



Government of Saint Lucia
Resettlement Action Plan
Geothermal Resources Development Project

February 2018



Government of Saint Lucia **Resettlement Action Plan** Geothermal Resource Development Project

February 2018

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Acronyms and Abbreviations

AO	Authorized Officer
CBO	Community-Based Organization
CCL	Commissioner of Crown Lands
DAFP	Department of Agriculture, Fisheries, Physical Planning, Natural Resources and Cooperatives
DPP	Department of Physical Planning
DSD	Department of Sustainable Development
ESIA	Environmental and Social Impact Assessment
GRC	Grievances Redress Committee
GOSL	Government of Saint Lucia
GPS	Global Positioning System
GRD	Geothermal Resource Development
IFC	International Finance Corporation
IVSC	International Valuations Standards Council
LO	Legal Officer
LUCELEC	St. Lucia Electricity Services Limited
NGO	Non-Government Organization
OP	Operational Policy
PAP	Project Affected Persons
PC	Project Coordinator
PCU	Project Coordinating Unit
PS	Permanent Secretary
PSC	Project Steering Committee
QS	Quantity Surveyor

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RAP	Resettlement Action Plan
RFP	Relocation Policy Framework
RICS	Royal Institute of Chartered Surveyors
RPF	Resettlement Policy Framework
STO	Social Transformation Officers
TD	Technical Director
TO	Technical Officer
VS	Valuation Surveyor
WASCO	Water and Sewerage Company Inc.

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1 INTRODUCTION

1.1 OVERVIEW

The Government of Saint Lucia (GOSL) proposes a geothermal exploration program (the project) to test the geothermal resource and evaluate the feasibility of commercial geothermal power production in Saint Lucia. The geothermal exploration is proposed within the Soufrière, Choiseul, and Laborie regions of Saint Lucia. The geothermal exploration program would include slim-diameter wells to obtain information on the geology and temperature gradient in the area. Deep geothermal wells may be drilled with larger drilling rigs if the initial drilling is successful.

The World Bank requires preparation of a Resettlement Action Plan (RAP) to address compulsory acquisition of land, that would give rise to the relocation or loss of shelter; loss of assets or access to assets; or loss of income sources or means of livelihood. This RAP has been prepared consistent with World Bank policies and guidelines.

1.2 BACKGROUND

Jacobs of New Zealand conducted a geoscientific study in 2015 and 2016 which indicated the presence of a geothermal resource in areas to the southeast of the Sulphur Springs (Jacobs of New Zealand 2016¹). The GOSL contracted GeothermEx to conduct a pre-feasibility study of commercial geothermal power generation in the resource target areas identified by Jacobs of New Zealand. Exploratory drilling is required in the resource target areas to evaluate the geothermal resource and to determine the viability of generating commercial geothermal power.

The GOSL contracted Panorama Environmental, Inc. in July 2017 to prepare an Environmental and Social Impact Assessment (ESIA) for geothermal exploratory drilling activities in the communities of Fond St. Jacques and Belle Plaine in the district of Soufriere and Mondesir-Saltibus in the districts of Choiseul/Laborie. The ESIA includes preparation of a Resettlement Action Plan (RAP) and a Relocation Policy Framework (RPF) for the geothermal exploration drilling.

¹ Soufriere Geothermal Resource - Integrated Exploration Report; Jacobs New Zealand Limited, May 2016

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1.3 PROJECT SUMMARY

The project includes drilling slim-hole wells and potentially full-size geothermal exploration wells to evaluate the feasibility of commercial geothermal development in St. Lucia. Slim-hole wells would be drilled first. Slim-hole wells (3.78-inch bottom hole diameter) typically require less capital investment and cause less environmental and social impacts than deep full-sized wells because they are drilled with smaller drill rigs, drilling takes less time, and less material is removed from the ground. An exploratory drilling program using slim hole wells is a cost-effective method for geothermal exploration.

Full-sized (7-inch or greater bottom hole diameter) geothermal exploration wells may be drilled in Belle Plaine or Mondesir-Saltibus if the slim hole drilling results are positive and suggest the presence of a commercial geothermal resource.

The project description and analysis in the ESIA address the possibility of drilling full-sized wells in addition to slim-hole wells to provide a range of options for the exploratory drilling program. The feasibility of drilling full-sized wells would depend on the results of slim-hole drilling, access to funds, access to sufficient workspace, and the environmental and social risks and impacts addressed in the ESIA.

The project would include the following activities and components:

- Civil works and site development
- Slim hole and full-size well drilling
- Well testing
- Well abandonment and site reclamation

1.4 OBJECTIVES AND SCOPE OF THE RESETTLEMENT ACTION PLAN

The exploratory drilling phase of the project will not require the acquisition of land because the exploration drilling is a temporary activity and the site will be restored at the completion of drilling. The drilling will also not require the physical resettlement of housing or farm structures as efforts to minimize resettlement have resulted in the drilling sites being selected on lands without houses or farm structures. However, the drilling and staging activities will require temporary displacement of agricultural production and recreational activities on private and public (i.e. Crown) lands in the target communities. If the geothermal exploration is successful, the wells could become permanent infrastructure as part of a future development phase.

World Bank-assisted projects that entail resettlement and/or displacement, require the development of a Resettlement Action Plan (RAP). An abbreviated RAP is acceptable if fewer than 200 people are displaced. The overall intention of the RAP is to devise a plan that will ensure that the

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Project Affected Persons (PAPs) are left no worse off than they were before the commencement of the exploratory drilling phase of the project. The term PAP is defined as *“All persons who as result of work to be carried out under the Project, would incur temporary involuntary loss of land, productive assets or access to productive assets, or of income or means of livelihood; and as a consequence, would have their living standards or production levels adversely affected”*; (the term is used interchangeably with “Displaced Persons”).

This draft abbreviated RAP sets out the policies, procedures, compensation measures and schedule for the issue of compensation to people/households affected by the project, in the Fond St. Jacques, Belle Plaine and Mondesir- Saltibus communities. The RAP is consistent with World Bank’s Operational Policy (OP) 4.12² and the International Finance Corporation (IFC) Performance Standard 5: Land Acquisition and Involuntary Resettlement³. The RAP is also in general compliance with Saint Lucia’s law and policies governing resettlement matters. Where it is not, the policies of the World Bank Group take precedence.

This RAP pertains exclusively to the Project Affected Persons (PAPs) whose agricultural production activities will be temporarily displaced during the exploratory drilling phase of the project and will, therefore, be entitled to full and fair compensation for that land take. The RAP is a working document, which will be subject to periodic updates as progress is made during the planning, implementation and consultation processes. This RAP reflects the understanding of the project and affected areas in November 2017. The RAP will need to be updated prior to project implementation because the project engineering/design and specific drilling areas have not been defined.

