of characteristics of the sample of treatment villages. The total number of

treatment villages is expected to be around 30 and the number of comparison villages would ideally be that same number. The listing exercise should also document several key characteristics of households within the treatment and comparison villages. The exact characteristics must still be determined (and may be based on similar characteristics used for PSM in similar road evaluations). These characteristics would be used to match households in the treatment villages with households in the comparison villages using propensity score matching.

Key areas where outcomes are to be measured include:

- Livelihood patterns
- Access to social services (health centers, education)
- Income level
- Transportation availability, cost and time
- Price and availability of goods at market