SMALLHOLDER AGRICULTURE DEVELOPMENT PROJECT

Environmental and Social Management Framework

Papua New Guinea
2007
TABLE of CONTENTS

1. Introduction
2. Approach and Methodology
3. Public Participation Programs
   3.1 Public Notification
   3.2 Community Implementation
4. Environmental and Social Awareness Program Training
5. Community Identification of Environmental and Social Issues
   5.1 Community Inventories of Resources, Values and Risks
   5.2 Initial Screening of Community Development Projects
6. Expert Environmental Review in LLG Planning Process
7. Bibliography

Appendix 1 Community Development Activities Reference Checklists

Appendix 2 Community Development Activity Reference Guidelines

1. Water Supply and Sanitation Systems
2. Road and Bridge Constructions
3. Building Construction

Appendix 3 Summary of Section 3.1.2 in Koczberski & Curry, 2007, Beneficiaries Assessment.
<table>
<thead>
<tr>
<th>ACRONYMS</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBO</td>
<td>Community-Based Organizations</td>
</tr>
<tr>
<td>DEC</td>
<td>Department of Environment and Conservation</td>
</tr>
<tr>
<td>ESAP</td>
<td>Environmental and Social Awareness Program</td>
</tr>
<tr>
<td>ESMF</td>
<td>Environmental and Social Management Framework</td>
</tr>
<tr>
<td>GIS</td>
<td>Geographic Information System</td>
</tr>
<tr>
<td>LLG</td>
<td>Local-Level Government</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-Governmental Organization</td>
</tr>
<tr>
<td>PNG</td>
<td>Papua New Guinea</td>
</tr>
<tr>
<td>SADP</td>
<td>Smallholder Agricultural Development Project</td>
</tr>
</tbody>
</table>
1. INTRODUCTION

The Environmental and Social Management Framework outlined in this document relates solely to Component 2 of the SADP. Component 2 will develop and demonstrate sustainable mechanisms for community participation in local development, through the provision of grants to community groups in the project areas and promoting participatory planning and local accountability at local government and community levels. This component will promote self-reliant local development through: (a) community mobilization, facilitated by local facilitators; (b) identification and prioritization of activities that would provide suitable solutions to local development constraints, through transparent processes at ward or community level; (c) participatory planning and budgeting at LLG level; (d) provision of small grant funding, with transparent conditions to ensure accountability and effective use of funds by recipient communities; (e) design and implementation of planned activities by the communities themselves, with support from district and LLGs, local CBOs, NGOs and service providers; and (f) capacity-development of CBOs, ward development committees, LLGs and province/district administration.

Under this component of the Smallholder Agricultural Development Project (SADP), selected Local Level Governments in Oro and West New Britain Provinces would enter into partnerships with NGOs, churches and line agencies to enable community based organizations (CBOs) and village groups to plan and implement local activities such as upgrading classrooms and aid posts which would be funded through a block grant. One aim is to increase participatory and inclusive planning and local accountability at the community level.

In the first stage, local motivators, trained by NGOs, would facilitate CBOs and village groups to identify, prioritize, and rank community development activities, through a transparent and participatory process, that will be submitted to the LLG for funding from the LLG’s development budget;

In the second stage, these community development activities will be integrated into the LLG planning and budgeting process.

In the third stage, some of these community development activities will be selected for funding, and will proceed to implementation.

The Project Implementation Manual (PIM) details the various steps to be used for the participatory planning and budgeting process and implementation of subprojects, as well as Monitoring and Evaluation.

The present document combines with the PIM and sets out a framework and mechanisms for:

1. identifying and assessing at the community level the environmental and social effects of community development proposals;

2. identifying and developing at the community level measures by which any potentially adverse or damaging environmental and social effects
can be avoided or mitigated at the local level using local resources to an acceptable and safe level;
3. conducting an "expert" review of these environmental and social assessments to determine how effective and feasible they might be at the local level for avoiding or reducing any potential negative environmental and social impacts of community development proposals, prior to proposals being considered for funding through the LLG.
2. APPROACH and METHODOLOGY

At this stage it is unclear what agencies or organizations will be facilitating the CBOs and village-level groupings to identify priorities and rank the community development activities. It will also be necessary at some stage in the selection of development activities that are to be funded to ensure that the activities which will be funded do not pose a risk of significant adverse environmental impact(s), adverse social effects or a threat to the natural resources and conservation values of the area.

The framework and mechanisms for identifying the potential negative environmental and social effects, and how these could be avoided or reduced, should not require significant technical input.

It is also important that the process of identifying potential adverse environmental and social effects, and strategies to avoid or reduce them, be inclusive so that all members of the community participate fully in identifying problems and developing solutions.

Checklists of community development activities which could pose a risk of environmental or social impact or threat to a natural resource or conservation values have been prepared to expedite the evaluation of selected development activities.
3. PUBLIC PARTICIPATION PROGRAMS

3.1 Public Notification

Ward Councilors in the project areas will be formally notified of the project through established LLG channels. They will then notify the local CBOs and village-level groups directly and through the Ward Committees. The LLG will also directly notify the local church leaders, schools and health sector workers.

Where there is local radio coverage, regular announcements will inform the public of the forthcoming program and advise interested groups or individuals to contact the Ward Councilor or a member of a Ward Committee.

3.2 Community Implementation

Local motivators from each ward will be selected and trained by NGOs to facilitate the participatory planning process amongst CBOs and village groups. A key component of this training will be the preparation and delivery of Environmental and Social Awareness Programs (ESAP) that will form an integral part of the facilitation process.

It is important that these ESAPs are participatory and inclusive, and are individually tailored to the situation and circumstances of each ward. This will require active participation by the local motivators in the development of their ESAPs during the NGO training.

The NGO training material will provide an ESAP framework which can then be modified into a location specific ESAP, drawing on the local knowledge and experience of the motivators and their communities with technical input and a wider perspective being provided by the NGO trainers.

