

06/23/2009

**Draft**

**Operations Monitoring Plan**

**for the**

**Humbo Ethiopia Assisted Regeneration Project**

*First version October 2007*  
*Second version May 2009*

*This Operations Plan follows the template of  
The World Bank - Carbon Finance Unit  
1818 H Street NW, Washington DC 20433, USA*

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## 1. Introduction

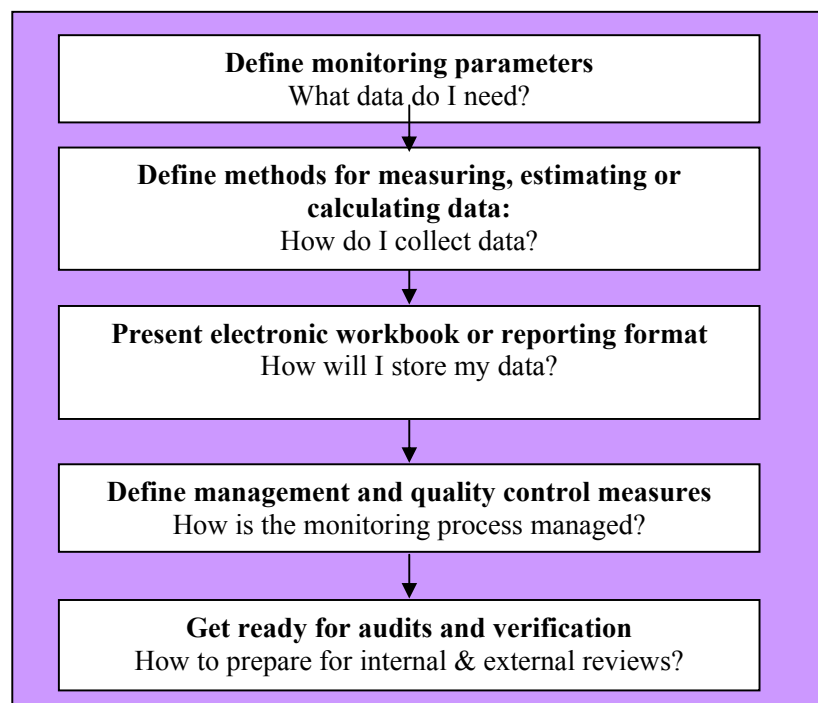
### *1.1 Purpose of the Operations Monitoring Plan*

The Operations Monitoring Plan (OMP) defines a standard against which the project performance in terms of its greenhouse gas (GHG) emission reductions (ERs) and conformance with all relevant CDM and World Bank criteria will be monitored and verified. It is a tool to help project developers coordinate all the monitoring requirements for generating verified emission reductions (VERs) or certified emission reductions (CERs) from their project and for ensuring compliance with applicable World Bank's standards.

The OMP is an integral part of the contractual agreement between the World Bank and the project developers World Vision Ethiopia and World Vision Australia. It forms the basis for the sale of ERs, provided they are verified following this OMP (VERs).

The project operator World Vision Ethiopia includes the relevant details in this OMP in the procedural plans and manuals for the operation to which the OMP applies. In this way, World Vision Ethiopia implements the OMP along with other operational instructions as often as required.

**Graph 1: Schematic illustrating the purpose of the OMP**



## ***1.2 Use of the Operations Monitoring Plan***

This OMP has been developed by World Vision Ethiopia along project planning and it will be used during project operation. Adherence to the instructions in the OMP is necessary for the project operator to successfully measure and track the project impacts, to prepare for the periodic audit and verification process that will have to be undertaken to confirm the achieved ERs, and to ensure compliance with the project's contractual and regulatory obligations.

The collected information enables early corrective action if the baseline or project emissions or compliance with World Bank standards change unexpectedly. The OMP therefore assists World Vision Ethiopia in establishing a credible, transparent, and adequate data measurement, collection, recording and management system.

Specifically, the OMP provides the requirements and instructions for:

- Establishing and maintaining the appropriate monitoring system, in accordance with best practice, including the preparation of spreadsheets for the calculation of ERs;
- The collection and archiving of relevant information;
- The calculation of ERs through the use of spreadsheets or other data processing procedures as instructed; and
- The implementation of the necessary management systems.

The OMP will be used throughout the life of the project. The OMP will be updated and adjusted to meet operational requirements, provided such modifications are approved during the process of initial or periodic verification.