1.5 PROJECT COMPONENTS GIVING RISE TO RESETTLEMENT/ DISPLACEMENT

The project activities that are likely to cause resettlement and /or land acquisition include the following:

1. **Site Development, Civil Works and Material Staging and Storage** – This first stage of the geothermal exploration drilling program will involve civil works to provide access to the drilling areas, the construction of a worker camp (if needed); and the establishment of well pads and areas for material storage.
2. **Well Drilling** – the initial exploration phase will consist of drilling slim-hole wells in the resource target areas to evaluate sub-surface conditions and determine whether the areas show indications of a presence or absence of an exploitable geothermal system. Full-sized geothermal exploration wells may be drilled in Belle Plaine and Mondesir-Saltibus if the results of the slim-hole drilling indicate the presence of a geothermal resource.

² Involuntary Resettlement Sourcebook - Planning and Implementation in Development Projects,

³ IFC Performance Standards on Environmental and Social Sustainability,

1 INTRODUCTION

3. **Geothermal Resource Testing** – Geothermal resource testing would be conducted following the completion of each exploration well.
4. **Well Abandonment and Site Reclamation** – The commercial potential of each exploration well would be assessed following the completion of testing. If the well is determined to have long-term use, the appropriate steps will be taken to leave the well pad in its original state, with access to the wellbore for future monitoring. If a well is not determined to have commercial potential, monitoring of the well may continue or the well may be abandoned and the well pad restored to its approximate original topography.

The project will require use of private and Government (Crown) land resulting in temporary land take. The temporary land taking has triggered the need for the development of this RAP to address involuntary displacement.

The GoSL may enter into a development agreement with a geothermal developer if the results of the exploration drilling program indicate the presence of a commercially viable geothermal resource. The location and impacts of any future geothermal resource development are speculative; therefore, this RAP does not address the impact of future geothermal resource development.

1.6 OVERALL ESTIMATE OF LAND RESETTLEMENT/DISPLACEMENT

The three resource target areas are located in the communities of Fond St. Jacques, Belle Plaine and Mondesir-Saltibus. The resource target areas comprise a total of 44 parcels of land (listed in Appendix A) with a combined area of approximately 36.6 hectares (90.4 acres). Based on records from the Land Registry, the lands in Mondesir-Saltibus MS-1 and MS-2 comprises one parcel which belongs to the Crown. Most of the parcels in Belle Plaine, Fond St. Jacques, MS-3, and MS-4 are held privately (by mainly families/heirs of the original owners), while a few parcels are owned by the Crown and the Water and Sewerage Company Inc. (WASCO). Private and public pedestrian right-of-ways are also held by the many of the parcels in Belle Plaine and Fond St. Jacques. The estimated total area of land required for each exploratory drilling site is approximately 0.12 hectares (0.3 acres) for slim-hole wells and 0.84 hectares (2.0 acres) for full-size exploration wells. The exploratory drilling program is expected to include three to five slim-hole wells and potentially two full-size exploration wells. In total, the footprint of the exploratory drilling comprises agricultural lands comprising approximately 0.36 – 2.3 hectares (0.9 - 5.7 acres).

2 MINIMIZING RESETTLEMENT

2.1 EFFORTS OF MINIMIZING RESETTLEMENT

Two main approaches were used to minimize involuntary physical resettlement and/or economic displacement of the PAPs. These approaches are:

- Consultation with the potential PAPs including the Water and Sewerage Company (WASCO manages a spring water intake within the proposed target drilling area in Belvedere, Fond St. Jacques).
- Investigating technically feasible alternative exploratory-drilling sites within each geothermal resource target area.

2.1.1 Consultations

The GoSL and ECMC conducted consultations in the communities of Belle Plaine, Fond St. Jacques and Mondesir in August and September 2017. ECMC also conducted interviews and had discussions with PAPs during the socio-economic baseline survey in September 2017. Individual interviews were held with the PAPs in each community in September 2017. The interviews provided direct information on the PAPs, particularly those in Belle Plaine who expressed concern about the use of their lands and community as exploratory drilling areas.

The focused discussions and interviews also provided general information on the land use and tenure arrangements within the immediate vicinity of the geothermal resource target areas. The consultations provided information on the least agriculturally productive section of the potential exploratory-drilling areas in MS-1 and MS-2. The discussions also provided an appreciation of the portions of land which are not under leasehold or rental arrangements with the Crown.

ECMC held discussions with WASCO regarding the location of a spring water intake tank in the Belvedere, Fond St. Jacques resource target area. In particular, the alignment of the water inlet and outlet pipes and the specifics on the depth of the latter are critical to determining technically feasible drilling sites in the Fond St Jacques resource target area. ECMC also requested information on the sustainability of the spring source and the high landslide susceptibility index of the resource target area due to the surrounding steep hills.

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2.1.2 Investigating Technically Feasible Options

In exploring technically viable alternative drilling sites, the potential drilling areas showing in Figure 2-1 were first superimposed over GOSL's map sheet⁴ showing the legal demarcation of the parcels (Block and Parcel numbers) of land. The parcels of land and consequently the potential PAPs were then identified. This desktop exercise indicated that the boundaries of the targeted exploratory drilling areas cut across boundaries of parcels, and, in some cases if the land was to be demarcated for exploratory drilling using the boundaries established, this would result in slivers of land that would be of little use to the owners. Consequently, the boundaries of the targeted exploratory drilling areas were realigned to minimize the number of slivers of land and thus the number of PAPs to be economically displaced.

