

## **Environmental and Social Management Framework (ESMF)**

### **PNG Energy Sector Development Project (ESDP)**

1. The proposed PNG Energy Sector Development Project (ESDP) would be a technical assistance (TA) project that would not be financing any civil works or physical implementation, and would therefore not have any direct environmental or social impacts. However, if successful, the ESDP would catalyze energy sector investment, including the subsequent development of the Naoro Brown (NB) Hydropower project. The technical assistance proposed is designed to identify, potential environmental and social impacts associated with subsequent investment, and to support the development of plans and consultation to address the issues identified. This Environmental and Social Management Framework sets out the approach to identifying and addressing potential social and environmental aspects.

2. Beneficiaries of the proposed ESDP would include the portion of the PNG population which does not currently have access to a reliable, affordable, sustainable supply of electricity. Strengthening the policy environment for rural and renewable energy and preparation of a rural electrification strategy are essential steps towards significantly increasing access to sustainable electricity supply. The ESDP would also benefit current and potential new customers of PNG Power, in particular on the Port Moresby grid. The ESDP aims to support development of a lower cost and better reliability of power supply on the Port Moresby grid than would be possible without the project. The global environmental benefits would result from implementation of a low carbon growth rural electrification strategy, supported by appropriate policies.

#### **1. BRIEF PROJECT DESCRIPTION**

3. The proposed ESDP would finance technical assistance and will not finance any civil works or physical implementation. The ESDP would consist of two components:

**4. Component 1: Institutional and Policy Development for Renewable Energy and Rural Electrification.** To be implemented by the Department of Petroleum and Energy (DPE), the Energy Division. This will focus on policy development, institutional and strategy development, and capacity strengthening.

- 1.i: Energy Policy Development
  - Renewable Energy policy;
  - Rural Electrification Policy.
- 1.ii: Institutional and Strategy Development.
  - Strategic Environmental and Social Assessment (SESA) as an input to implementation of both the Renewable Energy Policy and the Rural Electrification Policy.
  - Rural Electrification Strategy. GoPNG plans to attract private sector to supply non-commercially viable areas through a competitive subsidy-based process. Important elements would include improved information available for opportunities to be offered for private participation, assessment of the different cost structures and an approach to environmental and social screening for rural electrification projects.
- 1.iii: Capacity Strengthening.
  - Technical Assistance and training related to DPE and GoPNG role in the oversight of the Naoro Brown Hydropower Project.
  - Technical assistance related to DPE and GoPNG role in other new hydropower power generation developments that might be proposed in the near term.

**5. Component 2: Technical Assistance for Preparation and Planning for Port Moresby Hydropower Supply** to be implemented by PNG Power Ltd. with two sub-components. The first focuses on activities required to prepare

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the Naoro Brown Hydropower Project to supply the Port Moresby grid under a private sector-led approach. The second focuses on activities to improve PNG Power's planning and operations with respect to hydropower supply to the Port Moresby grid.

- 2.i: Preparation of the Naoro Brown hydropower project for Port Moresby. The GoPNG and PNG Power are interested to develop lower cost hydropower generation to supply Port Moresby as soon as possible. PNG Power has hired international consultants to undertake the feasibility study of the Naoro Brown Hydropower project to supply the Port Moresby grid with about 70-80 MW. Activities for WB financing under this sub-component would include: Naoro Brown Transaction Advisors; Additional Naoro Brown feasibility study work (i.e. Preparation of Geological Baseline Survey including drilling), NB Preliminary Social Assessment and Resettlement Policy Framework; Naoro Brown Project Economic Analysis; Expert Panels on Dam Safety and Social and Environmental aspects; Social and Environmental specialist(s); Communications consultant; Other activities / specialist consultants identified during implementation.
- 2.ii: Improved planning and operation related to hydropower supply for Port Moresby. Proposed activities related to the identification of subsequent hydropower projects for supply to Port Moresby would include: Three-basin inventory study of the Brown, Vanapa and Angabanga basins; Feasibility Study for the next hydropower project for the Port Moresby area (defined based on the outcome of the three-basin inventory study). Reservoir Operations and Planning software; Training, institutional strengthening and capacity building.

## **2. ENVIRONMENTAL AND SOCIAL ASPECTS OF THE PNG ENERGY SECTOR DEVELOPMENT PROJECT**

### Key safeguards issues to be considered for the component supporting preparation of the Naoro Brown Hydropower Project

*6. Key environmental issues:* Environmental impact by the NB project is expected to be fairly modest if properly managed. Environmental impacts would occur in construction, operations and maintenance phases of the Naoro Brown project and in locations including: the upstream catchment area and the reservoir; the dam site; tunnel corridor and power plant locations; a section of the Naoro River immediately downstream of the dam that will experience significantly reduced flows; and the corridors of the transmission line and access roads. Affected areas would also include the areas where workers would be camped, quarry areas, spoil disposal areas and construction equipment service areas. Given the mountainous nature of the terrain, erosion and sedimentation issues would need to be evaluated and managed in all areas during NB project construction, operation and maintenance, including ensuring slope areas are well protected and drained. Managing water quality in the reservoir and ensuring adequate environmental/riparian flows are also issues to be evaluated and managed carefully.

*7. Potential Physical cultural resource issues:* There is currently no documentation available of archaeological or other physical cultural resource sites within the proposed NB project area. The nearest known sites are located on the Sogeri Plateau and in the Laloki valley outside the NB project area. However, the presence of these sites close to the NB project area suggests that similar sites may exist within the Naoro Brown catchment area. In addition, the contemporary culture of the population in the NB project area could include structures and/or places of spiritual and religious importance. Procedures need to be specified in case a chance find of any artifact/site of archeological significance occurs during construction or any contemporary structures and/or places of spiritual and religious importance are affected by civil works under the NB project.