## **2 Monitoring Parameters**

### ***2.1 The Monitoring Methodology***

The approved baseline and monitoring methodologies applied to this project are:

AR-AM0003 version 4, *Afforestation and reforestation of degraded land through tree planting, assisted natural regeneration and control of animal grazing.*

### ***2.2 Concepts and Principle Assumptions***

The methodology AR-AM0003 version 4 is based on the exclusion of livestock grazing, and the regeneration of degraded land through a management practice known as Farmer Managed Natural Regeneration (FMNR). Of the available Afforestation/Reforestation methodologies, this is the only methodology which captures the management activities (exclusion of livestock) and the carbon pools (Above and below ground biomass only) which are proposed within this project. The baseline and monitoring methodologies are transferrable to this project, given the limitations on the number of carbon pools to be

monitored. Standard forestry methodologies which are employed for the estimation of merchantable wood per hectare provide the basis for Afforestation and Reforestation calculations of above and belowground biomass. The carbon baseline and monitoring methodologies therefore are within the technical capacity of trained foresters such as those employed to manage the project.

The conservative nature of the emissions reductions calculations is explained in detail within the Project Design Document (PDD).

### 2.3.1 Boundaries, Leakage

Map Showing Humbo Project Site and Sample Plots

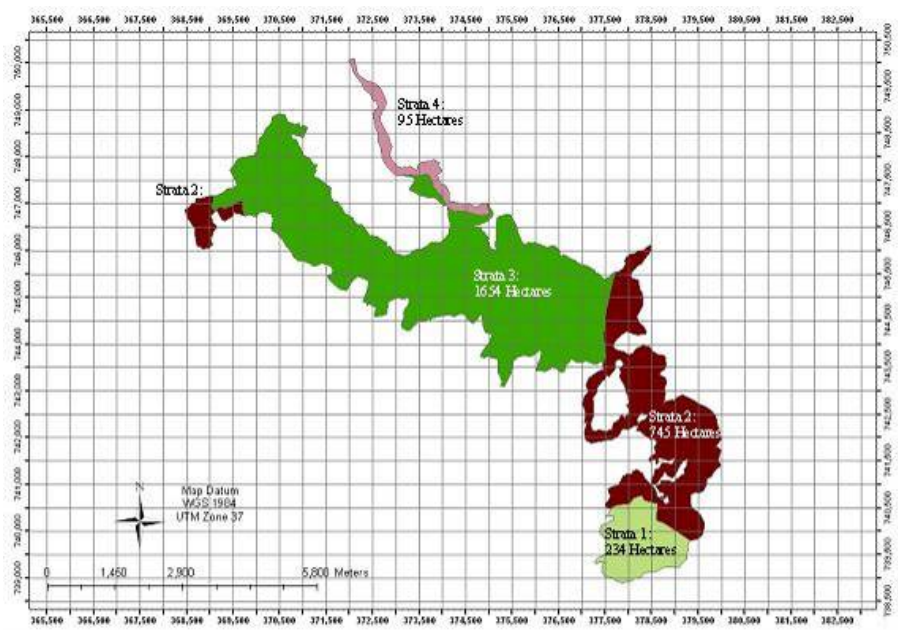
Scale: 1:50,000

Legend: Project Boundary (Green), PAI (Red outline)