One of the NGO trainers in each training team must possess an environmental background and be drawn from a local environment / conservation NGO. At least one of the NGO trainers in each training team must possess a social impact assessment background and be drawn from a local NGO active in community development and local governance programs. All the NGO trainers in each training team must have participatory planning skills and experience.

In the two provinces proposed for this project component there are active environment / conservation NGOs which have already carried out Environmental Awareness Programs at the local community level and their skills and experience should be recruited in each training program. Examples of environment / conservation NGOs in each province include Conservation Melanesia in Oro Province and The Nature Conservancy in West New Britain. However, other environment / conservation NGOs may also be present in these provinces and should also be considered.

Although there are many national NGOs active in the areas of community development and local governance such as the Melanesian Foundation and ICRAF, it is important that the social impact assessment aspects of the ESAP
are able to draw on local knowledge and understanding within the team of facilitators. So if it is necessary to use social impact assessment trainers from outside the area, the team must contain adequate local representation as well.
4. ENVIRONMENTAL and SOCIAL AWARENESS PROGRAM TRAINING

The ESAP training program for the local motivators should be developed by the NGO trainer, drawing on their previous local experience of ESAPs. However, it is important that the NGO trainers tailor their ESAP training to suit the delivery of the ESAP within a community participatory framework and context.

The aim of this is to ensure that the ESAP enables the CBOs and village level groups to identify and take ownership of their local environmental and social issues and concerns. This will ensure that the proposal identification and selection process is community based and will be present as an ongoing and sustainable capacity post project.

The framework for the ESAP should include, but is not limited by:

- Discussion of the meanings of the terms: "physical environment" and "social environment".
- Identification and inventory of environmental and social components of the physical and social environments.
- Production of sketch maps of local area showing main components of physical environment (e.g., pristine forests, wetlands, rivers, cash crops, subsistence gardens, reefs, etc) and social environment (e.g., land use and land tenure).
- Assessment of the importance and value of different environmental and social components and relationships for sustaining natural life and promoting social well-being.
- Identification and design of remedial measures to reduce existing impacts and enhance environmental quality / value, including identifying the resources required to implement these remedial measures.
5. COMMUNITY IDENTIFICATION of ENVIRONMENTAL and SOCIAL ISSUES

5.1 Community Inventories of Resources, Values and Risks

At an early stage in the identification and prioritization of community development activities by CBOs and village-level groups, the NGO trained motivator(s) would facilitate the CBOs and village groups to prepare:

1. Inventory of all local natural resources. A lands systems approach could be adopted where key elements are identified such as pristine forests, logged over forest (within past 20 years); sago swamp land; aquatic resources; hunting/fishing areas; food garden areas; cash crop plantings, etc.;
2. An “environmental map” of the local area;
3. Inventory of the various social groupings within the community/village – e.g. customary landowning groups, ethnic groupings, women, youth, as well as community and village church and civil society groups, such as women’s groups, sports groups, youth groups, ethnic associations, etc (See Appendix 3).
4. Inventory of the key social issues that the community (and the various social groupings) would like to see addressed in any proposed funded community projects (e.g., upgrading of classrooms or aid posts).
5. List of potential social risks or tensions that could emerge as a result of any proposed community projects, and identification of those most at risk if development were to go ahead.
6. Inventory of Natural Resource Values – conservation values, environmental values, subsistence values (potable water, hunting and gathering – food timber medicines, traditional decoration), economic values (informal sector, local cash markets for fish, forest products, wildlife; and the formal sector e.g. fisheries); heritage and cultural values.
7. Identification and Inventory of Risks to Environmental Resources, Social Relationships and Values, and Natural Resource Values, which will be based on their own deliberations, supported as necessary by the Community Environmental and Social Framework Handbook.

This Inventory of Environmental and Social Risks will provide a basis for assessing each of the community’s specific development proposals that have been identified during the Initial Screening (see below) as having a potential environmental or social risk. The environmental and social effects and potential risks of each of these proposals to the community and local natural resources and values will be jointly assessed by representatives of the CBOs and village groups. These representatives will also assess the effects and potential risks of each proposal on the social structures, relationships and values within the local area.
5.2 Initial Screening of Community Development Projects

The purpose of this Environmental and Social Management Framework is to provide a mechanism that will expedite development for the participating communities in a manner that ensures that the developments proceed in an environmentally and socially sustainable manner.

A negative list of activities that the project will not finance has been included in the Project Implementation Manual. Activities that cannot be financed under the project are:

- Private or individual activities and goods, unless they are of a "public good" nature or are expected to yield considerable benefits to the community as a whole
- Salaries, wages, or allowances of staff or elected representatives
- Political and religious activities
- Activities that may have an adverse social or environmental impact, as described in the Environmental and Social Management Framework (ESMF).

In particular, customary land must not be taken to be used for project purposes. Project approvals will be restricted to proposals that do not require the use of customary land for new purposes under project funding. For example, based on community meetings, it appears that there is a desire among community members for upgrading of existing community structures, such as community aid posts, village schools, market places, rather than for establishing new health, education or market structures. However, if there is good justification for approval of a project which requires the use of customary land (e.g., building a new village school or aid post in a remote part of the project area that lacks basic health or education services), a Clan Land Usage Agreement must be lodged and registered at the Provincial Lands Office, and a copy given to the SADP Project Management Unit. A CLUA is a signed agreement between a clan and an individual/group acknowledging the latter's right under native law and custom to have access to the land. The agreement acknowledges that the clan endorses the transfer of the customary land to the individual/group for specific purposes. It should be noted, that under a CLUA only the access and use rights have been individuated, not the land itself. Thus the land remains under customary ownership. CLUAs are commonly used in PNG to allow economic and infrastructure development to take place on customary land.

No projects may be approved that require the resettlement of indigenous people or migrant populations living in villages or urban and rural informal settlements.