*8. Key social issues:* Direct physical impact by the Naoro Brown project on the population and landscape is expected to be fairly modest if properly managed. The Naoro Brown project would have land acquisition impacts deriving from the dam, reservoir, power house, access roads and transmission line. In addition, there would be construction-related impacts from the construction labor camp(s), material excavation sites, and sites for dumping of spoils, which all will require land either temporarily or permanently. Displacement and resettlement is not anticipated, but a final determination can only be made when the technical design of the NB project is more advanced. Catchment protection measures to minimize soil erosion and surface run-off may entail restriction of

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certain activities, e.g. logging in parts of the Naoro Brown catchment area. Madilogo village is located near the proposed dam site, and the villages of Ebologo and Naoro are located near the reservoir area.

9. The population in the Naoro Brown project area - the Mountain Koiari – exhibits the four characteristics that the World Bank Operational Policy on Indigenous Peoples uses to identify indigenous peoples. These characteristics are: (a) self-identification as members of a distinct indigenous cultural group and recognition of this identity by others; (b) collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories; (c) distinctive customary cultural, economic, social, or political institutions, and (d) an indigenous language.

10. The basis for reaching agreement on entitlements for land acquisition and for long-term use of the area would be the establishment of arrangements which enable a process of free, prior, and informed consultation that starts early in the preparation phase and that results in broad community support for the Naoro Brown project. The parties to this consultation process will on the one hand be PNG Power and later the Naoro Brown Project Developer, and on the other hand the population in the NB project area comprising communities in the upper Naoro-Brown catchment area that own or have interests in the land, water, and other natural resources.

11. Key safeguards issues for the three-basin inventory and the preparation of the next hydropower project for Port Moresby. The three-basin inventory study would take into account technical, environmental and social issues in identifying potential hydropower projects. The environmental and social issues to be assessed by the feasibility study of the next hydropower project for the Port Moresby area would be identified as the scope is determined.

12. Key safeguards issues for the energy and electrification policies. Implementation of both the Renewable Energy Policy and the Rural Electrification Policy has potential environmental and social implications. In parallel with work on development of these policies, a Strategic Environmental and Social Assessment (SESA) would be conducted to assess these implications, the legal and institutional aspects relevant to the potential issues and impacts; and recommend broad measures to strengthen the regulatory and institutional framework for environmental and social management for the development of renewable energy and rural electrification in Papua New Guinea using an integrated natural resources management approach at both the national and sub national levels. The SESA would provide recommendations regarding (i) the establishment of the requisite institutional, regulatory and decentralization framework, (ii) integration of the management of any environmental and social issues into subsequent planning decisions for the location and scale of energy investments, alternatives, mitigation measures and monitoring activities.

### **3. LIST OF AND BROAD SCOPE OF STUDIES AND SAFEGUARD INSTRUMENTS TO BE PREPARED DURING IMPLEMENTATION OF THE PROPOSED PNG ENERGY SECTOR DEVELOPMENT PROJECT**

#### **Studies and Safeguard Instruments to be developed during preparation of the proposed Naoro Brown Hydropower Project**

13. The WB Safeguard Policies that could be triggered by development of the Naoro Brown Hydropower project are:

- OP4.01: Environmental Assessment;
- OP4.04: Natural Habitats;
- OP4.10: Indigenous Peoples;
- OP4.12 Involuntary Resettlement;
- OP 4.37: Dam Safety.

14. Safeguards Documents required are:

- NB Environment and Social Impact Assessment (ESIA);
- NB Environmental Management Plan (EMP);
- NB Information and Consultation Strategy
- NB Resettlement Policy Framework (RPF);

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- NB Resettlement Action Plan (RAP);
- NB Dam Safety Plan.

15. As inputs to the required safeguards documents, a number of initial preparatory studies will be undertaken.

Broad Scope of Studies during preparation of the Naoro Brown Hydropower Project

16. Following is a list of the studies and plans that will be prepared during implementation of the proposed PNG ENERGY SECTOR DEVELOPMENT PROJECT to support preparation of the Naoro Brown Hydropower Project.

(i) ***Additional environmental baseline survey work*** (an input to the Environmental and Social Impact Assessment – see item #3) [Under consideration – alternatively, this work would be undertaken as part of the ESIA. The rationale for considering bringing it forward here is simply to accelerate the project preparation process]

- Responsibility: PNG Power, financed by IDA Credit.
- Expected start date: September 2011.
- Safeguard Document: this study will be an input to the Environmental and Social Impact Assessment (which will be the responsibility of the Naoro Brown Project Developer).
- Broad Scope: to be determined.

(ii) ***Preliminary social assessment and preparation of the Naoro Brown Resettlement Policy Framework.***