Map Data: WGS 1984 (UTM Zone 37), World Vector Ethiopia GIS

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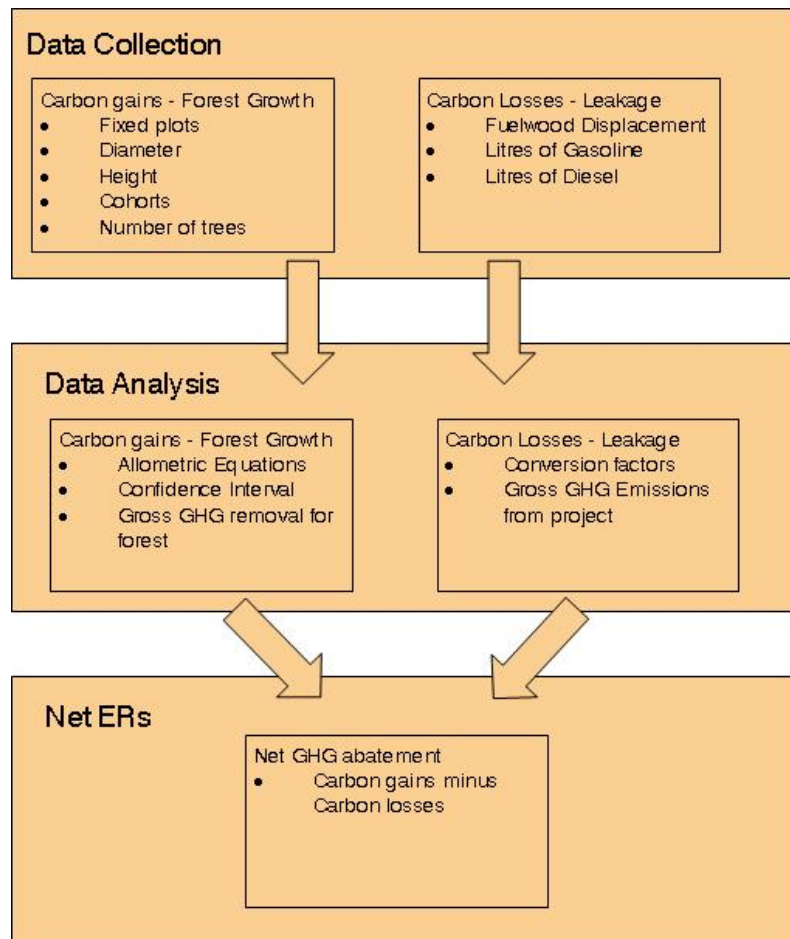
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*Map 2. Project boundary demonstrating baseline stratification.*

The PDD identifies only activity displacement as a source of leakage, including fuelwood collection, grazing, and clearing of vegetation for fencing. As shown in the PDD, fuelwood collection and fencing can be ignored, and leakage due to displacement of grazing animals can be considered to be zero.

### 2.3.2 Information / Process Flow



### 2.3.3 Crediting Period, Baseline Confirmation

The Baseline Study has opted for a 30 year fixed baseline and crediting period.

### 2.3.4 Emission Reductions: Calculation

ERs are calculated as the difference between the CO<sub>2</sub> emissions occurring in the baseline scenario and the project's CO<sub>2</sub> sequestration, minus leakage.

ERs are calculated by measuring the required number of fixed plots within the forest, adjusting for data confidence, calculating total forest biomass, and then subtracting leakage and baseline sequestration from the total biomass increase of the project area.

- A. Calculate gross CO<sub>2</sub>e removals from the project area based on increase in the quantity of forest biomass (based on the methodology in the *Sourcebook for land-use change and forestry projects* (Pearson, Walker and Brown 2005)).
- B. Calculate leakage based on measurements taken, and default values utilised (as per section 2.3.4.)
- C. Determine baseline emissions (fixed at project inception).

A minus B and C equals the net ERs available from the project site.

### **3 Operational and Data Collection Obligations**

The operator of the *Humbo Assisted Regeneration Project*, World Vision Ethiopia has operational and data collection obligations to fulfill, in order to maximize the greenhouse gas emissions reductions and to ensure that sufficient information is available to calculate ERs in a transparent manner and to allow for a successful verification of these ERs.

#### **3.1 Operational Obligations**

World Vision Ethiopia is responsible for maximizing the obtainable emission reductions through ensuring that all reasonable steps are taken to:

- Operate the process underlying the CDM project (i.e. growing of forest biomass) consistent with sound business practices;
- Collect all data necessary that allow to verify and confirm the generation of emission reductions in compliance with this OMP and applicable CDM rules and regulations; and
- Ensure compliance of the project with all other legal and regulatory requirements including environmental and social performance standards if so specified for the project.

#### **3.2 Data Requirements**

##### **3.2.1 Procedures for data collection**

Data will be collected as per the methodological process outlined in the Sourcebook for Land Use Change and Forestry Projects (Pearson Walker and Brown, 2005) sections 6.5, and 7.2.

Fixed nested plots will be utilized, and these will be monitored by means of diameter taped, clinometers, distance measuring equipment and tape measures.



### 3.2.2 Justification for estimates and evidence of conservativeness

Data required	How collected measured (m), estimated (e), calculated (c)	If calculated show formulae for calculation	If estimated, provide justification for estimation.	If measured explain how measured	How is data conservative
Number of plots	c	See Sourcebook			Established forestry methodologies
Size of plots	c	See Sourcebook			
Size of nests within plots	c	See Sourcebook			
Tree diameter	m			Diameter tape	
Tree height	m			Clinometer	
Number of trees within plots	m			Counted	
Non tree biomass per hectare	m			Weighed	
Slope	m			Clinometer	

### 3.2.3 Procedures for Updating and/or Amending Data

If data (such as emission factors or other energy applicable parameters) needs to be updated or amended over time or if monitoring and collection methods change over time, include clear description of procedures for updating or amending data and procedures.