Projects must not, directly or indirectly, undermine traditional village leadership or village decision making processes, existing land tenure principles or the functioning of existing village/church or community groups. As discussed in the Beneficiaries Assessment Report of Koczberski & Curry, 2007, members of indigenous ethnic/language groups in WNB and Oro Provinces reside in villages. As the authors note (2007, p9) "the social organization of village communities is based on kinship in which the component clans and subclass can trace their genealogies to a common ancestor. Most members of a village
community are able to define themselves in relation to all other community members in terms of kinship. Kinship structures the social and economic relations of village communities, for example, through determining access rights to resources (land, forest and marine resources) and the labour that can be drawn upon for subsistence and commercial activities. Similarly, accessing resources is also governed by village social structures. As Koczberski & Curry, 2007 explain "access to village land for the cultivation of food crops, and access to other resources such as wild game, forest products and marine resources, is governed by customary land tenure arrangements. In northern WNB social structure and customary tenure are predominantly matrilineal with access through the mother’s lineage so that a man has primary rights over his mother’s property, and these rights pass to his sisters’ sons on his death (rights vested in his eldest sister’s eldest daughter). In the Popondetta area, land tenure and social structure are strongly patrilineal with men inheriting the tenure rights of their fathers, and women moving to their husband’s village after marriage" (2007, p. 10).

Finally, existing village leadership structures must be respected when approving project proposals. As outlined in the Beneficiaries Assessment Report of Koczberski & Curry, (2007, p11), “in WNB, the position of clan leader is tied to particular matrilineages, with men inheriting the status from their maternal uncles. Everyone knows his or her position in the clan and the identity of their clan leader. While clan leaders exercise considerable authority over the clan’s resources, this control is not absolute, and they should consult with and gain the consensus of the senior men and women of their clan when making decisions regarding the clan’s resources. In Popondetta, there is a stronger element of competition in leadership status with big men earning their reputations and status as clan leaders. However, in both WNB and Popondetta, modern forms of leadership are important. Nowadays, Local Level Government (LLG) representatives, ward councilors, members of village ward committees, village court magistrates, church leaders and school teachers are exercising more authority in village communities. These people are often highly respected members of their communities, and in former times they may have held positions of traditional clan or sub clan leaders”.

The form to be used for initial environmental and social screening is provided in Appendix 1.
6. **EXPERT ENVIRONMENTAL REVIEW in LLG PLANNING PROCESS**

The LLG should have access to more expert opinion (see below) with a more extensive understanding of the regional environmental issues which could identify potential environmental impacts that have been overlooked by the community based assessment. Thus it is important that a second assessment of potential environmental and social impacts is conducted during the LLG Planning and Budgeting process for each proposed development activity submitted for funding.

As this process occurs within government, it is appropriate that this expert environmental and social impacts review is carried out by the Department of Environment and Conservation’s provincial representative (for example, in the case of Oro Province, this would be the Provincial Wildlife Officer). Although the national Department of Environment and Conservation mandate covers social impact assessments under the Environment Act 2000, their provincial representative may wish to draw on the opinion of others within the LLG’s District Administration to assist in the review of the Social Risks component of the assessment.

Appropriate assistance may come from the health or education sectors within the Administration, women’s representatives on the LLG’s reviewing committee, or NGOs which may provide a local expert appraisal of the Social Risks assessment.

The Department of Environment and Conservation’s provincial representative may request additional expert environmental assistance, in which case, he / she may wish to call on the services of the national Department and / or the environment / conservation NGO trainer.

In cases where this second review does not identify any significant environmental or social impact risks for which adequate mitigation measures and / or resources are not available, the proposed development activity can proceed through the LLG funding process.

In cases where this second expert review identifies environmental issues or potential impacts which have not been identified during the community environmental and social risk assessment, these should be relayed back to the CBOs’ and village groups’ representatives for referral back to the Proponent with the findings of the LLG’s expert assessment.

7. **PUBLIC DISCLOSURE AND GRIEVANCE MECHANISMS**

**Consultation Strategy**

As required for informed consultation, concerned LLGs will provide communities with all CIW-related information, including that on potential adverse impacts. To facilitate consultation, the LLGs will,
- Prepare a time-table for dialogues during CIW selection, design and implementation processes, and consult with communities in such a way that they can express their views and preferences freely.
- In addition to the communities in general, consult organisations, community elders/leaders and others with adequate gender and generational representation; and civil society organisations like NGOs and groups knowledgeable of environment and social issues.

Consultation will, in general, concentrate on the adverse impacts perceived by the communities and the probable (and feasible) mitigation measures, as well as exploring additional development activities that could be promoted under the project. The LLGs will keep Minutes of these consultation meetings in the CIW files and make them available for inspection by IDA, GOPNG officials and other interested groups and persons.
7. BIBLIOGRAPHY


APPENDIX 1 COMMUNITY DEVELOPMENT ACTIVITIES REFERENCE CHECKLISTS

The Initial Screening set out below provides a simple and quick mechanism for identifying whether a development proposal poses a risk to:

- the natural environment, its resource values (including its subsistence resources' values) and / or conservation values;
- the socio-economic environment, and the social structure, relationships and social values it sustains.

This Initial Screening requires three simple questions to be answered by in relation to each subproject proposal:

- Does the location of the proposed project pose a risk to the environment?
- What will the project use or take from the environment and does this pose an environmental risk?
- What will the project release or allow to escape into the environment and does this pose an environmental risk?

These questions, and the appropriate responses to the answers are provided in the Table blow.

Table 1: Initial Environmental and Social Screening Guidelines.

<table>
<thead>
<tr>
<th>STEP 1: INITIAL SCREENING FOR PROJECT LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Question:</strong> Will any part of the proposed project, or any of its associated activities be situated in a location where project materials, wastes (including litter), project equipment, project personnel or any domestic animals associated with the project could enter or disturb a sensitive environment?</td>
</tr>
</tbody>
</table>
**Explanation:**

**Sensitive environments include:**
- Streams, rivers or other water sources (e.g. natural springs) that are used for water supply;
- Wetlands, lakes and ponds;
- Shorelines, coastal lagoons and mangroves;
- Coral reefs and sea-grass meadows;
- Undisturbed natural forest (forest that has not been cut for fuel or timber or had tracks cut through it, other than footpaths);
- Protected areas such as Conservation Areas, Wildlife Management Areas and National Parks;
- Sites or natural features of archaeological, historical, traditional or cultural value or importance;
- Areas of recognized conservation habitat value (including aquatic and marine habitats).