- Responsibility: PNG Power, financed by IDA Credit.
- Expected start date: July 2011.
- Safeguard Document: Naoro Brown Resettlement Policy Framework (RPF). The report will also provide an input to the social aspects of the Environmental and Social Impact Assessment (which is the responsibility of the NB Project Developer – see (iii) below).
- Broad scope: Final identification of the people affected by development of the Naoro Brown project would only be possible to determine when the Naoro Brown Project Developer has finalized the detailed engineering designs. This notwithstanding, assessment and consultations need to start early in the planning and preparation process. The scope of this study would include documenting the socio-economic conditions in the Naoro Brown project area; undertaking preliminary identification of people likely to be directly affected by the Naoro Brown project along with their rights and interests in land; identifying the types of concerns and interests of both men and women likely to be affected by the Naoro Brown project and consideration of ways to address these; and arrangements to manage the possible impacts through information sharing and consultation with people in the Naoro Brown project area including people affected by land acquisition. This would be set out in the Naoro Brown Information and Consultation Strategy which will be the instrument that establishes compliance with the World Bank Operational Policy on Indigenous Peoples (see further discussion in Section 6). Annex 1 provides the key features for Communication and Consultation with Indigenous Communities in the Naoro-Brown Hydropower Project Area, upon which the Information and Communication Strategy will be based. The Naoro Brown Resettlement Policy Framework (RPF) would be based on the above data and analysis: a policy framework for management of land acquisition impacts and provision of entitlements to affected people during Naoro Brown project preparation, implementation, and operation. The RPF would include institutional arrangements for handling of complaints and grievances that are accepted by the involved communities and that provide for timely resolution.

(iii) ***Naoro Brown Environment and Social Impact Assessment (ESIA) and Environmental Management Plan (EMP)***

- Responsibility: Naoro Brown Project Developer
- Expected start date: soon after Naoro Brown Project Developer is selected; completed prior to financial close.
- Safeguard Documents: Naoro Brown Environmental and Social Impact Assessment and Environmental Management Plans

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- Broad Scope: The objectives of this work are to determine the full range of environmental and social impacts by the Naoro Brown project in order to inform the design of arrangements to manage these impacts under the EMP.

*Environmental Impact Assessment Tasks.* Key tasks would include preparation of an overview of the environmental policy, legal and administrative framework; determination of the Naoro Brown Project's Influence Area; collection / verification of baseline data; determination of direct, indirect, induced and cumulative (i.e. all physical components of the NB project) environmental impacts of the NB project; analysis of alternatives; consultations with the NB project-affected people and other stakeholders including environmental NGOs to present and discuss the findings and proposed measures in the ESIA, and to seek their respective views and inputs before finalizing the ESIA process. This would also include procedures to manage chance finds of any artifact/site of archeological significance occurring during construction, or any contemporary structures and/or places of spiritual and religious importance that are affected by civil works under the NB project.

*Social Impact Assessment Tasks.* This would follow on from the Preliminary Social Assessment described in #2 above. The outputs of the Preliminary Social Assessment would be made available to the NB Project Developer. The ESIA would include: completing the genealogical census mapping of rights and interests in land; completing the identification, based on the detailed engineering design, of all people in the NB project area affected by NB project activities; revision and updating as necessary of the Naoro Brown Information and Consultation Strategy; and information dissemination on the NB project along with consultation throughout the NB project preparation phase to reach broad community support for culturally appropriate economic and social benefits, and minimization, mitigation, and compensation for adverse impacts.

Subsequent to the completion of the ESIA, the NB Project Developer would prepare and finalize (i) Compensation Agreement(s) for land acquisition impacts, (ii) Benefits Agreement(s) regarding the long-term use of land and water in the NB project area, (iii) Resettlement Action Plan, and (iv) establishment of the institutional arrangements required to ensure implementation and monitoring of these agreements and arrangements for complaints and grievance resolution.

**(iv) Naoro Brown Resettlement Action Plan (or Abbreviated Resettlement Action Plan)**

- Responsibility: NB Project Developer
- Expected start date: soon after Project Developer is selected.
- Safeguard Documents: Naoro Brown Resettlement Action Plan. The assignment will also cover implementation of the plan.
- Broad Scope. The objectives of this assignment are to (i) undertake land acquisition and resettlement planning in line with World Bank standards on land acquisition and resettlement, and the Naoro Brown Information and Consultation Strategy that meets World Bank standards with respect to Indigenous Communities for free, prior, and informed consultation to obtain broad community support, (ii) produce a Resettlement Action Plan (RAP) or Abbreviated Resettlement Action Plan that meets both PNG's legal requirements as well as World Bank land acquisition and resettlement standards and those of NB project financiers, and (iii) implement the land acquisition and resettlement according to the RAP.

The Naoro Brown Project Resettlement Action Plan accepted by the affected people, the PNG Government, PNG Power, and the financiers of the NB project would be disclosed in a manner accessible and in a language understandable to persons economically and physically affected by the NB project, PNG citizens, and other stakeholders. The key result of the RAP planning process would be agreement between the NB Project Developer and communities in the NB project area that allows the NB Project Developer to use the area for a hydropower project including assignment or transfer of the land required for civil works in return for compensation and long-term leases/benefits. Development of the RAP would be guided by the ESIA, RPF, Naoro Brown Information and Consultation Strategy and the detailed engineering design. The resettlement planning would be done with appropriate disclosure and consultation with, and the

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participation and concurrence of landowners, residents of the NB project area and local governments, as well as separate consultations with vulnerable groups.

Resettlement Implementation would involve delivery of all agreed compensation entitlements and assistance measures to the entitled persons and groups. All direct compensation for assets lost would be delivered before the assets are acquired by the Developer. Livelihood restoration measures identified in the RAP would commence before acquisition. RAP implementation will be done with ongoing disclosure, consultation, and participation and concurrence of the identified landowners and residents of the NB project area, and local governments. Separate consultations should be held with identified vulnerable groups.

***(v) Naoro Brown Dam Safety Plan***

- Responsibility: NB Project Developer
- Expected start date: soon after NB Project Developer is selected.
- Safeguard Documents: Naoro Brown Dam Safety Plan.
  
- Broad Scope: this would include preparation and implementation of detailed plans for construction supervision and quality assurance; an instrumentation plan; an operation and maintenance plan; and an emergency preparedness plan; prequalification of bidders during procurement and bid tendering for civil works and electromechanical contractors; and periodic safety inspections of the dam after completion.