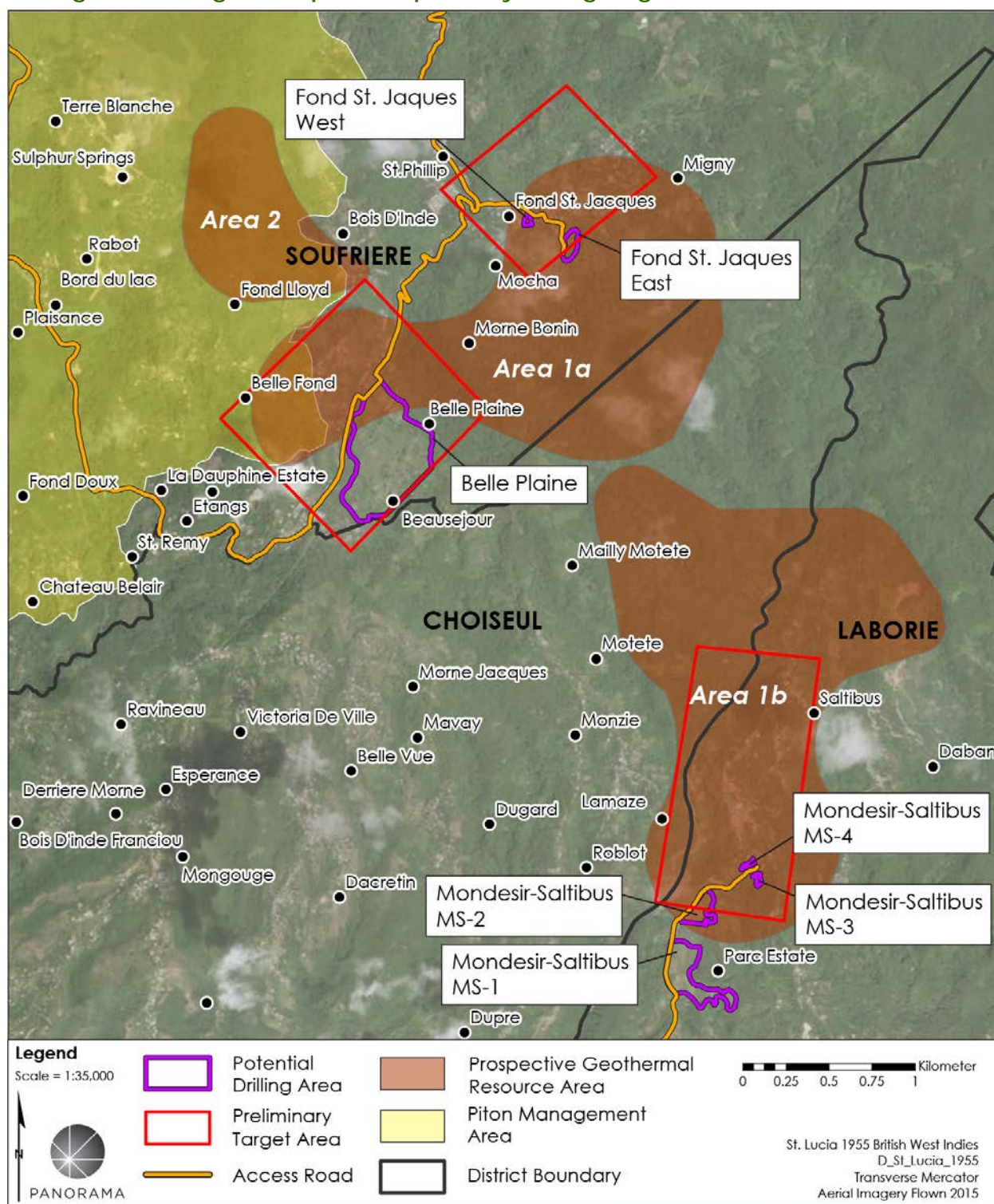
Supplementary reconnaissance visits were then made to the targeted exploratory drilling areas, during which photographs were taken to establish the sections of lands that are least cultivated particularly in the Belle Plaine and Mondesir target areas. During the visits, Global Positioning System (GPS) locations were also obtained for any physical structures – residential buildings, for example (complete or under construction), farm sheds or improvement to the land. Where possible, these physical structures were identified on a map using the GPS coordinates captured on site, the 2010 aerial photography of Saint Lucia and through the use of Google Maps (2015 imagery). This information facilitated the siting of the drilling and staging areas away from lands that are under active cultivation or occupation by buildings/structures.

Panorama also held meetings with the pre-feasibility contractor and the DSD to discuss methods to minimize impacts from resettlement and loss of livelihood. The pre-feasibility contractor (GeothermEx and POWER Engineers) determined that only slim-hole wells shall be used in Fond St. Jacques to avoid loss of any homes or structures. The pre-feasibility contractor also recommended a drilling strategy that involves slim-hole wells to start and full-size exploration wells would only be drilled in Belle Plaine or Mondesir if the slim-hole wells indicated the presence of a geothermal resource and further testing was needed. Use of slim-hole wells minimizes the land required for the project and minimizes the area subject to temporary land take.

⁴ The Land Registration and Titling Project (LRTP) map sheets of the Government of Saint Lucia.

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Figure 2-1 Original Proposed Exploratory Drilling Target Areas



2 MINIMIZING RESETTLEMENT

2.2 RESULTS OF EFFORTS TO MINIMIZE RESETTLEMENT

The efforts aimed at minimizing the displacement of potential PAPs resulted in the following:

- Avoidance of homes/structures to avoid loss of shelter
- Identification of uncultivated agricultural areas to minimize loss of income and impacts on livelihood
- The realignment of the exploratory drilling areas for the Fond St. Jacques and Belle Plaine sites to allow for the boundaries of these areas to match some of the boundary lines of the land parcels. In the cases of Fond St. Jacques and Belle Plaine, this will ensure that the land selected as the drill site will be confined to a single parcel;
- The identification of alternative sites/parcels which can be used for both the placement of the well pads and staging areas for the proposed exploratory drilling;
- The identification of single-owner parcels (as opposed to family-owned) particularly in the Belle Plaine community, which has a high prevalence of family land tenure;
- The increased likelihood of PAPs on each of the Fond St. Jacques and Belle Plaine sites who are willing to provide access to their property without any major disagreement;
- Omitting a number of parcels from the original exploratory drilling area, thus reducing the total area of land potentially subject to involuntarily resettlement/displacement;
- A reduction in the number of persons potentially displaced in each exploratory drilling area and a reduction in economic displacement/compensation.

2.3 MECHANISMS TO MINIMIZE RESETTLEMENT/DISPLACEMENT DURING IMPLEMENTATION

The mechanisms proposed to minimize displacement during the implementation of the RAP, include:

- **Installation of appropriate infrastructure** – where sites are not directly accessible from the public road, a well-drained, dry-weather road will be constructed to facilitate access to and from the site. The road shall be regularly maintained and kept wet if site preparation works are being done in the dry season. Should the operations be ongoing during the hurricane season, drains shall be properly cleared in advance of any impending storm or an extreme rain event. All storm water from the drains along the access roads shall be directed to a public drain, which the project will ensure is functional. The access roads shall be properly illuminated with cones (powered by solar energy or equivalent lighting source). The installation of this infrastructure will serve to avoid and/or minimize both physical and economic (claims for compensation) resettlement /displacement during the implementation of the RAP.

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- **Site Delineation** –The limits of the well pad and civil works infrastructure will be demarcated using a GPS device and construction limit fencing. This mechanism will facilitate the continued use of the surrounding lands by the parcel owner for agricultural purposes.
- **Parcel Selection** – In Fond St. Jacques, there are two separate sites (east and west) that will need to be managed as the western site falls on/near the community playing field. The relocation of the playing field will not be considered given the limited availability of flat land to re-establish this facility and the cost associated. Therefore, every effort will be made to allow both the recreational activity and the geothermal exploration activities co-exist at the proposed site. The drill rig and project work areas will be properly fenced and illuminated where needed for safety.

Parcel limits and ownership will be considered during selection of the drilling sites for slim-hole wells and potentially full-size wells in the Belle Plaine area. To the extent feasible, each well pad should be located within a single parcel to minimize negotiations. The location of the access road should also consider parcel boundaries to minimize negotiations with landowners. Access to the Belle Plaine parcel will be off an existing subdivision road which will be transformed into a dry-weather pavement.