**STEP 2: INITIAL SCREENING FOR USE OF THE ENVIRONMENT**

<table>
<thead>
<tr>
<th>Question</th>
<th>If answer is Yes:</th>
<th>If answer is No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will the project use, remove, damage or significantly disturb any materials, plants, animals or other resources from the natural environment?</td>
<td>Proceed to 2b, below</td>
<td>Proceed to Initial Screening for Releases to Environment (Step 3)</td>
</tr>
</tbody>
</table>

**Explanation:** This includes:
- Taking of water from streams, rivers or other natural water-bodies;
- Damming or diverting streams or rivers;
- Removing or using natural vegetation (e.g. harvesting of natural fruits and / or seeds, scrub clearance, timber cutting);
- Removing and using river stone, gravels or sands for construction purposes.

<table>
<thead>
<tr>
<th>Question (2b):</th>
<th>If answer is Yes:</th>
<th>If answer is No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Could the methods and amount of materials / resources used, removed, damaged or disturbed adversely affect to a significant degree:</td>
<td>Detailed Environmental Screening is required, or proposal should be modified and resubmitted.</td>
<td>Proceed to Initial Screening for Releases to Environment (Step 3)</td>
</tr>
<tr>
<td>- Water flows downstream (particularly where there is downstream domestic users);</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Water quality downstream (particularly where there is downstream domestic users);</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Natural vegetation of the area in terms of protection of the soil, the number of plant species, the range of habitats in the area;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Wildlife (including aquatic and marine species) in terms of the number of species and the size of the species populations in the area;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Stability (and flood protection capacity) of riverbanks and shorelines.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**STEP 3: INITIAL SCREENING FOR POTENTIAL RELEASES TO THE ENVIRONMENT**
Table 1: Decision Matrix for Environmental Screening

<table>
<thead>
<tr>
<th>Question (3a):</th>
<th>If answer is Yes:</th>
<th>If answer is No:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will the project generate any solid or liquid wastes (including storm-water and wash-water), litter or noticeable amounts of dust, smoke, gases, odours or noise that could be released or escape into the environment?</td>
<td>Proceed to 3b, below.</td>
<td>Proceed to Step 4.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question (3b):</th>
<th>If answer is Yes:</th>
<th>If answer is No:</th>
</tr>
</thead>
</table>
| Does the project proposal describe simple, effective and sustainable measures to contain, treat and safely dispose of these wastes, with no risk of damage to or contamination of:  
  * watercourses and other water-bodies;  
  * water-table and groundwater;  
  * vegetation;  
  * soils;  
  * subsistence resources, including gardens and traditional hunting / harvesting areas;  
  * and with no risk of damage or disturbance to: people, property and domestic animals;  
  * sites or artefacts of historical, traditional or cultural value. | Proceed to Question 3c, below. | Detailed Environmental Screening is required, or proposal should be modified and resubmitted. |

<table>
<thead>
<tr>
<th>Question (3c):</th>
<th>If answer is Yes:</th>
<th>If answer is No:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has the proponent community the technical skills and resources to be able to implement these measures in an effective and sustainable manner?</td>
<td>Proceed to Question 3d, below.</td>
<td>Detailed Environmental Screening is required, or proposal should be modified and resubmitted.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question (3d):</th>
<th>If answer is Yes:</th>
<th>If answer is No:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have realistic costs for implementing these measures been included in the project budget and request for funds?</td>
<td>Proceed to Step 4</td>
<td>Detailed Environmental Screening is required, or proposal should be modified and resubmitted.</td>
</tr>
</tbody>
</table>

**STEP 4: ENVIRONMENTAL INITIAL SCREENING APPROVAL**

If the answers to Steps 1, 2 and 3 have led to Step 4, it is highly unlikely that the project poses a risk to the environment or the subsistence resources of an area, and the proposed project can be granted its environmental approval at this stage, subject to any other exclusions listed in the PIM or described elsewhere in this annex. However, if the subproject is approved for funding, the results of the Initial Environmental and Social Screening must be verified in writing by the LLG officer designated with environmental responsibilities as part of the appraisal process.

Table 2: Screening Questions in Relation to Land Ownership Issues

<table>
<thead>
<tr>
<th>Question</th>
<th>If the answer is Yes.</th>
<th>If the answer is NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 1: Does the subproject concept involve</td>
<td>Proceed to Question 2, below.</td>
<td>Proceed to 4.0, below.</td>
</tr>
</tbody>
</table>
construction or any activity that will involve the permanent use of land? (For example, road widening or school construction, as opposed to a training programme)

<table>
<thead>
<tr>
<th>Question 2:</th>
<th>Proceed to Question 3, below</th>
<th>PROCEED TO 4.0, BELOW.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will the subproject involve the need to use or acquire land that was not already being used for this purpose? (For example, building a new school that would require land, as opposed to repairing an existing one, already on school land)</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

**Question 3.0:** What sort of land will the subproject be built on? Choose one answer.

| 3.1 Only on land that is public land and is not used for residence or farming. | If answer is 3.1, proceed to 4.0, below. |
| 3.2 Some private land will be used. All the land users have agreed to give their land as a contribution to the project. No land user will have to give more than 5% of his farmland for the project. No private buildings or places of business will be moved or destroyed. | If answer is 3.2, the Ward Development Committee should prepare a report to show that the land owner(s) have agreed to contribute their land for the project. This report will be submitted with the detailed project proposal. |
| 3.3 Some land owners have not agreed to give their land as a contribution, OR some landowner will have to give more than 5% of their land, OR some private buildings or places of business will be moved or destroyed. | If answer 3.3 is chosen, the LLG will ensure that the appropriate mandated local authorities prepare a Land Acquisition Report. This report will be submitted with the detailed project proposal. |

4. The project proponents can declare that the subproject will not pose any potential negative social impact in relation to land ownership. In the event that the subproject is approved for implementation, the LLG officer delegated by the LLG Manager will verify this to be the case.
APPENDIX 2. COMMUNITY DEVELOPMENT ACTIVITY REFERENCE GUIDELINES

The following Guidelines give practical environmental advice on the implementation of Community Development Activities in three common sectors, Water Supply and Sanitation, Road Construction and Buildings Construction.