***Dam Safety Panel of Experts***

- Responsibility: PNG Power, financed by IDA Credit. (Once the NB Project Developer is in place, this would be the responsibility of and financed by the NB Project Developer).
- Broad Scope: A Dam Safety Panel of Experts would be appointed by PNG Power to undertake periodic, comprehensive and independent reviews of the design, construction, and if needed, the initial reservoir filling of the NB project works.

***Social and Environmental Panel (SEP) of Experts***

- Responsibility: PNG Power, financed by IDA Credit. (Once the NB Project Developer is in place, this would be the responsibility of and financed by the NB Project Developer).
- Broad Scope: The SEP would provide independent advice and quality assurance for the environmental and social studies and management plans; support to PNG Power in working with the NB Project Developer for the effective integration of the findings and recommendation of the ESIA, EMP, Naoro Brown Information and Consultation Strategy, and RAP into the design, implementation plan and operational plan for the NB project; guidance for unanticipated environmental or social impacts of the NB project that may occur.

**Studies to be prepared for other aspects of the PNG ENERGY SECTOR DEVELOPMENT PROJECT**

17. A Strategic Environmental and Social Assessment (SESA) would be prepared as an input to future implementation of both the Renewable Energy Policy and the Rural Electrification Policy. The SESA would assess the implications of these policies and make recommendations regarding (i) the establishment of the requisite institutional, regulatory and decentralization framework, (ii) integration of the management of any environmental and social issues into subsequent planning decisions for the location and scale of energy investments, alternatives, mitigation measures and monitoring activities.

**4. PROCESSES AND PROCEDURES TO BE ESTABLISHED TO ENSURE THE PREPARATION AND QUALITY ASSURANCE OF SAFEGUARD DOCUMENTS FOR SAFEGUARDS POLICY COMPLIANCE.**

18. During the period of implementation of the WB-financed PNG Energy Sector Development Project, WB will provide review and comment on all safeguard documents. Safeguards documents and studies financed under the

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WB credit would be prepared in compliance with WB standards and safeguards policies, as well as meeting PNG requirements. Since at this stage there has been no request for WB involvement in financing the NB project development, the WB will not be in a position to enforce compliance with WB standards and policies for documents financed by the NB Project Developer and / or for those undertaken after the closing of the WB-financed Energy Sector Development Project. Any civil works related to the NB project undertaken while the WB-financed PNG Energy Sector Development Project is under implementation would be undertaken in compliance with WB policies, even if WB is not financing the civil works.

## **5. INSTITUTIONAL ARRANGEMENTS DEFINING THE ROLES AND RESPONSIBILITIES OF THE WB AND RELEVANT PNG GOVERNMENT AGENCIES AND CAPACITY BUILDING, IF NEEDED, TO IMPLEMENT ESMF.**

### 19. Key Institutions Involved

- *Department of Petroleum and Energy (DPE)* has responsibility for policy, strategic direction and planning in the energy sector. DPE is the implementing agency for Component 1 of the PNG Energy Sector Development Project.
- *PNG Power Limited (PPL)* is the state-owned, vertically-integrated electricity utility with licenses for generation, transmission, distribution and retail covering most of the main urban centers. PPL is the implementing agency for Component 2 of the PNG Energy Sector Development Project.
- *Department of Environment and Conservation (DEC)*: responsible for role in reviewing and approving the ESIA and EMP, including for the Naoro Brown Hydropower Project.
- *Naoro Brown Project Intra-Governmental Oversight Committee*: an intra-departmental committee to be established to provide oversight of preparation and development of the Naoro Brown Hydropower Project. Participation would likely include Department of National Planning and Monitoring, Treasury, Department of Petroleum and Energy, Department of Public Enterprises, Department of Environment and Conservation, Department of Water Resources, and other key government stakeholders.

### **Institutional Arrangements Related to the proposed Naoro Brown Hydropower Project**

20. PNG Power's consultants are scheduled to complete the Naoro Brown feasibility study in early 2011. PNG Power will manage the subsequent process for preparing the Naoro Brown hydropower, including the process of selecting the NB Project Developer. However, the key decisions will be made by GoPNG. An intra-governmental "Naoro Brown Project Oversight Committee" would be established to provide oversight. PNG Power would report to the Oversight Committee on a regular basis so that the Committee is well-informed as decision points are reached.

21. PNG Power with WB-financed consultant support, would prepare Preliminary Social Mapping and Resettlement Policy Framework, and prepare and implement the Naoro Brown Information and Consultation Strategy for potential NB project-affected people and other stakeholders.

22. With input from the Oversight Committee and WB, and with due stakeholder consultation, PNG Power will prepare terms of reference for the safeguards-related aspects of the NB project to be undertaken by the selected NB Project Developer (Environmental and Social Impact Assessment (which will include an update of the Naoro Brown Information and Consultation Strategy), Environment management Plans, Resettlement Action Plan and Implementation, Dam Safety Plan). The broad scope of these studies is described in Section 3 above. These TOR would be included in the bid package for prospective project developers.

23. With WB financing, PNG Power would hire financial, technical and legal advisors ("Transaction Advisors") as well as a Dam Safety Panel of Experts and a Social and Environmental Panel of Experts.

