APPENDIX I: Project Design Matrix (PDM) Project title: Project of Integrated Approach Development in order to Promote Environment Restoration and Rural Development in Morarano Chrome Project site (Target Communes): 1) Initial Target Communes: Morarano Chrome, Andrebakely Sud and Amapsikely, 2) Extended Target Communes : Andilanatoby and Ranomainty Communes, Alatora Mangoro Region Targeted group: Ministry of Environment, Ecology and Forests (MEEF); Ministry of Agriculture and Rural Development (MADR): Morarano Chrome, Andrebekely Sud and Ampasikely Communes; and population of the target communes (Approximately 55 thousand people) From 10 February 2012 to 9 February 2017 (5 years) $\sqrt{22}$

D.-

| Proj | ect duration: From 10 February 2012 to | February 2012 to 9 February 2017 (5 years) Version | | |
|----------------------|--|---|--|---|
| | Narrative Summary | Objectively Verifiable Indicators | Means of Verification | Important Assumptions |
| Num deve integ | rall Goal ber of communes which promote rural elopment and soil conservation in grated manner increases in degraded ream areas. | Projects and/or organizations utilizing the Model established by the Project are newly implemented in X (*1) communes. | Interviews with relevant authorities | · |
| | ect Purpose | | | |
| Mod deve | el to promote integrated rural elopment and soil conservation in aded upstream areas is established. | a: At the end of the Project, upland tree planting is practiced by 60% of landowner households in upland in at least 75% of fokontany in the Initial Target Communes. b: At the end of the Project, 75% of Lavaka treated during the training are maintained by the local population in the Initial Target Communes c: At the end of the Project, 35% of total households continuously practice at least one of the new activities (*2) which contribute to improvement of living conditions and rural development in the Initial Target Communes d: By the end of the Project, a manual for model user is approved by MEEF and MADR e: By the end of the Project, at least one program proposal for implementation of the Model in X (*1) communes in degraded upstream areas is accepted by MEEF and MADR for further action. | b. Dittoc. Dittod. Date of approval | Natural disaster, political and economic crisis that affects implementation of the model do not occur |
| Outp 1. | Plans to promote rural development and soil conservation are developed in the Initial Target Communes | | 1a. Baseline Survey Report 1b. Local Resource Survey Report 1c. Land use map for each Fokontany 1d. Training plan | No major bushfires occur. Localized torrentia rain does not occu frequently. |
| 2. | Activities which contribute to rural development and soil conservation conducted by local population are promoted in the Initial Target Communes. | 2b. By the end of the Project, at least one person is certified as Lavaka Control Trainer by DREEF and DRDR for each fokontany where Lavakas are located. | 2c. Impact Report | Prolonged droughts do no occur. Severe damages caused by diseases and harmful insects do |
| 3. | Activities which contribute to rural development and soil conservation conducted by local population are monitored and evaluated, and improvement measures are indicated in the Target Communes | 3b. Initial training plan on specific issues is revised at least once a year 3c. Extension structure and methods of training and monitoring of activities conducted by local population are revised through trial and error | reports 3c. Minutes of the meetings of PMU and JCC | not occur. |
| 4. | Registration of land ownership becomes possible in the Initial Target Communes | 4a. After establishment of Morarano Chrome GF, at least 130 land certificates are issued every year in the Initial Target Communes where GFs are operational. | 4a. Archives of GF in each Initial Target Communes | |
| 5. | Model proposed by the Project is acknowledged to be effective by officials responsible for administration of degraded upstream areas outside the Target Communes | the last quarter of the Project.5b. At least 80% of the participants in the final workshop acknowledge effectiveness of the proposed Model according to the criteria developed by the PMU in collaboration with MEEF and MADR. | 5b. Survey during workshop5c. Date of draft submission5d. Date of draft submission | |