Mondesir sites MS-1 and MS-2 comprise one large parcel owned by the Crown. The parcel is uncultivated except for small plots located mostly along the main road that is being farmed by tenants of the Crown and squatters. At the commencement of the contractor site works, an access route to the well pad area may traverse a cultivated plot. Should this be the case, the entitlement matrix will be revised to include the affected cultivated plot(s) so that crop valuation and loss of income information will be readily available to estimate compensation to the PAPs. MS-3 and MS-4 are located in privately-owned parcels and cross public easements and WASCO easements. The well pad location and access path will be defined in consultation with the property owner to minimize disruption to the adjacent residences.

- **Impact of Noise and Air Quality Levels** – Mitigation measures to avoid or minimize displacement due to the impact of noise and poor air quality during implementation are detailed in the ESIA Scoping Studies Report. Generally, to mitigate the impact of noise, the wells will be located at least 150 metres (500 feet) or more from the nearest PAP's residence, to the extent feasible. In addition, wells should be vented through a silencer to avoid direct venting onto vegetation. With regard to unacceptable air quality levels (due to fugitive dust and geothermal

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gases), the drilling contractor is required to prepare, inter alia, an air quality monitoring plan and emergency evacuation plan. Noise and air quality levels will be constantly monitored during geothermal drilling and testing and the plan implemented if the need arises. Any emergency evacuation from a blowout or unacceptable air quality levels would be very brief because the air emissions would quickly disperse into the atmosphere.

In order to minimize displacement during the implementation of the RAP, a complaints hotline will be established and the contact numbers will be posted on notice boards in the immediate vicinity of the sites. Should residents call regarding excessive noise, dust, and unbearable smells, immediate mitigation actions will be undertaken by the contractor to prevent reoccurrence.

3 CENSUS AND SOCIOECONOMIC SURVEY

The World Bank requires a census of all PAPs, “regardless of their legal status—landowner, holder of land rights, tenant, illegal squatter—or whether they are actually living on an affected site at the time of the census”. Therefore, private landowners and holders of rights to the land in the geothermal target areas including any persons (tenants, caretakers⁵, squatters,) currently occupying private and public (i.e. Crown) land for sources of livelihood are to be included in the census. The World Bank indicates that while landless people or squatters may not be eligible for land compensation, they may be eligible for compensation for assets (such as standing crops, orchards, or woodlots).

3.1 PRELIMINARY CENSUS

Based on records from the Land Registry, of the 42 parcels potentially affected by the project, 37 are privately held; four are owned by the Crown and the remaining parcel is owned by WASCO. The Land Registry also reveals that the privately-held parcels in Belle Plaine and Fond St. Jacques are owned by several landowners/holders of land rights (trustees for sale, executrix, and heirs). Table 3-1 presents a summary of the ownership of lands in the potential drilling areas for the project.

Table 3-1 Land Ownership in the Target Area

Community	Potential Drilling Area (ha)	Parcels Privately Held	Registered No. of Private Owners	Crown/ GOSL Parcels
Belle Plaine	26.3	29	26	2
Fond St. Jacques	1.3	5	8	1*
Mondesir	9.0	3	4	2
Total	36.6	34	34	5

*WASCO land ownership

Given the prevalence of “family lands” in St Lucia, the census (total number) of PAPs for the privately-held parcels is expected to be more than that listed on the Land Register. Initial

⁵ Occupant that is managing the land for relatives overseas

3 CENSUS AND SOCIOECONOMIC SURVEYS

consultations with some family members in the Fond St. Jacques target area indicated that some of the PAPs might be residing overseas; therefore, there may be a likelihood of caretakers' compensation. In the Belle Plaine target area, 16 of the 29 parcels belong to the heirs of one landowner. Preliminary discussions have also been held with some of these heirs.

With regard to the 8.7 hectares of Crown lands in Mondesir, there are only two tenants⁶ currently farming a total of about 1.2 acres through lease agreements with Government. One of these tenants is a female who leases an acre for agricultural production and the other is a male, occupying 8,150 square feet for residential purposes⁷. There is no recorded information on landless farmers (squatters/encroachers). However, based on reconnaissance visits and interviews conducted during the baseline socioeconomic survey, it is estimated that there are at least 5-10 landless farmers producing short-term crops on about 5-10 acres of these Crown lands.

The geothermal exploratory drilling phase will include slim-hole wells in each of the three communities. The slim-holes will each displace approximately 0.12 hectares (0.3 acres) of land. If the slim-hole wells indicate the presence of a geothermal resource, additional slim-hole wells or full-size geothermal exploration wells could be drilled in Belle Plaine or Mondesir-Saltibus. The total temporary impact of the exploration phase is estimated at between 0.36 hectares (0.9 acres) and 2.3 hectares (5.6 acres) for the well pads depending on the number and size of the wells that are constructed. Additional lands would be affected by the construction of temporary access roads to the well pad area. The landowners/users within the affected parcels will be eligible for compensation for loss of livelihood. The exact number of PAPs and their specific socio-economic characteristics will be defined during the revised census survey to be conducted after the well pad and access road location and size has been defined and prior to the implementation of the RAP.

3.2 SOCIOECONOMIC SURVEY

The three project-affected communities span four rural settlements. Based on the last population census (2010), two of the settlements (Belvedere-Fond St. Jacques and Belle Plaine) in Soufrière district had an estimated 574 persons accounting for approximately 6.8 percent of Soufrière's total population. The other two settlements (Gayabo and Parc Estate) in Mondesir-Saltibus in the districts of Laborie/Choiseul, had 172 persons, which represents only 2.8 percent of Laborie's total population.

⁶ Source of information: Crown Lands Section, Department of Physical Planning, Government of Saint Lucia

⁷

3 CENSUS AND SOCIOECONOMIC SURVEYS

In September 2017, as part of ESIA Scoping Studies, a socioeconomic, land ownership, and land use survey was conducted for a sample of a cluster of the potentially affected households in the target communities. The main objectives of the survey were to collect baseline socioeconomic information from a representative group of the PAPs in the communities affected by the exploratory drilling and to solicit their comments and opinions about the project.

Although the sample size was relatively small (a total of 30 people), the results of the survey provide a general understanding of the size, distribution, and socioeconomic characteristics of the communities affected by the project. The survey also set a framework for future socioeconomic studies required to establish fair compensation rates and to design, monitor, and evaluate sustainable livelihood restoration strategies for the PAPs. The details of the methodology and results of the socioeconomic survey are contained in the ESIA Scoping Report. A summary of the main demographic and socioeconomic information that is pertinent to the RAP's compensation and livelihood restoration strategies is presented in Appendix B.

3.3 CATEGORIES OF IMPACT AND PROJECT AFFECTED PERSONS

The ESIA Scoping Study Report (November 2017) provided an initial qualitative assessment of the potential impacts of the exploratory drilling phase of the project. The potential major impacts are associated with water resources, soils, air quality, noise, archaeological and cultural resources and socioeconomic conditions of the PAPs. Table 3-2 lists these potential impacts and the PAPs likely to be affected.