## 4 The Project Workbook

This section explains and illustrates the steps required by the operator to enable the GHG emissions reductions to be calculated on an *annual basis*. It presents the worksheets (e.g. excel spreadsheets) contained in the workbook and illustrates their use. The electronic workbook is an Annex to the OMP and an integral part thereof.

### 4.1 How to use the Workbook

The OMP for the *Humbo Assisted Regeneration Project* consists of a workbook made up of the following 3 separate worksheets: *Plot measurements*, *leakage measurements*, *Calculations and ER estimations*. These will be based on the PDD.

Collected data will be stored in an electronic database, and care will be taken that the data is read out for each monitoring and calculation period and achieved together with calculation results. World Vision Ethiopia will complete the workbook annually starting with the commission of the project. The operator will internally validate the emission reduction calculation every five years of the project and keep a signed registry for verification purposes. The annual reports together with the operator's database and monitoring records form the "paper trail" which is essential for auditing purposes.

The annual workbooks will be a transparent record of operational indicators (e.g. electricity generation), emissions and ERs. Also, a worksheet is used to collect and present sustainable development data. In some instances cumulative calculations are made, for example, the workbook will present a clear record, from year to year, of the cumulative greenhouse gas emissions reductions.

## 5 Sustainable Development Indicators

The World Bank requires that sustainable development impacts be monitored for projects in the Bank's BioCarbon Fund projects and for other projects where non-carbon performance is considered important, e.g. in order to comply with World Bank social and environmental safeguard policies or with regulations of the host country that need to be monitored systematically.

To ensure that the project meets the expectations with regard to its contribution to sustainability as well as development over its lifetime the OMP identifies a set of appropriate performance indicators. The OMP identifies baseline values for social and environmental indicators and upon which the project seeks to improve. This work is being routinely undertaken through World Vision's own Transformation Development Indicators (TDI). This monitoring will not be duplicated; rather Area Development Program (ADP) level TDI reports will be supplied every three years.

### 5.1 *Monitoring Sustainable Development*

In the case of *the Humbo Assisted Regeneration Project* there are sustainable development requirements, contained within the *Transformational Development Indicators*.

The following local environmental benefits have been identified from the project:

- **Protection of water quality** - The project forms part of the watershed of Lake Abaya. Severe and widespread erosion throughout the catchment area has led to massive turbidity in the lake, and a subsequent loss of aquatic biodiversity. The project will help to increase the water quality of Lake Abaya and the streams, which connect the project area to the lake.
- **Protection of soil resources** - The project will significantly reduce the rate of soil erosion from the project area, protecting the growing medium upon which the ecosystem is dependant.
- **Protection and enhancement of biodiversity** - The project seeks to restore an area of biodiverse native forest, thereby protecting a large diversity of native species including native herbs, grasses and shrubs and fauna.

- ***Provision of habitat for rare and endangered native fauna*** - The project forms one of the most significant areas of native vegetation between the National Park south of Lake Abaya, and other protected areas to the north.

The direct social and development impact of the project are as follows:

- ***Reduced soil erosion and formation of gullies***
- ***Reduced flooding and concomitant loss of life and property***
- ***Enhanced ground water recharge and protection of springs vital for clean water resources of the region***
- ***Provision of a source of native medicines and fruits***
- ***Sustainable production of fodder, wood and non timber forest products for sale and for direct consumption***

## ***5.2 Recording and Reporting***

Table 5.1 shows an indicative worksheet for recording and reporting sustainable development impacts.

The first part records the expected developmental impacts during the construction phase of the project. The related targets shall be met by the time of the initial verification for the project. The second part of the worksheet documents the impacts that sustain beyond the project construction phase and as a result of the project's operation.