| | Narrative Summary | Inputs | - Prolonged political |
|------------|---|---|---|
| 1.1 | Develop Project Implementation Guidelines. | <malagasy side=""></malagasy> | vacuum at commune |
| | Recruit Area Managers (Commune Animators) i.e. personnel who will facilitate communication between local people and | 1) Personnel | level does not occur. |
| | Project Management Unit for the Initial Target Communes | > Project Director (Director General of Forests, | - Serious conflicts |
| 1.3 | Conduct training for Area Managers | MEEF) | among local |
| 1.4 | Conduct baseline survey in the Initial Target Communes | > Co-Project Director (Director General of | population do not |
| | Conduct local resource survey in the Initial Target Communes | Technique, MADR) | occur. |
| | Develop land use map for each fokontany in the Initial Target Communes | Project Manager (Regional Director of | - Policy of promoting |
| 1.7 | Develop training plan on specific issues | Environment, Ecology and Forests in | decentralization |
| | Compile training plan for each Initial Target commune and provide information so that plan can be reflected in commune | Alaotra-Mangoro Region) | remains unchanged. |
| 1.0 | development plan | Co-Project Manager (Regional Director of Rural) | - Land tenure and |
| | | | registration policies |
| 24 | Conduct training and follow up on activities which contribute to such development and call concentration for local nonvelotion in | Development in Alaotra-Mangoro Region) | remain largely |
| 2.1 | Conduct training and follow-up on activities which contribute to rural development and soil conservation for local population in | Technical personnel | unchanged. |
| | each fokontany, following training plan in the Initial Target Communes | - Staff of MEEF and DREEF Alaotra-Mangoro | |
| 2.2 | Conduct training and education to enhance awareness and knowledge on conservation of natural environment for local | - Staff of National Program Office for Irrigation | - Budget to maintain |
| | population in each fokontany, following training plan in the Initial Target Communes | and Watershed Management, MADR and | GFs is secured. |
| | | DRDR Alaotra-Mangoro | - Staff of GFs are |
| | Monitor and evaluate activities conducted by the Project in each fokontany such as training and follow-up | - Commune mayors and staff | recruited and |
| | Monitor and evaluate response of local population to training and follow-up | 2) Facilities | maintained. |
| 3.3 | Verify monitoring and evaluation results and consider measures to be taken | Office space for experts and local staff | - Building to install |
| 3.4 | Revise training plan on specific issues based on monitoring and evaluation | - Antananarivo (MEEF), Ambatondrazaka | Morarano Chrome |
| 3.5 | Revise extension structure and methods of training and monitoring of activities conducted by local population based on | (DREEF, Alaotra-Mangoro) | GF is secured. |
| | monitoring and evaluation results | - Each commune | Unauthorized mining |
| 3.6 | Update the Project Implementation Guidelines based on monitoring and evaluation results | 3) Activity cost | activities are not |
| 3.7 | Verify the efficiency of the above revised extension structure and the methods in the Extended Target Communes | Salaries and travel allowances of counterparts | implemented |
| | | Utility cost | |
| 4.1 | Agree on roles of Morarano Chrome Commune and the Project regarding establishment of land office (GF) of Morarano Chrome | | <pre-conditions></pre-conditions> |
| | Commune | <japanese side=""></japanese> | - Procedures to |
| 4.2 | Prepare equipment and materials necessary for the establishment of Morarano Chrome Commune GF according to the | 1) Dispatch of experts | establish GF in |
| | agreement | > Chief Advisor, Rural Development, Soil | Morarano Chrome |
| 4.3 | Conduct training for Morarano Chrome Commune GF agent according to the agreement | Conservation, Local Governance, Training | Commune is |
| 4.4 | Identify challenges of GF of other Initial Target Communes and plan and implement appropriate support measures | Management, etc. | completed. |
| 4.5 | Monitor operation of GF of the Initial Target Communes and provide necessary advice and support | 2) Local staff | · |
| 4.6 | Encourage local population to use GF in the Initial Target Communes | Approximately 7 Area Managers | |
| 4.0 | | Interpreters, secretaries and drivers | |
| 5.1 | Organize in Alaotra Mangoro Region regional level committee consisting of organizations responsible for environment. | 3) Training | |
| 5.1 | agriculture, local governance and the Target communes, and other projects operating in the Project Site; report progress; and | A few persons in Japan and/or third countries | |
| | obtain feedback | 4) Equipment | |
| 52 | Conduct workshops, seminars, field visits to present achievements of the Project, targeting officials concerned with | Vehicles, motorcycles, equipment and materials | |
| J.Z | administration of degraded upstream areas | for GF, office equipment (computers, etc) | |
| 5.2 | | | |
| 5.3 5.4 | Conduct information and communication activities about the Model Holistically evaluate effectiveness of activity methods employed by the Project | 5) Activity cost > Fee for trainers responsible for providing | |
| | | | |
| 5.5 | Develop a manual for the Model proposed by the Project which enables integrated promotion of rural development and soil | extension and training to local population, and | |
| F ^ | conservation of degraded upstream area and a strategy for diffusion of the Model | training materials | |
| | Develop at least one program proposal for implementation of the Model in degraded upstream areas | Consumables (office supply etc.) | |
| 5.7 | Recommend adoption of the manual and the program proposal(s) developed to central government agencies | | |
| i | | | |
| | | 1 | 1 |

(*1) Note: The target number shall be determined in the program proposal(s) to be submitted to MEEF and MADR by July 2016.

(*2) New activities mean the activities that had not been practiced by the household before training.