Table 3-2 Broad Categories of Project Impacts

Potential Impacts of Exploratory Drilling	Project Affected Persons likely to be impacted
Environmental Impact	
Water Resources - Contamination of the soil, surface water, or groundwater if the hazardous materials were spilled or not properly stored; may also reduce water availability	Residents in the three target communities - Belle Plaine, Fond St. Jacques, and Mondesir-Saltibus
Soils - site de-stabilization and soil contamination associated with site grading activities.	
Air Quality - fugitive dust and geothermal gases	
Noise - increase in noise levels from constant drilling for up to 3 months	
Archaeological and Cultural Resources - disturbance or destruction to historical resources (Ceramics, Amerindian pottery, etc)	Residents in the communities Belle Plaine and Mondesir-Saltibus/entire country;

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Potential Impacts of Exploratory Drilling	Project Affected Persons likely to be impacted
Social and Economic Beneficial Impact	
Creation of temporary non-specialized jobs opportunities for men and women	Residents in the project region
Social and Economic Adverse Impacts	
Temporary loss of livelihood	
Temporary loss of agricultural land	Landowners, landlords, tenants of landlords, and caretakers in Fond St. Jacques and Belle Plaine
Loss of crops (i.e. short and long-term crops)	
Temporary Loss of income streams from agricultural production	Tenants and squatters/landless farmers on Crown lands in Mondesir-Saltibus
Limited use of land due to easements	
Temporary loss of land rental agreements	Tenant of landlords , and caretakers in Fond St. Jacques and Belle Plaine Tenants and squatters/landless farmers on Crown lands in Mondesir-Saltibus
Temporary Loss of income streams from the lease /rental of land	Landowners/landlords
Temporary loss of vacant nonresidential land	Landowners, community
Temporary loss of community land	Individuals who use the recreational facilities in the communities of Fond St. Jacques and Mondesir-Saltibus

Mitigation measures to avoid or minimize the environmental, social, and economic impacts that do not result from land taking are addressed through the ESIA. Compensation measures for all adverse impacts of economic displacement— the loss of income streams or means of livelihood associated with land taking are specifically addressed in Section 5 of this RAP document.

3.4 PROCESS FOR CONSULTATION ON THE RESULTS OF THE PRELIMINARY CENSUS SURVEYS

The Department of Sustainable Development (DSD) has already conducted consultations in the communities of Belle Plaine, Fond St. Jacques, and Mondesir in its campaign to inform potential PAPs of the overall project and the associated impacts. The DSD will continue its consultation program prior to project implementation and throughout the project duration by contacting the target communities and PAPs and addressing any grievances during project implementation. The main purpose of these consultations will be to explain why the displacement is necessary,

3 CENSUS AND SOCIOECONOMIC SURVEYS

discuss the preliminary assessment of the impacts, and disclose the procedures for assessing compensation, and the proposed timetable.

On completion of the preliminary census survey of the PAPs, the DSD will convene consultations to discuss the results with the respective PAPs and/or their nominated representatives. The outcome of these consultations will be confirmation of the area of land required from each PAP and a reasonable consensus on the methods and formulas for assigning values to lost assets and income forgone during the resettlement/displacement period. The consultations, which will provide the PAPs with an opportunity to further express their concerns and suggest alternatives, will be held at times and venues most convenient to the PAPs.

3.5 NEED AND MECHANISMS FOR CENSUS AND SOCIOECONOMIC SURVEY UPDATES

Depending on the time lag between the completion of the revised census survey and implementation of the RAP, there may be a need to update the census and socio-economic surveys to ensure accuracy and equitable compensation of the PAPs. The information gathered from these surveys will also assist in determining the social dynamics likely to hinder or help the effectiveness of displacement measures.

Therefore, prior to implementation of the RAP, the DSD, will develop and discuss with representatives of each community, the plans for the updated census and registration program of the PAPs. Given the relatively small number of PAPs involved, a Community Liaison Officer/census enumerator will be recruited by the DSD and will be thoroughly informed of the objectives and timetable of the project and the plans for compensation for lost assets, and restoration of livelihood.

Under the guidance of the DSD, an updated census survey of the PAPs will then be undertaken by the enumerator who will register the PAPs according to location and inventory of immovable affected assets such as standing crops and fruit trees. The enumerators will take photographs to record the pre-project land occupancy and use of each property as well as the PAPs associated with each recorded property. These photographs will also provide the DSD with a baseline with which to protect the project from claims by people who move into the affected area after the cut-off date (the date of completion of the updated census and asset/crop inventory). The updated census surveys will also include a socioeconomic study of each PAP in each community. The DSD will then analyze the census information to determine the appropriate compensation for income restoration and to identify baseline monitoring indicators.

3 CENSUS AND SOCIOECONOMIC SURVEYS

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4 RESETTLEMENT POLICIES AND ENTITLEMENTS

4.1 WORLD BANK POLICIES FOR INVOLUNTARY RESETTLEMENT

The World Bank's Operational Policy on involuntary resettlement (OP 4.12⁸) covers direct economic and social impacts resulting from Bank-assisted investment projects which require:

- The compulsory acquisition of land, that would give rise to the relocation or loss of shelter; loss of assets or access to assets; or loss of income sources or means of livelihood, whether or not the affected persons are required to move to another location.
- The involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons.

In the case of this RAP, the applicable direct economic and social impacts resulting from the temporary land-take include displacement of agricultural production on private and public (i.e. Crown) lands in the three target communities.

In the context of the World Bank's social and environmental safeguard policies, this displacement establishes a basis for resettlement and thus OP 4.12 applies. In the World Bank's terminology, resettlement is not limited to physical relocation; it includes all direct economic and social losses resulting from land take and restriction of access, together with the requisite compensatory and remedial measures.

4.2 SAINT LUCIA LEGAL FRAMEWORK FOR RESETTLEMENT AND LEASE AND ACQUISITION OF LAND

4.2.1 Framework for Resettlement

There is no existing legislation or official policy document that specifically supports resettlement initiatives in Saint Lucia. Over the years, the Government's resettlement initiatives have generally involved the physical relocation of households to resettlement sites; the displacement of agricultural production; and to a lesser extent the displacement of business operations, all for the purpose of making land available for development/public purpose.

⁸ Involuntary Resettlement Sourcebook - Planning and Implementation in Development Projects,

4 RESETTLEMENT POLICIES AND ENTITLEMENTS

Some of the principles for the implementation of local resettlement projects mirror that of the World Bank's resettlement policy. Displaced persons are: consulted about their options and rights; compensation standards are transparent and applied consistently across the board; and consideration is given to their concerns and specific requests. However, displaced persons are not always presented with a range of viable options for their resettlement. In some instances, the resettlement site has been one fixed location or the options among which an affected person may choose a resettlement site were limited. In some instances, the resettlement site has been one fixed location or the options among which an affected person may choose a resettlement site were limited.