**Table 5.1 Sustainable Development Performance – Summary Sheet**

Type of performance indicator	Definition of performance indicator	Data collection responsibility <sup>1</sup>	Actual project performance (unit)	Expected project performance (unit)	Net performance and compliance (unit, yes/no)
<b>DURING PROJECT CONSTRUCTION PHASE</b>					
<i>Socio-Economic</i>					
	Per capita income	Project manager		10% increase in average income	
	Food security, Educational and health benefits resulting from project intervention	Project manager		Direct investment in Food security, health and education sectors	
	Opportunities for employment and for micro enterprise development as a result of project intervention	Project manager		# Positions created. # Successful MED enterprises established.	
<i>Environmental</i>					
	Estimation of soil erosion rates, area of bare ground, growth of gullies.	Project manager		Baseline established	
	Baseline Estimation of biomass accumulation	Project manager		Baseline established	
	Estimation of Habitat potential for fauna	Project manager		Baseline established.	
	Baseline estimation of biodiversity	Project manager		Baseline established.	
<b>AS A RESULT OF OPERATION OF THE PROJECT</b>					
<i>Socio-economic</i>	Increased resilience due to restored environment,	Project manager		Stability of income despite varying conditions,	

<sup>1</sup> Responsibility for data collection lies primarily with the project manager who will delegate appropriately to his team. As early as possible, cooperative members will be trained in data collection and storage and will eventually become responsible for this activity.

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	new and diversified income streams, reduced negative impact from adverse climatic conditions			reduced crop and livestock failure and losses of baseline.	
	Increases in community income	Project manager		25% increase in income,	
	Total of direct benefits from forest restoration (fodder, wood, non wood products)	Project manager		Harvest recorded and valued by cooperative leaders.	
	Increase in flow on benefits in areas of education, health and food security	Project manager		Direct investment in food security, health, & education sectors	
<i>Environmental</i>					

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	Estimation of changes in soil erosion status	Project manager		% of bare soil. Erosion rates. Gully formation.	
	Estimation of increase in habitat value	Project manager		Increased number of fauna over baseline.	
	Net change in biodiversity	Project manager		Net change in fauna & flora against baseline. Critical habitat for endangered & rare species adequately noted & protected.	
	Increase in biomass	Project manager		Increased biomass measured annually.	
	Estimated water retention & infiltration	Project manager		Increased water retention and infiltration – reduced run off, soil moisture content cf. control area. Impact on springs, stream flow & water availability. Criteria to be developed.	
	Non timber forest products are in use, their bases for use identified & necessary knowledge for sustainable utilization is available.	Project manager		Training and refresher courses provided. Bylaws in place & penalties agreed on.	
	Available knowledge allows an ecological assessment and diagnosis of forest ecosystems	Project manager		Training provides for annual assessment of health of forest ecosystems.	
	Adequate	Project manager		WV enlists	

	procedures & guidelines exist & are implemented to identify & protect the subject to be preserved.			assistance from IUCN to prepare procedures & guidelines.	
	Appropriate steps taken to restore degraded areas.	Project manager		WV provides training & guidelines on restoration.	

## 6 Management and Operational System

The project must have a well defined management and operational system that is defined in an operations manual. It is the obligation of World Vision Ethiopia to put such a system in place for the project. The management and operational system should include allocation of responsibilities and Quality Assurance and Quality Control Procedures.

### ***6.1 Allocation of Responsibilities***

The management and operation of the project is the responsibility of World Vision Ethiopia. The goal of the management and operation is to ensure systematic and accurate monitoring of the project's implementation and operation for the purpose of achieving trustworthy ERs and supporting the verification process.

Independent verifiers (Designated Operational Entities (DOE) under CDM) will periodically audit the operator and his management systems to ensure credibility and transparency of the reported ERs of the Humbo Ethiopia Assisted Natural Regeneration Project.

.The participants are World Vision and the World Bank. The following table outlines the respective roles of the participants.