1 Water Supply and Sanitation Systems

It should be noted that the taking of waters, other than under customary rights, or for domestic purposes, watering stock or fire fighting from a watercourse or lake to which the public has free access, will require an Environmental (Water Use) Permit from the Department of Environment and Conservation.

An Environmental (Water Use) Permit will also be required for the discharge of sewage into natural waters, or onto land or into the ground in circumstances where the waste could enter natural waters. Certain community uses of natural water may be exempted from requiring an Environmental (Water Use) Permit, but this should be checked with DEC on a case by case basis.

This Guide sets out some of the information that will be needed to assist in the identification of the environmental effects of the development.

**Water Supply Systems:**

1. How many people will each water supply serve?

2. What is the water source for each supply? Surface water (river, creek, stream, pond or lake), freshwater spring or groundwater?

If the source of water is surface water (river, stream, lake etc.):

3. What investigations or observations have been conducted to assess whether the water is suitable for domestic / drinking purposes?

4. How will the water be taken from the river or stream?
   - will a floating/submersible intake in the river channel be used;
   - will an "off-channel" seepage system be used;
   - will a weir or other in-stream structure be necessary;
   - will an intake diversion channel be constructed?).

5. Briefly describe the main features of the upstream catchment, up to a distance of 5 kilometres upstream of the project area. What water-users and land-uses occur upstream?
   - Are there villages upstream that use the stream/river for drinking, washing, or other uses (such as river transport, particularly outboard motors on dinghies)?
• Are there any sewage treatment plants or other sanitary waste systems (such as septic tanks) that discharge into the river/stream upstream?
• Are there any other land-uses upstream such as commercial agriculture estates (particularly if these include irrigation, milling or other processing operations), mining operations or industrial plants or factories?

6. Briefly describe the river or stream at the site where the water will be taken?
• How wide is the river?
• How deep is the river?
• What is the river-bed made of (mud, sand, gravel or rock, or a combination of these)?

7. How often does the location where the water will be taken from flood, that is, how often does the river over-top its banks at this location and flood the area? If this area is subject to flooding, what precautions will be taken to prevent damage or loss of the water intake and pumping systems, and damage or loss of the pumps power supply?

8. Briefly describe the main features of the downstream catchment, what water-users and land-uses occur downstream.
• Are there villages downstream who use the stream/river for drinking, washing, or other uses (such as river transport).
• Are there any other land-uses downstream that take water or discharge wastes into the river/stream, such as commercial agriculture estates (particularly if these include irrigation or process operations' discharges), mining operations or industrial plants or factories that you are aware of.

If the source of water is a groundwater:

9. How many wells or boreholes will be constructed?

10. How will the water be pumped? If diesel or petrol is to be used directly or indirectly (by driving a generator to power the pump(s)), will the fuel be stored in a secure area well above the level of flood risk and what precautions will be taken to ensure any spills or leaks of fuel do not contaminate the groundwater table or any local streams or rivers.

11. Describe the location of the well(s) or borehole(s), particularly with respect to:
• the nearest river channel and areas that may be flooded during high flows; and,
• the location of septic tanks, waste pits, or other areas of potentially contaminated ground?
12. Briefly describe the vegetation and land-use around the well(s) or borehole(s) site. Is it active gardens, disused gardens, scrub and woodland, grassland, forest, swamp or wetland, plantation, disused plantation or some other?

13. What is the depth and composition (gravels, sands, rock/rock type) of the aquifer?

14. What investigations or observations have been conducted to assess whether the water is suitable for domestic / drinking purposes?

15. What investigations or observations have been conducted to assess whether the proposed rates of pumping are sustainable over the long-term?

For either type of water source:

16. How is the water supply to be distributed? Will distribution be by gravity or pump?

17. Briefly describe the area over which the water supply will be distributed.
   - is it flat, gently sloping, or hilly? Will the pipeline traverse or follow any steep slopes (up or down-slope), and will pumps be required?
   - what is the vegetation in the areas crossed by the pipeline (gardens, disused gardens, scrub and woodland, grassland, forest, swamp or wetland, plantation, disused plantation)?
   - will the pipeline follow any existing tracks, Rights of Way or roads?

18. Will the distribution system require pumps (excluding well/ borehole pumps (see above). If so, what sort of pumping system will be used? If diesel is to be used directly or indirectly (by driving a generator to power the pump(s)), will the diesel be stored in a secure area well above the level of flood risk and what precautions will be taken to ensure any spills or leaks of diesel do not contaminate the groundwater table or any local streams or rivers.

19. Will the water supply distribution system cross any land whose landowner(s) are not supplied by that supply system?

20. Have pipeline Easement Agreements, leasing arrangements, compensation arrangements, or some other binding agreements been completed with all the landowners over whose land the water supply pipeline passes?

21. What will be the capacity of the reservoir or water storage tank.
22. What water treatment system will be used to purify the water. If this has not yet been decided, what options for water purification are being considered.

23. A map showing the various stages / components of the water supply system, including the source of water, should be provided in the Proposal.

_Sanitation Systems:_

1. How many sanitation systems will be constructed?

2. How many people will each sanitation system serve?

3. How will the sewage wastes be treated? Will the system use improved pit latrines (such as VIP latrines), septic tanks, oxidation ponds, activated sludge treatment systems, or a combination of these?

4. Will this treatment include other wastewaters such as ablutions' wash-waters and kitchen wastewaters? If no, how will these other wastewaters be dealt with (treated and disposed of)?

If a septic tank system is to be used:

5. How many septic tanks will be constructed?

6. How many people will each septic tank serve?

7. What restrictions on land-use and access will be placed on the soak away areas?

8. How far are the septic tanks and soak away areas from the nearest surface water (stream, river or pond), and from the maximum extent of surface flooding in the area? Septic tanks and their soak away areas should be located at least 50 metres from the nearest stream or river and at least 50 metres from the maximum extent of recorded surface flooding in the area, and as far as practicable in well-drained areas at least 2 metres above the water table.