In cases where households have been displaced, the focus has been on the reinstatement of these households at the resettlement site (i.e. an approved land development, where the necessary services have been installed). The typical relocation package offers the project beneficiary a replacement home and a house lot at subsidized prices and a relocation grant. In addition, the value of the household's equity in the property (i.e. house or house and land) at the relocation site, is deducted from the price of the house and land package offered.

The Government has typically focused on the payment of compensation in the displacement of persons involved in agricultural production and the displacement of businesses. In the case of displaced agricultural production, the landowner is paid the market value of the land and crops. Land-based compensation is generally avoided as it has proven challenging to find available agricultural lands for which a combination of productive potential, locational advantages, and other factors are at least equivalent to the advantages of the old site.

In cases where the occupier of the land is a squatter or tenant of the Crown, the affected party is given a minimum period of 6 months to harvest the existing short-term crops and to vacate the land. In circumstances involving long-term crops (e.g. such as fruit trees) or where the land will be required before or within the specified timeframe, crop compensation is determined by the ministry responsible for agriculture and paid by the ministry/agency responsible for project implementation.

Since the project will not require the permanent acquisition of land, the focus of the following sections will be on the legal framework for the lease of land in Saint Lucia (i.e., the recommended mechanism for dealing with the administrative issues associated with the temporary land take). The legal framework for land acquisition is discussed in the Resettlement Policy Framework (RPF) for the project.

4.2.2 Saint Lucia Legal Framework for the Lease of Land

There is no single statute that deals solely with land lease agreements; however, there are pieces of legislation that address some specific types and/or aspects of leases. For example, the Civil Code of Saint Lucia, Cap. 4.01, which contains provisions for the governance and formalities of these type of contracts, provides guidance for the administration of the emphyteutic lease. Another example is the Rent Restriction Act, Cap 13.23 of the Revised Laws of Saint Lucia that

4 RESETTLEMENT POLICIES AND ENTITLEMENTS

deals specifically with the rental of dwelling houses. In effect, none of the existing pieces of legislation are applicable in the context of this RAP.

There is no particular government ministry or agency with direct responsibility for the administration of lease agreements between the government and private individuals/companies/agencies etc. except in the case of the lease of Crown property, which falls under the purview of the Commissioner of Crown Lands. Should the need arise for private property to be leased by the Government for the purposes of a project, the ministry responsible for that project will negotiate and enter into a lease agreement (on behalf of the government) with that private entity. The lease agreement must be submitted by the responsible ministry to the Attorney General Chambers for vetting.

4.3 CONFLICTS/GAPS BETWEEN LOCAL LEGISLATION/POLICY AND WORLD BANK POLICIES

Table 4-1 provides a summary of the key conflicts/gaps that exist between the World Bank's policy and local legislation and policy as it relates specifically to resettlement. The proposed measures for addressing these conflicts are also presented in Table 4-1.

Since there exists no conflict/gap as it relates to the use of a lease as an instrument for acquiring the right of access to land for temporary use, this method of compensation is not included in Table 4-1. The World Bank's Involuntary Resettlement Handbook identifies the lease of land as a measure for acquiring the right of access to land, for temporary land acquisition, a practice that is widely employed in Saint Lucia.

4 RESETTLEMENT POLICIES AND ENTITLEMENTS

Table 4-1 Conflicts/Gaps between Bank Policy and Local Legislation/Policy and Mechanisms to Address

Conflict/Gap	Local Legal Framework /Policy	World Bank Policy Requirements	Measures to Address Conflict/Gap
<ul style="list-style-type: none"> Restoration of livelihoods and living standards; Support for displacement; Development assistance. 	<p>There is no existing legislation or official policy document that specifically supports resettlement initiatives in Saint Lucia.</p> <p>World Bank type policy pertaining to the restoration of income sources and livelihoods, support after displacement for a transition period; and the provision of development assistance, do not apply except in the case where replacement homes of greater value are provided as part of the relocation package.</p>	<p>OP 4.12 – Involuntary Resettlement:</p> <p>Section 2 (c) - Displaced persons should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.</p> <p>Section 6 (c) - Where necessary ... compensation should also include measures to ensure that displaced persons are offered support after displacement for a transition period, based on a reasonable estimate of the time likely to be needed to restore their livelihood and standards of living. The displaced persons should also be provided with development assistance such as land preparation, credit facilities, training, or job opportunities, in addition to the other compensation measures stipulated.</p>	<p>The Social and Environmental Safe Guards of the World Bank take precedence. All PAPs should be eligible for full compensation benefits per World Bank Policy requirements.</p>
<p>Opportunity to derive development benefits from project</p>	<p>There is no existing legislation or official policy document that specifically supports resettlement initiatives in Saint Lucia.</p> <p>Opportunities to derive development benefits are not</p>	<p>Performance Standard 5, Section 9 - The client will also provide opportunities to displaced communities and persons to derive appropriate development benefits from the project.</p>	<p>The Scoping Studies Report indicates that the project may create temporary job opportunities (during the civil works and drilling operations) for which specialized skill might not be available locally. However, for non-specialized jobs, it is</p>

4 RESETTLEMENT POLICIES AND ENTITLEMENTS

Conflict/Gap	Local Legal Framework /Policy	World Bank Policy Requirements	Measures to Address Conflict/Gap
	generally part of the objectives or scope of work of local resettlement projects.		recommended that the Government encourages the Contractor for the site works to give priority to the employment of workers originating from the target communities.

4 RESETTLEMENT POLICIES AND ENTITLEMENTS

4.4 ENTITLEMENT POLICY FOR EACH CATEGORY OF IMPACT

The general conditions of the entitlement policy, compensation and rehabilitation measures for the resettlement/displacement of each category of PAP are as follows:

- **Project Affected Persons experiencing temporary loss of land** or temporarily losing access to these assets or access to income sources or means of livelihood. All PAPs with legal rights to land use will be considered entitled. Lease agreements will be negotiated between the government and landowners for temporary land take. Displacement assistance in line with the World Bank policy requirements will be provided.
- **Project Affected Persons losing rental/leased land:** Holders of rental or lease agreements will be assisted with finding alternative land to rent/lease. Transitional assistance may be necessary to ensure that livelihoods are not affected.
- **Project Affected Persons losing crops or economic trees:** Affected persons will be allowed to harvest any crops planted prior to the date that land is taken. If land must be taken before the crops are ready for harvest, crop compensation will be determined by the ministry with responsibility for agriculture and paid for by the project.
- **Project Affected Persons who are squatters:** Persons who have no recognizable legal rights or claim to the land they are occupying. Squatters will receive no compensation for land. Compensation for other assets such as crops or trees will be determined by the ministry with responsibility for agriculture and paid for by the project. Those using land unofficially for agricultural purposes will be assisted with finding alternative areas available for use.

4.5 ENTITLEMENT MATRIX

The compensation measures for displacement resulting from the temporary land-take which is addressed by this RAP are presented in Table 4-2.