**Table 5.1 OMP Management and Operation System: Roles of Project Partners**

	Project Operator	World Bank	DOE
Monitoring system	<ul style="list-style-type: none"> <li>▪ Review OMP and suggest adjustments if necessary</li> <li>▪ Develop and establish management and operations system</li> <li>▪ Establish and maintain monitoring system and implement OMP</li> <li>▪ Prepare for initial verification and project commissioning</li> </ul>	<ul style="list-style-type: none"> <li>▪ Draft or review, clear and provide OMP as part of ER purchase agreement</li> <li>▪ Ensure inclusion of relevant World Bank requirements in OMP</li> <li>▪ Arrange for initial verification</li> </ul>	<ul style="list-style-type: none"> <li>▪ Review monitoring, management and operational systems.</li> </ul>
Data Collection	<ul style="list-style-type: none"> <li>▪ Establish and maintain data measurement and collection systems for all OMP indicators</li> <li>▪ Check data quality and collection procedures regularly</li> </ul>		<ul style="list-style-type: none"> <li>▪ Review and audit data collection systems</li> <li>▪ Audit collected data for accuracy, credibility etc.</li> </ul>
Data computation	<ul style="list-style-type: none"> <li>▪ Enter data in OMP workbooks</li> <li>▪ Use OMP workbooks to calculate emission reductions</li> </ul>	<ul style="list-style-type: none"> <li>▪ Review completed worksheets</li> </ul>	<ul style="list-style-type: none"> <li>▪ Verify and confirm ER computations</li> </ul>
Data storage systems	<ul style="list-style-type: none"> <li>▪ Implement record maintenance system</li> <li>▪ Store and maintain records (paper trail)</li> <li>▪ Implement sign off system for completed worksheets</li> <li>▪ Forward monthly and annual worksheet outputs</li> <li>▪ Maintain hard copies of all data in both Ethiopia and Australia</li> </ul>	<ul style="list-style-type: none"> <li>▪ Receive copies of key records and reports</li> <li>▪ Maintain World Bank records</li> </ul>	<ul style="list-style-type: none"> <li>▪ Review adequacy and operation of archiving system</li> </ul>
Performance monitoring and reporting	<ul style="list-style-type: none"> <li>▪ Analyze data and compare project performance with project targets</li> <li>▪ Analyze system problems and recommend improvements (performance management)</li> <li>▪ Prepare and forward periodic (monthly) reports</li> </ul>	<ul style="list-style-type: none"> <li>▪ Review reports</li> <li>▪ Evaluate performance and performance management</li> <li>▪ Supervise project</li> </ul>	<ul style="list-style-type: none"> <li>▪ Assist with World Bank project supervision</li> <li>▪ Report to project participants as requested.</li> <li>▪ Produce official verification report.</li> </ul>
OMP Training and Capacity Building	<ul style="list-style-type: none"> <li>▪ Develop and establish OMP training, and skills review and feedback system</li> <li>▪ Ensure that operational staff is trained and enabled to meet the needs of this OMP</li> </ul>		
Quality assurance, audit and verification	<ul style="list-style-type: none"> <li>▪ Establish and maintain quality assurance system with a view to ensuring transparency and allowing for audits and verification</li> <li>▪ Prepare for, facilitate and co-ordinate audits and verification process</li> </ul>	<ul style="list-style-type: none"> <li>▪ Supervise project</li> <li>▪ Arrange for periodic verification</li> </ul>	<ul style="list-style-type: none"> <li>▪ Undertake audit, including of quality system</li> <li>▪ Verify and certify emission reductions (if possible)</li> </ul>



Additionally, the specific monitoring and reporting tasks and responsibilities for all World Vision staff involved in implementing the OMP shall be documented. The documents shall be accessible to all persons working on the project.

The following table or equivalent information should be included in the project's operational manuals.

**Table 5.2 - Project Staff Responsibilities for Implementing the OMP**

<b>Task and Area of Responsibility</b>	<b>Method Used</b>	<b>Frequency</b>	<b>Responsible person</b>	<b>Contact details</b>
Operation of Monitoring Equipment	As per equipment instructions	Annually	Project manager (Kibret Mamo)	
Quality (e.g. calibration responsibilities etc) of the monitoring equipment?	As per sourcebook	Annually	Project Manager	
Calculation of emission reductions and deviations from projection	As per sourcebook	Annually	Project manager, WVE head office staff	
Data storage (measured calculated, estimated data)?	Electronic and paper copies required	Annually	Project Manager, WVE head office	
Who undertakes QA/QC?		Annually	WVE HO/Hailu Tefera	
Staff training in monitoring system	As per requirements of equipment and sourcebook	As required	Kibret Mamo	
Sign off on monitoring reports and actual ERs calculations	Auditing as per sourcebook	Annually	WVE HO/Hailu Tefera	

## **6.2 Critical System Components**

It is the responsibility of World Vision Ethiopia to develop and implement a management and operational system that meets the requirements of the project and of this OMP. The management and operational system includes the following:

### **6.2.1 Data Handling**

World Vision Ethiopia establishes a transparent system for the collection, computation and storage of data, including adequate record keeping and data monitoring systems. World Vision Ethiopia develops and implements a protocol that provides for these critical functions and processes, which must be fit for independent auditing.