9. How far are the septic tanks and soak away areas from the nearest well or borehole? Septic tanks and soak ways must be located at least 50 metres from any well or borehole, and a greater distance (100 metres) is preferable, particularly in poorly drained ground.

10. What arrangements will be made to remove (extract) and dispose of the septic tank sludge? Will the sludge be disposed of "on-site"? If so, how and where will it be disposed of, and what precautions will be
taken to prevent it contaminating local creeks or streams (particularly during periods of high rainfall and during floods), or the water table? Sludge disposal areas should be at least 50 metres from the nearest stream, river or lake, and at least 50 metres from the maximum extent of recorded surface flooding in the area.

11. If the septic tank sludge is to be disposed of "off-site", who will be responsible for this and how and where will the sludge be disposed of?

12. A map showing the location of the septic tanks, soak ways, any "on-site" sludge disposal areas, and the prevailing wind directions, particularly in relation to gardens, buildings and public areas should be provided in the proposal.

If an oxidation pond system is to be used:

13. If an oxidation pond system is to be used, will the system be designed by a qualified sanitation engineer?

14. Has the location of the ponds been determined, and is the area suitable for the construction of these ponds (with regard to gradient, drainage, site stability, etc.)?
   • Are the ponds located at least 50 metres from the maximum extent of recorded flood levels in the area?

15. How many ponds will be constructed?

16. How will the ponds be constructed and what materials will be used to construct and/or line the pond walls?

17. How will you securely fence the ponds to prevent unauthorized or inadvertent (children, domestic animals) entry to the site?

18. Will flow between the ponds be by gravity or pumped? If pumped, how will the pumps be powered, and what contingency will be available in the event of pump or power failure?

19. What options have been considered for pond sludge collection / removal and disposal?

20. Will the discharge be to receiving water, or some other receiving environment, such as spray irrigation?

21. A map showing the location of the ponds and discharge location, and the prevailing wind directions through the year, particularly in relation to surface waters, gardens, buildings and public areas, should be provided in the proposal.
The discharge of treated effluent:

If the discharge is to receiving water:

22. Is the receiving water flowing water such as a stream or river, or a water-body such as a wetland or tidal lagoon, where the flow rate is very low or negligible, or where water movement is dependent on tidal flushing?

23. If the discharge enters a stream or river, briefly describe the stream or river in the vicinity of the discharge location?
   - How wide is the stream or river?
   - How deep?
   - What is the river-bed made of (mud, sand, gravel or rock, or a combination of these)?

24. If the discharge enters a wetland or tidal lagoon, briefly describe this water-body?
   - How large is it in area (estimate the number of hectares)?
   - Can you estimate the average depth of the wetland / lagoon over the whole area and what is the depth at the point of discharge?
   - Does this area of wetland or lagoon include any islands or partially submerged ("raised") areas such as mud-flats or tidal flats?
   - What is the vegetation composed of (aquatic submerged or floating plants, water reeds and other emergent water plants, bushes and small trees, large trees)?

25. How often does the discharge location flood?
   - Has the area flooded in the last year,
   - in the last two years,
   - in the last five years,
   - in the last ten years, or
   - not within the last ten years (i.e. the flood period is greater than ten years).

26. If this area is subject to flooding, what precautions will be taken to prevent blockage, damage or loss of the discharge pipe-work or discharge channel and outlet?

27. Briefly describe the main features of the downstream catchment (stream, river or wetland).
   - What types of aquatic habitats exist downstream (such as lakes, swamp forests, wetlands, mangroves or coastal lagoons)?
   - What water-users and land-uses occur downstream (gardens, commercial plantations, fisheries)?

28. Are there villages downstream who use the stream, river, or wetland outflow (the stream or river flowing out from the wetland) or tidal
lagoon for drinking, washing, or other uses (such as fishing or river transport).

29. Are there any other land-uses downstream that take water or discharge wastes into the river, stream, wetland outflow or tidal lagoon such as commercial agriculture estates (particularly if these include irrigation or process operations' discharges), mining operations or industrial plants or factories that you are aware of.

30. What, if any, are the expected impacts (both direct and indirect effects), of the discharge on the receiving water quality, aquatic life and water uses downstream?

If the discharge is to be used for spray irrigation or some other use:

31. If the discharge is to be used for spray irrigation, what precautions will be taken to avoid unnecessary contamination of the surroundings or operating personnel?

32. If the discharge is to be used in some other way, does the proposal describe this, and what precautions will be taken to avoid unnecessary contamination of the surroundings or operating personnel?

33. Have the neighbouring and downstream landowners been kept informed and consulted in regard to any concerns they might have regarding the design of the system and the location, or use, of the discharge?

2 Road and Bridge Construction

This Guide sets out some of the information that will be needed to assist in the identification of the environmental effects of the development.

- Is this a single construction (i.e. one road) or several separate constructions at different locations (i.e. several roads)? If so, the following questions should be answered for each proposed road location.

- Is the development an upgrading of existing tracks / roads, or an entirely new construction involving the clearance of ground and the establishment of a new Right Of Way?

1. If the road development is an entirely new construction:
   1.1. have all Land Leasing Arrangements been completed with all Landowners?
   1.2. have all the proposed new road alignments been fully surveyed? Are the surveyed road alignments transferred to the national 1:100,000 Map Series? A copy of these alignments on the
1:100,000 map should be included with the proposal if possible. Are the alignments available in a GIS form?

1.3. will the new roads provide access into previously inaccessible areas?

1.4. will the new roads bridge or "ford" rivers into previously inaccessible areas?
   • If so, what are the existing main land uses/vegetation types in these previously inaccessible areas?
   • Is there a risk of that people might move into this previously inaccessible area to settle or make gardens, or develop businesses such as cash cropping or forestry?