24. With the assistance of the Transaction Advisors and under the oversight of the Oversight Committee and the normal review processes from the WB, PNG Power would undertake a transparent process to select a NB Project Developer. The NB Project Developer would then undertake the detailed design work, apply and if necessary refine

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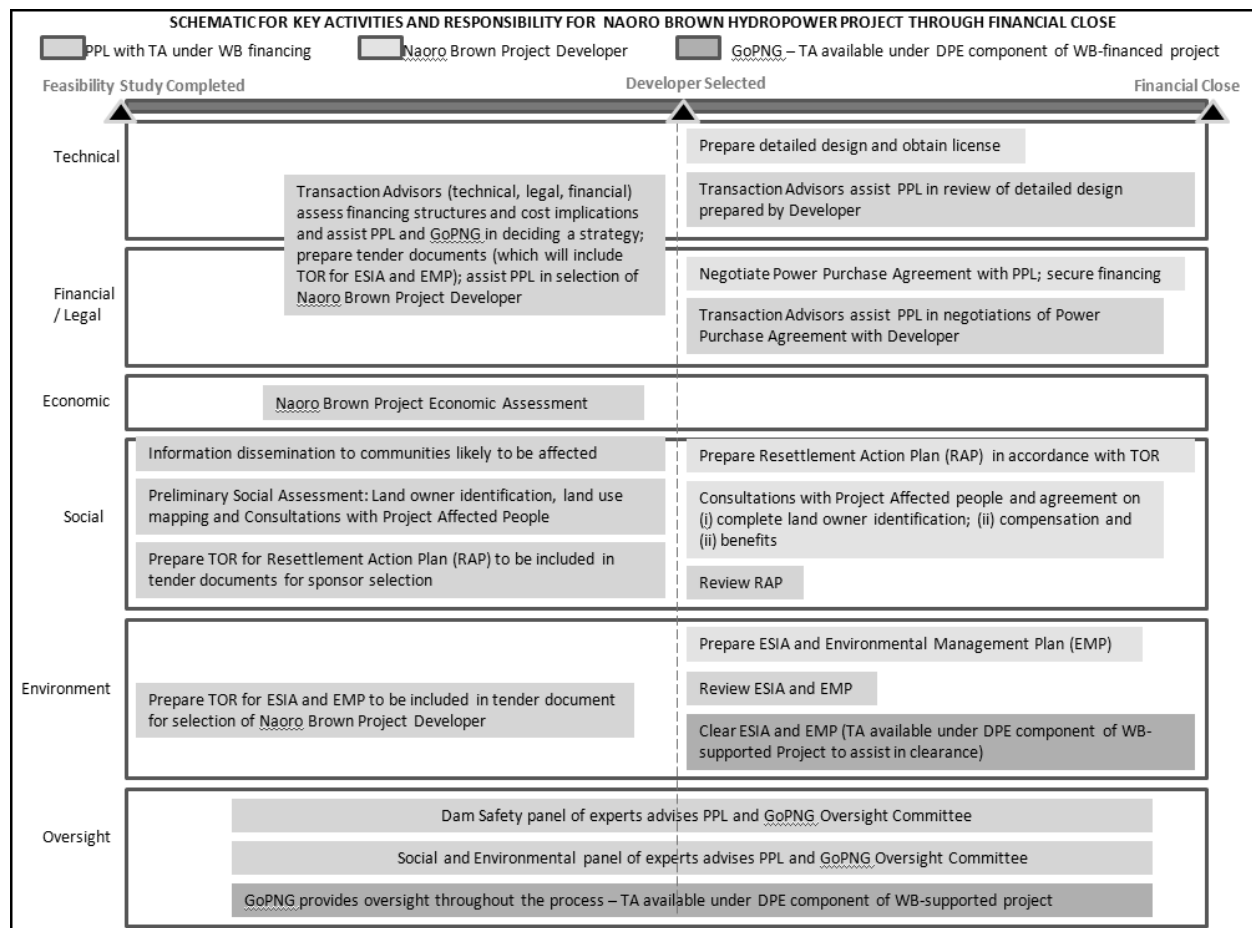
the Naoro Brown Information and Consultation Strategy and undertake the Social and Environmental Impact Assessment, Environment Management Plan, Resettlement Action Plan and its implementation, and Dam Safety Plan as per the prepared TOR.

25. Day-to-day supervision regarding the technical, social and environmental aspects of NB project preparation once the NB Project Developer is in place would be the responsibility of PNG Power (with specialist support including the Panels of Experts and separate Social and Environmental specialist(s) financed under the IDA credit), with oversight from the Oversight Committee.

26. Component 1 of the proposed WB-financed PNG Energy Sector Development Project includes funding for Technical Assistance related to GoPNG’s role in the Naoro Brown project so that specialist input can be brought in as and when DPE, Department of Environment and Conservation (DEC) and / or the Oversight Committee requires it. Technical assistance is included under Component 1.3 to bring in specialist expertise to review these documents if needed.

27. Key Activities and Responsibilities are summarized in Figure 1: *Schematic for Key Activities and Responsibility for Naoro Brown Hydropower Project through Financial Close.*

**Figure 1: Activities, Roles and Responsibilities for Naoro-Brown hydropower project up to financial close**



**Related to other aspects of the PNG Energy Sector Development Project**

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28. A Strategic Environmental and Social Assessment (SESA) will be prepared as an input to implementation of both the Renewable Energy Policy and the Rural Electrification Policy as per the description in Section 2 above. As part of development of the Rural Electrification Strategy, a social and environmental screening process and methodology will be developed to assist in streamlining identification and management of social and environmental aspects of future rural electrification projects. The three-basin inventory study will take into account technical, environmental and social issues in identifying potential hydropower projects. The environmental and social issues to be assessed by the feasibility study of the next hydropower project for the Port Moresby area will be identified as the scope is determined. These technical assistance activities under the WB-financed credit would be subject to normal WB review and supervision, taking into account relevant WB safeguard policies.