4 RESETTLEMENT POLICIES AND ENTITLEMENTS

Table 4-2 Entitlement Matrix

Category of PAP	Type of Loss	Compensation for Temporary Loss of Land or Access to Land	Compensation for Loss of Crops and Trees	Compensation for Loss of Income	Other Forms of Assistance
Landowner/ absentee land owner	Temporary loss of land or temporary loss of access to this asset	Negotiated lease agreements	Cash compensation to affected landowner/ farmers	Compensation based on the annual output of the leased land (multiplied by the total number of years for which the project operations will be taking place) plus the costs associated with land preparation and re-cultivation	Crop loss to be minimized to the extent possible by avoiding land-take during harvesting Return of land to owners after use
Landowner/ Landlord	Loss of rental income	Negotiated lease agreements	Not Applicable	Rental income lost will be covered by negotiated lease agreement	Return of land to owners after use
Tenants of Landowners/ Sharecroppers/ caretakers	Loss of rented/leased land; and crops and/or trees	Assistance with finding alternative land to rent /lease	Cash compensation to affected farmers.	Compensation based on the annual output of the leased land (multiplied by the total number of years for which the project operations will be taking place) plus the costs associated with land preparation and re-cultivation	Crop loss to be minimized to the extent possible by avoiding land take during harvesting Transitional assistance to ensure that livelihoods are not adversely impacted
Tenants of the Crown	Loss of rented/leased land; and crops and/or trees	Lease of equivalent land nearby if available	Cash compensation to affected farmers	Compensation based on the annual output of the leased land (multiplied by the total number of years for which the project operations will be taking place) plus the costs associated with land preparation and re-cultivation	Crop loss to be minimized to the extent possible by avoiding land take during harvesting. Transitional assistance to ensure that livelihoods are not adversely impacted

4 RESETTLEMENT POLICIES AND ENTITLEMENTS

Category of PAP	Type of Loss	Compensation for Temporary Loss of Land or Access to Land	Compensation for Loss of Crops and Trees	Compensation for Loss of Income	Other Forms of Assistance
Squatters	Loss of crops or economic trees	Assistance with finding alternative land to rent /lease	Cash compensation to affected farmers	Compensation based on the annual output of the leased land (multiplied by the total number of years for which the project operations will be taking place) plus the costs associated with land preparation and re-cultivation	<p>Crop loss to be minimized to the extent possible by avoiding land take during harvesting</p> <p>Transitional assistance to ensure that livelihoods are not adversely impacted</p>

4.6 METHODS FOR VALUATION OF IMPACTS

4.6.1 Valuation of Crops and Economic Trees

In the context of Government-related projects, crop valuation falls under the purview of the Ministry of Agriculture, Fisheries, Physical Planning, Natural Resources and Co-operatives. The values assigned to crops are specified as a range and are set by a committee of technical experts who take into consideration factors such as the species, location, production cost, market value, climate and environmental influences. The applicable compensation range for each crop is documented in the ministry's "Crop Valuation Guide" (2008), which provides a scale of royalty rates for timber according to cubic foot measurement; and a comprehensive list of crops and economic trees under the following broad categories:

- Fruit and tree crops;
- Vegetables and herbs;
- Cut flower and ornamental plants;
- Food and root crops.

Where crops are being valued for displacement from the land or removal of the crop, the economic life of the crop is considered (particularly for tree crops). When a valuation is required for an assessment of damage to the crop, where the crop continues to grow but growth is retarded, the age at the time of damage is taken into account.

The aforementioned provisions are generally in keeping with World Bank policy. Contrary to local practice, however, OP 4.12 notes that in some countries, the value of the harvest is determined by the average market value of crops for the previous 3 years. It states further that whatever the multiplier, if food supplies are sold in the area, enough cash compensation is paid to purchase equivalent supplies, taking into account the possibility of price increases caused by heightened demand from displaced persons.

4.6.2 Valuation of Land

Leasing will be used as an instrument for acquiring the right of access to land for temporary use. The land that will be temporarily acquired must be valued to facilitate the preparation of the lease agreement and compensation of owners. The methods for undertaking land valuations are guided by the code of ethics and standards of the Institute of Surveyors St. Lucia Inc. as well as that of the Royal Institute of Chartered Surveyors (RICS); and the International Valuations Standards Council. The value of the land is the amount which the land (in its present condition) will realize if sold in the open market. Various methodologies (e.g. market approach, income approach and the investment method) are utilized in determining open market value as described above. The method most predominantly utilized, however, is the market approach, while the other methodologies are normally used as a check against the market approach. Whatever the approach used, the key considerations include factors such as location,

5 INCOME RESTORATION

topography, size, available services, tenure, land use and the presence or absence of natural hazards.

5 INCOME RESTORATION

The income restoration strategies will comprise mainly monetary compensation since only a few PAPs will be economically displaced due to the limited area required for the exploration activities (0.4 to 2.8 hectares). The lands at two of the drilling sites (Fond St. Jacques and Belle Plaine) are privately-held and appear to be uncultivated agricultural land; while the 8.7-hectare parcel of Crown lands at Mondesir is sparsely populated/cultivated by mostly squatters. Efforts should be made during final drilling site selection to minimize the displacement of the squatters. The land-take for the exploratory drilling is temporary, requires no physical relocation and the total area of the temporary land-take will be small (0.4 to 2.8 hectares for the well pads). Therefore, cash compensation (as outlined in the entitlement matrix) is an appropriate strategy for income restoration. This strategy is not expected to vary significantly with the area/locality of impact as all impacts are essentially the temporary loss of use of agricultural land in largely rural communities within a 15-mile radius.

5.1 RESTORATION STRATEGIES

The PAPs will be provided with prompt and effective cash compensation at full replacement cost for losses of land and crops to restore their income and living standards after the temporary land acquisition. Table 5-1 presents and Income Restoration Matrix for the displacement of the PAPs due to the geothermal drilling stage.

Compensation will be paid for crop loss and loss of use of income that would have been obtained from the land during the period of temporary project acquisition. Transitional assistance will be provided to squatters who are affected by the project to ensure that their livelihoods are not adversely impacted. These compensation entitlements are sufficient to restore income streams for the temporary loss of land. The compensation will be paid in its entirety and in a timely manner to enable displaced PAPs to make productive use of their cash compensation.

The lands will be restored to their original productive use at the completion of the geothermal exploration activities. The responsibility and cost of restoring the land to its former productive use will be explicitly defined in the drilling contract.