2. If the road development is an upgrading of existing tracks or roads,
   2.1. describe these existing tracks or roads?
   2.2. are they capable of/ do they carry vehicles at the present time?
   2.3. will the upgrading lead to an increase in this traffic?
   2.4. will the upgrading lead to further development of the area?
   2.5. where the existing roads or bridges cross a stream or river, will the upgrading of the existing river crossing allow vehicles into an area where previously there was no vehicle access?
   • If so, what are the existing main land uses/vegetation types in these previously inaccessible areas?
   • Is there a risk that people might move into this previously inaccessible area to settle or make gardens, or develop businesses such as cash cropping or forestry?

3. How big is the road(s)?
   3.1. what is the length of each section of road?
   3.2. what is the road pavement width?
   3.3. what is the maximum width of cleared ground (i.e. the width of the road pavement and the roadsides, including drainage, either side of the pavement)?
   3.4. the depth of the road basement?
   3.5. the thickness of the road pavement?
   3.6. will the road(s) be sealed?

4. Describe the existing vegetation along the proposed route, and to a distance of 100 metres either side of the route (for example, undisturbed forest, disturbed forest that has been cut or changed in some way, scrub/bush, grassland, gardens, disused gardens).

5. What measures could the Proponent consider to minimize the impact of road construction and subsequent road use on the existing vegetation?

6. Describe the landscape / terrain along the proposed route including:
   6.1. is the land along the proposed route, flat, undulating (small gentle hills) or hilly (larger hills with slopes greater than 10 %);
   6.2. is the land along the proposed route well-drained, poorly drained, subject to occasional flooding;
6.3. What type of soils occurs along the proposed route, deep soils, thin soils, sandy soils, sands or clays?

6.4. Does the proposed route cross any waterways requiring a bridge or ford?

6.5. Are landslips common along other roads in the area?

7. Will there be a need to construct permanent earthworks such as
   - road benches (along hillsides)
   - road cuttings or
   - road embankments or
   - causeways?

8. If so, what measures could the Proponent consider to:
   8.1. Stabilize the earthworks’ slopes and minimize soil erosion; and,
   8.2. To control storm-water drainage to prevent slope scouring; and,
   8.3. To prevent the contamination of downstream waterways with soil sediments eroded from the slopes.

9. What road drainage systems will be constructed, and what approach will the developer take to ensure the drainage systems work effectively to keep the road surface clear of water and avoid flooding of the roadsides and adjoining land, and/or contamination of downstream waterways with road drainage.

10. If the project involves the construction of bridge(s) or river ford(s), what approach will the developer take to ensure that measures are taken to avoid or minimize the contamination of the river with sediments or construction debris during construction.

11. What measures will the bridge(s) or river ford(s) incorporate (such as lateral cut-off drains and side drain diversions) to minimize the contamination of downstream waterways with road drainage during their operational life?

12. Have the source(s) of road gravel (and gravel for concrete aggregate) been identified?

13. Have negotiations for their use been completed with the landowners?

14. Do these gravel sources include the use of / taking of river gravels?

15. What precautions will be taken by the road contractor to ensure that the taking of river gravels does not cause contamination of the water downstream with sediment and mud?

16. How will the Proponent ensure that the road contractor imposes these precautions in an effective manner to minimize any potential downstream impacts?
3 Building Construction

This guide sets out some of the information that will be needed to assist in the identification of the environmental effects of building construction.

1. Are all the building sites located within one project area, or are there several separate project areas where building will be carried out?

2. Describe the land at each building site location?
   a. is it flat or sloping (e.g. on a hillside)?
   b. if it is flat, is it on the floodplain of a river or could it be affected by floods (has the area been inundated with floodwater within the last 20 years)?
   c. if it is sloping, can you estimate the angle of the slope at the site? How stable are the slopes in this area? Are there any records of landslips in the area within the last 50 years?
   d. is the ground a deep soil, a thin soil, sand, or clay?
   e. is it well-drained, moderately well-drained or poorly drained?
   - Details on the terrain and soil at each location will enable the identification of effective Environmental Control Measures to control soil erosion and the sedimentation of streams and rivers downstream during ground clearance and site construction works, when large areas of ground may be exposed.

3. Describe the existing vegetation in each project area? Is it:
   - undisturbed natural forest or swamp forest,
   - natural wetland (containing areas of standing water),
   - mangroves,
   - grasslands,
   - scrub and woodland,
   - active gardens currently in use,
   - disused / overgrown gardens or disused plantations, or
   - some other vegetation?

4. How much of this vegetation will be cleared in each project area, and what precautions will be taken to prevent or minimize the erosion of exposed soils following this clearance?

5. What earthworks will be required to prepare the ground for building construction, access roads or water and sanitation lines?

6. What precautions will be taken to prevent soil erosion during the earthworks?

7. Where will the spoil material from vegetation clearance and earthworks be disposed of?
8. What re-vegetation plans, or other site-restoration plans, are there for the area(s) to stabilize the ground surface and prevent top-soil erosion from un-built areas when work is completed?

9. Are there any streams, rivers, other surface water-bodies such as ponds or lakes, water springs, wells or water boreholes in, or close to, the project area(s)?

10. What precautions will be taken to prevent storm-water entering construction sites?

11. What precautions will be taken to prevent contaminated building-site drainage water (surface waters contaminated with soils and mud, concrete wastes and other construction debris) escaping into adjacent streams or rivers, and into the surrounding soils and gardens?

12. Does the proposed program involve any demolition of existing buildings or other structures (e.g., roads or bridges)? If so, how will this be carried out? Will explosives be used at any stage of the demolition process?

13. Will the building wastes (and demolition wastes if demolition is involved) be disposed of “on-site”?  
   - If so how and where will they be disposed?
   - If the building wastes are to be disposed of “off-site” who will carry this out and where will they be disposed of?