## **6. PUBLIC CONSULTATION AND A BRIEF DESCRIPTION OF THE BROAD CONTENT OF THE COMMUNICATIONS STRATEGY.**

### **Public Consultations on the proposed PNG Energy Sector Development Project**

29. Consultations with civil society organizations started in December 2010, and will continue on an ongoing basis. The technical assistance to develop the Renewable Energy Policy, Rural Electrification Policy and Rural Electrification Strategy (financed under the proposed WB-financed PNG Energy Sector Development Project and with Global Environment Facility (GEF) grant financing) would be designed to involve significant stakeholder consultations.

### **Public Consultation and Communication Related to the preparation of the Naoro Brown Hydropower Project**

30. Since the inception of the Naoro Brown feasibility study, PNG Power has made a number of visits and held discussions with people living in Madilogo village (the village nearest the proposed dam site) to inform and agree with villagers and their representatives about the undertaking of feasibility study.

31. In early December 2010, the feasibility consultants presented the initial findings to PNG Power providing an indication of the likely size and location of the Naoro Brown project, which in turn provides an indication of the location and types of environmental and social impacts which might be expected. In January 2011 PNG Power held consultations with people from the three villages nearest the proposed dam site that may potentially be affected by the civil works and / or reservoir, to update the villagers on the potential physical developments proposed and the scope of potential environmental and social impacts as per the initial feasibility findings. The objective was to provide the villagers an early opportunity to understand the proposed Naoro Brown project and have an opportunity to voice their questions and concerns. A further opportunity for information dissemination and feedback during preparation of the feasibility study will take place when the feasibility study consultant returns to the proposed site – expected in February 2011.

32. The Preliminary Social Assessment (#2 above), would begin soon after approval of the proposed WB-financed PNG Energy Sector Development Project, estimated in July 2011. As described in Section 3, this would include a preliminary identification of land ownership and rights, as well as recommendation regarding arrangements to manage the possible impacts through information sharing and consultation with NB project-affected people. The findings and recommendations of this study will form the core of the Naoro Brown Information and Consultation Strategy. In addition, arrangements will be established to consult with a broader stakeholder group including NGOs and other interested parties.

33. In line with the World Bank Policy on Indigenous People (OP 4.10) when indigenous peoples are the sole or overwhelming majority of direct project beneficiaries, the elements of an Indigenous Peoples Plan should be included in the overall project design, and a separate plan is not required. Under the NB project, the Mountain Koiaris are the sole or overwhelming majority of direct beneficiaries of the benefit stream that will flow from the NB project to communities in the NB project area. Hence the Naoro Brown Information and Consultation Strategy is a central component of the overall design of the proposed support for preparation of the NB project, since this Strategy will establish compliance with the WB policy by defining arrangements that provide for a process of free, prior, and informed consultation to ascertain broad community support for the NB project so that the people in the

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NB project area receive culturally appropriate economic and social benefits, and adverse impacts are minimized, mitigated, and compensated. Annex 1 provides the key features for Communication and Consultation with Indigenous Communities in the Naoro-Brown Hydropower Project Area, upon which the Information and Communication Strategy will be based. The Naoro Brown Information and Consultation Strategy will be based on the following principles:

- An approach to information dissemination and consultation on the NB project across the affected area so that both men and women receive timely and adequate information to make informed decisions. The consultations would be undertaken at locations and with groups of people that are meaningful in terms of the rights and interests in the NB project area. The approach would need to be accepted by the involved social groups and their representatives, and it would need to result in decisions that respond to the interests and concerns of both women and men in the NB project area, and advance the objectives of the NB project.
- Institutional arrangements and staffing to enable ongoing consultation during NB project preparation, implementation, and operation;
- Institutional arrangements that ensure that agreements are honored by both the NB Project (e.g. timely, transparent, and equitable provision of agreed entitlements involving compensation for losses, and lease or benefit sharing entitlements) and the involved communities (e.g. access to land for civil works or restrictions on logging to ensure catchment area sustainability);
- Institutional arrangements that are accepted by the involved communities and that provide for timely resolution for handling of complaints and grievances.
- Arrangements that ensure documentation of consultations; monitoring of the implementation of agreements on entitlements and benefits; and records on the management and resolution of complaints.

33. Once in place, the NB Project Developer would be required to update / refine and implement the Naoro Brown Information and Consultation Strategy.