For electronic and paper based data entry and record keeping system, there will be clarity in terms of the procedures and protocols for collection and entry of data, use of workbooks and spreadsheets and any assumptions made, so that compliance with

requirements can be assessed without ambiguity by a third party. Stand-by processes and systems, e.g. paper-based systems, will be outlined to provide backup functions in the event of system failures. The record keeping system will provide the paper trail that can be audited.

### **6.2.2 Quality Assurance**

World Vision Ethiopia has designated a competent manager who is in charge of, and accountable for, the generation of the ERs, including monitoring, record keeping, computation of ERs, audits and verification. He will officially sign-off on all ER worksheets.

Well-defined protocols and routine procedures, with good, professional data entry, extraction and reporting procedures will ease time and costs, while making it considerably easier for the auditor and verifier to do their work – the more organized and transparent the organization, the easier to track, monitor, verify and audit.

Proper management processes and systems records will be kept by World Vision Ethiopia, as the auditors will request copies of such records to judge compliance with the required management systems. Auditors will accept only one set of official information, and any discrepancies between the official, signed records and on-site records will be questioned.

### **Responsibility for monitoring, measurements and reporting**

WVE project staff are responsible for ensuring monitoring, measurement and reporting, assisted by OARD and Cooperatives (Cooperatives Union). There is a plan to build the capacity of and empower the communities to take increasing responsibility of monitoring, measurement and reporting. However, even if these duties can be taken over by the communities to a considerable extent, WVE shall remain in an advisory and supervisory role.

### **Procedures for day-to-day records handling**

Given the time frame over which the project will take place, the plan is to update periodically and keep data at ADP and WVE head office Environment Department and Woreda OARD. There is a plan to increase the role of the community cooperatives also in this. At a later point, it is possible that data would be kept at Woreda OARD and WVE head office to make it accessible by any future software and keep offsite. There is an on-going monitoring record template development work taking place as a collaboration between the World Bank and select BioCarbon Fund project entities, including WVE. This will also engage the Cooperatives Union, which will be provided a desktop computer immediately after it has reached legal entity status.

### **Procedures to deal with possible monitoring data adjustments and uncertainties and to review reported results/data**

Monitoring measurements will be verified by using other team to re-measure plots, and the results are compared to find out whether they are accurate. Data quality control and dispatching such teams will be carried out by WVE head office Environment and GIS Department.

Data that is typed from field monitoring sheets and other field sources to database in office will be verified by having other team to re-input some part of the same data. Also this will be done by WVE head office Environment and GIS Department.

**Procedures for internal audits of project compliance with operational requirements**

Internal auditing to ensure compliance with operational requirements will be done as a part of World Vision's standard organizational quality procedures with regular intervals, by WVE internal Operation and Audit Departments.

**Procedures for project performance reviews before data is submitted for verification**

The project performance is reviewed by WVE head office experts, who are not closely involved with the project daily activities, and by WVE management. Possible errors will be addressed critically.

**Procedures for corrective actions in order to provide for more accurate future monitoring and reporting**

WVE head office management will handle decisions for corrective actions to increase accuracy. Updating activities will be worked done in collaboration with the World Bank.

**Procedures for emergency preparedness**

The biggest risk for emergency that could cause unplanned removals from the project is fire. Due to environmental conditions and topography, removals due to floods, landslides or other natural hazards are extremely unlikely but they would be dealt with in a similar manner as removals due to fire. Procedures for fire risk mitigation are explained in the fire management plan. Responsible to prevent fire emergency are cooperative leaders & community, Woreda Government Office of Agriculture & Rural Development (OARD) and WVE. In case of loss due to fire, WVE and OARD are responsible, which among other responsibilities is clarified as part of sub-agreement to ERPA. The losses will be documented by photography, and size will be mapped out using GPS within one month's time and will be communicated to WB and other concerned offices.

**Procedures for maintenance and calibrating monitoring equipment**

The procedures for maintenance of equipment used in vegetation measurement are outlined below. In case no ready guidance on the procedures is available, the recommendations of local forest management agency will be followed.

- When compass is used in the field, it is calibrated to compensate for the local difference between magnetic and true north (magnetic declination) and adjustment is completed in order to facilitate the recording of accurate bearing.
- It is recommended to use DBH tapes made of steel or aluminum, and cloth tapes should be avoided considering their propensity for wear and tear that could result in measurement inaccuracies.
- Pacing can be useful to establish the relationship between map and photo information with the measurements on the ground. One step represents half of a pace and two steps equal one pace. Therefore, crew should be trained in pacing on flat ground.