14. What precautions and arrangements will be made for the transport, storage, use/handling of any hazardous materials, and the disposal of their residues and empty containers, that may be used in the program, including the transport, storage and handling of these. Hazardous materials include:
   - diesel, petrol, oil, other hydrocarbons including lubricants;
   - dis-used car batteries (which contain toxic metals and strong acid);
   - solvents, paints (particularly lead-based primer coatings), thinners;
   - cleaning agents (particularly any strong surfactants, bleaches and caustic materials such as caustic soda used for drain clearance); and,
   - biocides such as anti-fungal coatings, insecticides and herbicides;
   - timber treatment chemicals such as Copper-Chrome-Arsenic (CCA) treated timbers;

15. What facilities and arrangements will be provided for the workers’ ablutions and toilet facilities, and kitchen / canteen facilities?
16. How and where will the wastes, including sewage wastes and wash-waters, from these facilities be treated and disposed of?

17. Are all the project areas accessible by public road? If not, will roads be constructed to these areas?

18. If some sites are not accessible by public road, have agreements been reached with all the relevant landowners to allow access to each site?

19. If concrete is to be used in the construction, such as footings, foundation piers or concrete floor pads, will any of the concrete aggregate (sands/gravel) be obtained from river-beds or river banks?

20. What utilities (electrical power, water supply and sanitation) will be supplied to these buildings?

21. Will the utilities be supplied by a municipal, town council or other utility agency?

22. If the utilities are not supplied by a utility agency, how will:
   a. the electricity be supplied?
   b. the water supply be supplied?
   c. the sanitation services be supplied?

23. Will all the construction workers come from the local area?

24. Will any of the workforces come from outside the local area (and therefore require temporary accommodation at the site)?

25. Where will the construction workers from outside the local area be accommodated? What temporary facilities are planned to accommodate these “outside” workers?

26. What possible effects might the building construction works have on the local community:
   • could there be excessive noise which might disturb neighbouring local villages, schools, churches or hospitals;
   • could there be increased traffic (particularly large trucks or heavy plant / machinery) which could disturb the local communities and / or pose a road safety threat?
APPENDIX 3. Summary of Section 3.1.2 in Koczberski & Curry, 2007, Beneficiaries Assessment.

There are several non-oil palm communities in each project area. Although there are some similarities across them, they are also important differences. The main categories of communities are:

- Indigenous ethnic/language groups, making up the customary landowning groups.
- Residents of informal urban or rural settlements (urban – on the edges of the town settlements of Bialla, Hoskins, Kimbe and Popondetta; rural – usually small transitory camps around areas of relatively high employment opportunities such as plantations or logging areas).
- Residents of formal urban settlements (Bialla, Hoskins, Kimbe and Popondetta);
- plantation, mill or logging company employees residing in housing compounds provided by their employers;

The first two categories of non-oil palm communities are relevant to SADP. The indigenous ethnic/language groups in the Project areas of WNB and Oro provinces comprise the dominant non-oil palm group, both in terms of population and land area. In both provinces the indigenous ethnic/language groups are relatively homogeneous in terms of culture, social organization and land tenure systems.

The indigenous people in the project area of Oro Province, come from one large cultural and ethnic group known as the “Orokaivans”. The language spoken is Orokaiva, which has several dialects. The Orokaivans occupy the area which extends approximately 100 km northwards from the Hydrographers Range and from the coast around Oro Bay inland to the foothills of the Owen Stanley Range (Waddell & Krinks, 1968).

The Orokaivans comprise seven tribes each occupying its own territory (Banks, 1993), with a high degree of cultural uniformity across the seven tribes. Each tribe consists of several patrilineal clans and sub-clans. Subclass and clans are usually made up of two or more lineages (Williams, 1930) which can trace their origin to a common ancestor. Typically, an Orokaivan village is made up of several clans, and members of a single clan can be spread across neighbouring villages (clans and subclass are largely exogamous, i.e., people marry out of their clan/sub clan). Thus, a resident of a village may have closer kinship ties with members of other villages than with co-resident villagers.

The indigenous people of WNB Province comprise of seven major ethnic/tribal groups and approximately 25 indigenous languages. From west to east along the coast in the project area the following ethnic (tribal) and language groups are present:

- The Bakovi people. The Bakovi comprise two language groups: the Bula language group occupying the northern part of the Talasea.
Peninsula and the Bola language group covering most of the Talasea Peninsula south of the Bula language area and east to Gaungo Village.

- The Nakanai. This is the major tribal grouping in the Project area and comprise of the Bebeli language group which occupies the area between Gaungo VOP and Hoskins to the east, and the Nakanai language group which extends from Hoskins eastwards to just past Bialla.
- The Mengen. This ethnic/tribal group occupies land east from Bialla to around Navo (the location of Hargy’s second oil palm mill). Their territory extends through to the south coast. They belong to the Mengen language group.
- The Meremera. The territory occupied by the Meramera ethnic/language group extends from a little west of Ulamona Village over the provincial border into East New Britain.

There are several language groups south of the coastal ethnic/tribal groups which have some involvement with the project area, often as plantation labourers. They include the following ethnic/language groups from west to east:

- Aigon (in the mountains south of the Bebeli language group);
- Mangseng (the mountainous area south of the central Nakanai – most of their territory is in ENB);
- Mamusi (the mountainous area south of the central Nakanai and extending through to the south coast – most of their territory is in ENB);
- Pele-Ata (the mountainous area south of the eastern Nakanai);
- Kol (the mountainous area in the east of the project area with the Meramera and the Mengen on their northern and western borders respectively – nearly all of their territory is in ENB).

Whilst there are minor variations in the subsistence and agricultural systems of the various ethnic and language groups, they share similar cultural and social systems. The different ethnic and language groups do not appear to have been in conflict since the colonial period, perhaps because population densities were historically very low. There is considerable intermarriage across tribal and language groups, with much movement of people between groups.

In WNB and Oro provinces, members of indigenous ethnic/language groups reside in villages. The social organization of village communities is based on kinship in which the component clans and subclass can trace their genealogies to a common ancestor. Most members of a village community are able to define themselves in relation to all other community members in terms of kinship. Kinship structures the social and economic relations of village communities, for example, through determining access rights to resources (land, forest and marine resources) and the labour that can be drawn upon for subsistence and commercial activities.