#### 34. **Information sharing:**

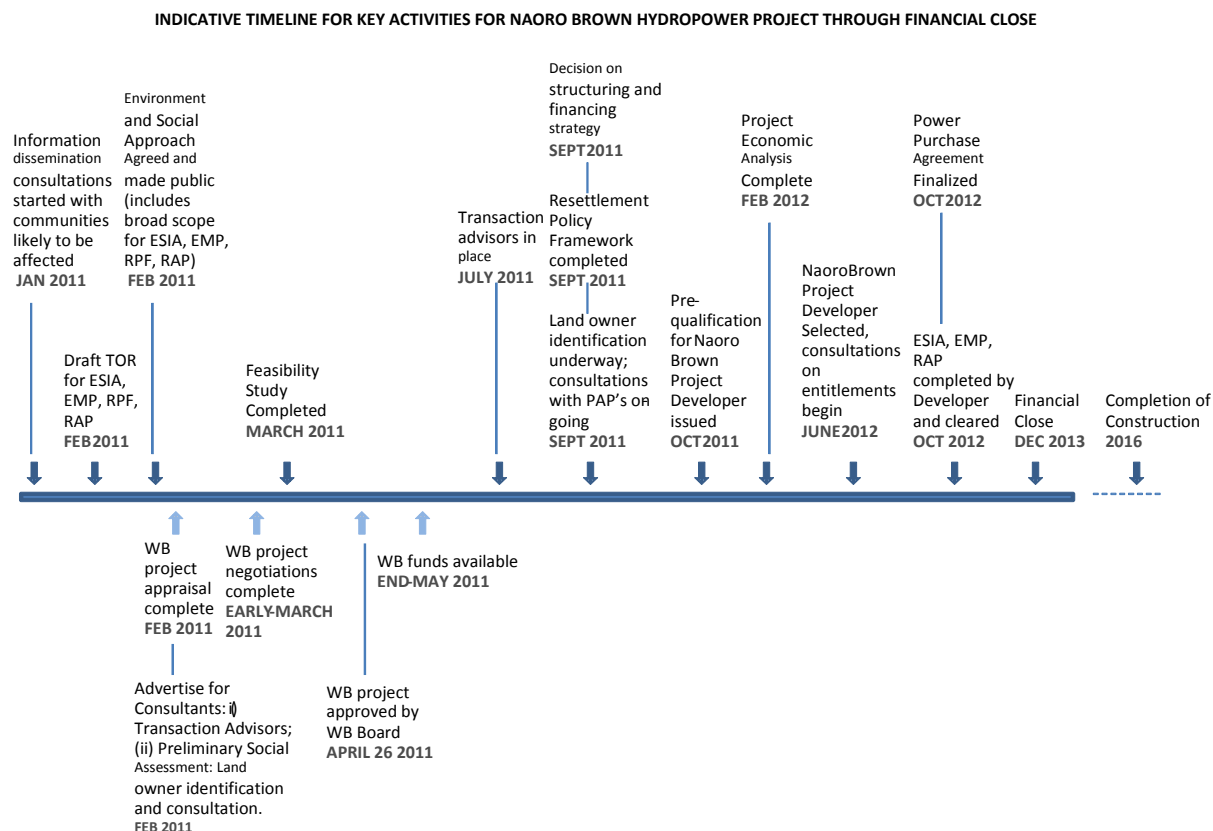
This Environment and Social Management Framework (ESMF) will be disclosed in Port Moresby and at the World Bank InfoShop before completion of appraisal of the proposed WB-financed PNG Energy Sector Development Project. In addition, the ESMF will be translated into Tok Pisin as soon as possible and the English and Tok Pisin versions will be disclosed in Port Moresby and at a local information center(s) in the NB project area. Draft Terms of Reference for the Environmental Impact Assessment (ESIA), Resettlement Policy Framework (RPF), Environmental Management Plans (EMP) and Resettlement Action Plan (RAP) are expected ready in early 2011, and would be translated into the local language and disclosed in Port Moresby and at a local information center(s) in the NB project area as will the completed Naoro Brown Information and Consultation Strategy, and summaries of the Resettlement Policy Framework, Environmental Management Plans (EMP) and Resettlement Action Plan (RAP). Meetings will be held to inform people in the NB project area about the contents of these documents, and during NB project preparation and implementation, documentation on consultations, on provision of entitlements and benefits, and on management and resolution of complaints will also be made available in *Tok Pisin* to communities in the NB project area. A local information center and meeting venue would be established in the NB project area, and information materials would be developed, which can convey an understanding of the NB project to people who may be illiterate and who do not understand maps and engineering drawings.

## **7. TIME-SCHEDULE FOR MILESTONES AND DELIVERABLES UNDER THE PNG ENERGY SECTOR DEVELOPMENT PROJECT**

### **Key Milestones and Indicative Schedule for Activities Related to the Preparation Activities for the Naoro Brown Hydropower Project**

35. The key milestones and indicative schedule for activities related to the preparation activities for the Naoro Brown project to be supported under the PNG Energy Sector Development Project are shown in Figure 2: *Indicative Timeline for Key Activities for Naoro Brown Hydropower Project through Financial Close*.

**Figure 2: Indicative Timeline of Naoro-Brown Hydropower Project through to Financial Close**



### Key Milestones and Indicative Schedule for Other Key Elements of the PNG Energy Sector Development Project

36. Work on the Renewable Energy Policy and Rural Electrification Policy is expected to begin towards the end of 2011 and proceed concurrently. Given the need for consultations, including in locations outside Port Moresby, it is anticipated that the process could take up to a year. The Strategic Environment and Social Assessment will proceed concurrently. The Rural Electrification Strategy will be developed following the completion of the Rural Electrification Policy.

### 8. BUDGET ARRANGEMENTS FOR SAFEGUARDS MANAGEMENT.

37. Financing is included in the proposed PNG Energy Sector Development Project for all the safeguard-related studies and specialist advisors which are the responsibility of GoPNG or PNG Power, as set out above. For the Naoro Brown Project ESIA, EMP, RAP and implementation of the RAP, and Dam Safety Plan, all of which are the responsibility of the to-be-selected Naoro Brown Project Developer, the Terms of Reference would be included in the bidding documents issued to prospective NB project developers. The bidding documents will make clear the responsibilities of the NB Project Developer with respect to safeguard aspects of the NB project and bids will be required to budget appropriately for these activities.