WVE's GIS staff are responsible for maintenance of the equipment though the tools are not complex. The plan is to train the community and local government staff (OARD) while training for monitoring. The tools will be kept at WVE Humbo ADP, and later possibly with the community cooperatives, except for more valuable and sensitive equipment such as GPS and DME that will be kept at WVE GIS department and Cooperative Union.

Calibration of equipment will be done by WVE GIS staff.

### **6.2.3 Performance Reports**

World Vision Ethiopia will prepare quarterly reports on the project's performance for the World Bank and as needed for audit and verification purposes.

World Vision Ethiopia will report to the World Bank at least every year as well as to national authorities as required. World Vision Ethiopia will transmit copies of completed worksheets to the World Bank on a regular basis, whenever a new monitoring has been performed while maintaining originals on file.

The project will prepare a brief annual report, which will include:

- Information on overall project performance,
- Emission reductions generated and verified and comparison with targets,
- Observations regarding baseline scenario indicators,
- Information on need for adjustment of key OMP assumptions and concepts
- Proposed modifications of calculation methods and other amendments of the OMP and the monitoring system.

The report will be prepared at the time the periodic verification report is prepared by the DOE or IE. However, the report will be prepared by World Vision Ethiopia and will be separate from the DOE / IE official verification report.

### **6.2.4 Training**

It is the responsibility of World Vision Ethiopia to ensure that the staff has the required competences to undertake the tasks of the OMP. Internal training will be made available to and followed by its operational staff to enable them to undertake the tasks. The training and certification shall be recorded. Initial staff training is provided before the project starts operating and generating ERs and for all new members of staff allocated responsibilities for the project.

The following monitoring-related training was arranged in 2008:

- 40 project staff and GO staff were trained in monitoring and evaluation, with the goal of clarifying monitoring requirements of the project, and assigning clear roles and responsibilities for all stakeholders.
- 11 people, including project staff, ADP managers, program office staff and GO staff were trained in leakage concept, monitoring and management.

The plan is continue training, e.g. to train 5 selected cooperative members from each cooperative, and three Woreda Forestry Department staff in monitoring carbon stock. This training is planned to take place in 2010-2011. The training will be given at Humbo ADP by Project staff and WVE GIS unit. Here caliper, diameter tape, clinometer, DME, calculator, GPS and other required tools will be used. Training success will be examined by exposing to measure on already fixed trees. This will be verified by trainer. New staff will be addressed at the same time. The purpose of this training is to empower community and local government staff to monitor carbon stock.

## **7 Auditing and Verification**

### ***7.1 Project Commissioning***

The management and operational system and the capacity to implement this OMP will be put in place before the project can start generating ERs. The World Bank will request a Designated Operational Entity to confirm that the project complies with project plans, necessary adjustments have been made and are reasonable, and the project is ready to generate and monitor ERs (“Initial Verification”). Upon successful Initial Verification the World Bank will commission the project to generate ERs that the World Bank will accept. Initial Verification is not a formal CDM requirement.

### ***7.2 Validation***

Validation of the monitoring plan requires a thorough and comprehensive assessment of known risks and uncertainties related to emission reductions. The validation shall ensure that identified risks and uncertainties related to emission reductions are sufficiently addressed by the monitoring plan.

During a project inspection the validator shall determine whether:

- the proposed system for monitoring reflects good monitoring practise
- the monitoring plan provides for complete, accurate and real measurements of achieved emission reductions
- the monitoring plan provides for conservative monitoring of baseline, when applicable, taking into account data uncertainty.

### ***7.3 Verification Procedures***

Periodic auditing and verification of project results is a mandatory component for all CDM projects. The auditing and verification process and any other requirements and

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procedures that the DOE / IE shall follow are laid down in the Validation and Verification Manual (VVM), which is available at <http://www.vvmanual.info>.

Through this reference, the latest version of the VVM is made an integral part of this OMP. Should this OMP contradict the VVM in any aspects, this OMP shall prevail.

Validation of the monitoring plan requires a thorough and comprehensive assessment of known risks and uncertainties related to emission reductions. The validation shall ensure that identified risks and uncertainties related to emission reductions are sufficiently addressed by the monitoring plan.