**Annex 1: Strategy for Communication and Consultation with Indigenous Communities  
in the Naoro-Brown Hydropower Project Area**

The Naoro-Brown (NB) hydropower project is located in the upper reaches of the Naoro-Brown catchment area comprising 274 square km within the Kairuku-Hiri District of the Central Province. Within this District, the NB project area comprises five Wards of the Koiari Rural Local-Level Government. The NB project area is characterized by a very low population density of around 5 persons per sq.km and dispersed small settlements. There are 14 villages of which 13 are inhabited by Mountain Koiari, while a cluster of settlements at Edebu at the lower end of the NB project area also include some Mountain Koiari, who have settled from locations outside the NB catchment area. According to the 2000 Census, the resident population in the project area is 1,415, and another 8,737 persons have migrated from the area to Port Moresby and other locations. Livelihoods in the Naoro-Brown catchment area are based on subsistence shifting cultivation supplemented by use of natural resources (e.g. fishing in the rivers). The outmigration from the area is due to lack of income opportunities together with lack of education and health services. The migrants retain links to their villages of origin including land rights.

The World Bank's OP 4.10 on Indigenous Peoples would be triggered by the development of the Naoro Brown Hydropower Project since the Mountain Koiari shares the four characteristics that identify indigenous peoples.<sup>1</sup> Since the land, water, and other natural resources in the NB project area are all held under customary tenure arrangements by the Mountain Koiari communities, both the land required for specific civil works components and the access to use the area and its water resources for the NB project will require agreements on entitlements to customary land owners and settlers with permissive rights granted in the past. The basis for reaching agreement on entitlements for land acquisition and for the long-term use of the area for hydropower will be the establishment of arrangements which enable a process of free, prior, and informed consultation that starts early in the NB project preparation phase and that results in broad community support for the NB project. The parties to this consultation process will on the one hand be PNG Power and later the NB Project Developer, and on the other hand the population in the NB project area comprising the Mountain Koiari communities in the upper Naoro-Brown catchment area that own or have interests in the land, water, and other natural resources. Thus, the Mountain Koiari are the sole direct beneficiaries of the benefit stream that will flow from the Naoro-Brown Hydropower project to communities in the NB project area.

Little is known about the specific socio-economic and cultural conditions in the NB project area, and a social impact assessment will be undertaken (as part of the Preliminary Social Assessment and the ESIA) to furnish the information that will inform (a) the design of a Naoro Brown Information and Consultation Strategy applicable to the preparation, implementation, and operation of the NB project, (b) the determination of the social impacts and the people impacted by the NB project, (c) the development of a Land Acquisition and Resettlement Policy Framework that lays out the principles for management of land acquisition impacts and access to use land and water in the NB project area, and (d) the development of a Resettlement Action Plan (or Abbreviated Resettlement Plan) to manage the land acquisition that will be needed for civil works and any resettlement if that will be required.

The approach described above complies with the requirements for project preparation laid out in para 6 of World Bank OP 4.10 (Indigenous Peoples) which involve (a) a screening to establish whether indigenous peoples are present in the project area, (b) a social assessment, and (c) a process of free, prior, and informed consultation to ascertain broad community support for the project and determine the specifics of the benefit stream it will provide to the communities in the project area, and the entitlements for compensation and assistance that will be provided to those affected by land acquisition for project civil works (and in the event of any displacement and resettlement).

OP 4.10 (para 12) stipulates that when indigenous peoples are the sole or overwhelming majority of direct project beneficiaries, the elements of an Indigenous Peoples Plan should be included in the project design, and a separate plan is not required. As described above, this is the case with the Naoro-Brown hydropower project, and the Naoro

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<sup>1</sup> These characteristics are (a) self-identification as members of a distinct indigenous cultural group and recognition of this identity by others; (b) collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories; (c) distinctive customary cultural, economic, social, or political institutions, and (d) an indigenous language.

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Brown Information and Consultation Strategy, which is a central component of the overall design of WB-financed assistance for the preparation of the Naoro Brown Hydropower Project under the proposed PNG Energy Sector Development Project, will establish compliance with the policy by defining arrangements that provide for a process of free, prior, and informed consultation to ascertain broad community support for the NB project so that the people in the NB project area receive culturally appropriate economic and social benefits, and that adverse impacts are minimized, mitigated, and compensated. The key elements of the Naoro Brown Information and Consultation Strategy will include:

1. An approach to information dissemination and consultation on the NB project across the affected area that ensures (i) that both men and women receive timely and adequate information to make informed decisions, (ii) that the consultations are undertaken at locations and with groups of people that are meaningful in terms of the rights and interests in the project area, (iii) that the approach itself is accepted by the involved social groups and their representatives, and (iv) that it results in decisions that responds to the interests and concerns of both women and men in the NB project area, and advance the objectives of the NB project.
2. Institutional arrangements and staffing (including identifying and addressing capacity building needs) to enable ongoing consultation during NB project preparation, implementation, and operation;
3. Institutional arrangements that ensure that agreements are honored by both (i) the NB project (e.g. timely, transparent, and equitable provision of agreed entitlements involving compensation for losses, and lease or benefit sharing entitlements), and (ii) the involved communities (e.g. access to land for civil works or restrictions on logging to ensure catchment area sustainability).
4. Institutional arrangements for handling of complaints and grievances that are accepted by the involved communities and that provide for timely resolution.
5. Arrangements that ensure documentation comprising (i) records on consultations, (ii) monitoring of the implementation of agreements on entitlements and benefits, and (iii) records on the management and resolution of complaints.

This Strategy for Communication and Consultation with Indigenous Communities will be translated into *Tok Pisin* and disclosed in Port Moresby and at a local information center in the NB project area, as will the Naoro Brown Information and Consultation Strategy and a summary of the RAP when accepted by the involved social groups and their representatives and finalized. The strategy will then be disseminated to the communities in the NB project area, and documentation on consultations, on provision of entitlements and benefits, and on management and resolution of complaints will also be made available in *Tok Pisin* to communities in the NB project area.