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Table 5-1 Income Restoration Matrix

Project Impact	Assets/PAPs	Income Restoration Policy	Other Measures
Loss of use of/ access to/and livelihood from temporary land acquisition	Agricultural lands of: <ul style="list-style-type: none"> • Private landlords, tenants and caretakers; • Crown lands/ squatters 	Cash compensation to PAPs; method for determination set out in the Resettlement Policy Framework (RPF) and Entitlements section of the RAP Restore the land to its former productive use at the end of the exploratory phase	Return of temporary land in restored condition to owner or user after use Assistance with identifying alternative lands for rent or lease;
Loss of crops and trees	<ul style="list-style-type: none"> • Crops and economic trees of private land-lords/tenants and caretakers; • Sharecroppers • Crown lands/ squatters 	Cash compensation of PAPs based on the valuation method set out in the RPF and Entitlements section of the RAP	Crop loss to be minimized by avoiding acquisition during harvesting

Other additional economic rehabilitation measures include development assistance to the PAPs, such as job opportunities. The civil works and drilling contractors will give priority to agricultural tenants for non-specialized labour employment opportunities. The displaced persons/PAPs will also be consulted to explore other options for economic rehabilitation measures and income restoration. These income restoration measures do not require significant changes in livelihoods or development of alternative farmlands and do not involve other activities which require a substantial amount of time for preparation and implementation.

5.2 INSTITUTIONAL RISK FOR IMPLEMENTATION

One of the main institutional risks for the smooth implementation of this resettlement program is the possible delay in disbursement of cash compensation to the PAPs due to the procedures involved in approving and releasing these funds. Additionally, the length of time taken by the collaborating Government Departments is outside the control of the Project Manager (PS/DSD). For example, an increase in the length of time taken by the Attorney General's Chambers to vet leases or by the Crown Lands sections to identify alternative lands for lease could pose a risk in the transfer of lands to be used temporarily by the project and thus delay the timely disbursement of compensation. These risks will be addressed by ensuring sufficient budgetary allocation in the project for cash compensation and by ensuring that all collaborating agencies are continually informed of the urgency of the project and the impacts of delays on the project.

5 INCOME RESTORATION

5.3 MONITORING FOR INCOME RESTORATION

The process for monitoring the effectiveness of the income restoration measures will form part of the general monitoring and evaluation of the implementation of the RAP. Internal monitoring of disbursement of compensation will be the responsibility of the Project Steering Committee (PSC) and the DSD. The PSC and parties responsible for income restoration are discussed further in Section 6. The Technical Director (TD), Al Barthelmy, will provide the DSD and PSC with regular updates on the progress of compensation disbursements to identify problems and to allow timely corrective actions.

5 INCOME RESTORATION

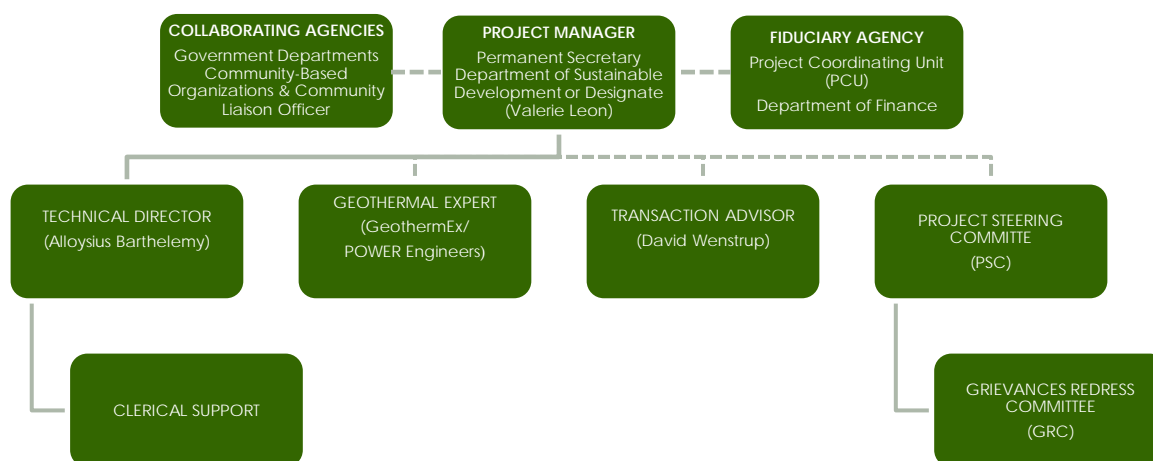
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6 INSTITUTIONAL ARRANGEMENTS

6.1 INSTITUTIONAL RESPONSIBILITY AND CAPACITY

Overall responsibility for the project rests with the Department of Sustainable Development (DSD). As indicated in Figure 6-1, the Permanent Secretary (PS) in the DSD or his/her designate serves as the Project Manager; and the project is supported by a Technical Director, a Transaction Advisor (Mr. David Wenstrup) and a Geothermal Expert (whose services have been outsourced to GeothermEx/POWER Engineers). The DSD is responsible for project implementation which includes the coordination of all project tasks, as well as most of the activities described in this RAP and for the update of the RAP.

Figure 6-1 Organizational Chart for Implementation of the RAP



Fiduciary responsibility for the project is that of the Project Coordinating Unit (PCU), Department of Finance. The PCU handles all procurement activities and is responsible for project expenditure. The key government agencies with responsibility for entitlement delivery are outlined in Table 6-1.

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Table 6-1 Key Agencies Responsible for Entitlement Delivery

Agency	Department/Section	Responsibility
Dept. of Physical Planning (DPP)	Survey and Mapping Section	<ul style="list-style-type: none"> • Survey of lands to be leased
DPP	Crown Lands Section	<ul style="list-style-type: none"> • Identification of alternative land for rent or lease to tenants of landowners and the Crown
Department of Sustainable Development (DSD)	Legal Office	<ul style="list-style-type: none"> • Work in collaboration with the Department of Physical Planning to negotiate lease agreements to facilitate the proposed land-take; • Preparation of lease agreements
DSD	Office of the Permanent Secretary	<p>The Technical Director will:</p> <ul style="list-style-type: none"> • Identify and categorize the PAPs and determine entitlements; • Determine compensation for loss of income
Attorney General's Chambers		<ul style="list-style-type: none"> • Vetting of the lease agreements drafted by the DSD
Department of Agriculture, Fisheries, Natural Resources and Cooperatives	Extension Unit	<ul style="list-style-type: none"> • Valuation of crops and trees; determine crop compensation
Department of Finance	Project Coordinating Unit	<ul style="list-style-type: none"> • Financial support for the implementation of the RAP and payment of compensation
Department of Equity, Social Justice, Empowerment and Human Services	Community Services Section	<p>Social Transformation Officers will:</p> <ul style="list-style-type: none"> • Assist the DSD with the coordination of RAP activities in the 3 target communities. • Assist with the oversight, management, and monitoring of grievances arising during implementation of the RAP
Community-Based Organizations/ Community Liaison Officer	<ul style="list-style-type: none"> • Soufriere Development Foundation • Fond St. Jacques Development Foundation • Laborie Development Foundation 	<p>Provide general support for community consultations, census, and socio-economic surveys of the PAPs</p>

The project is a manifestation of GOSL's commitment to reduce the island's reliance on fossil fuels for energy generation and to meet its energy targets from renewable sources by the year 2020. The GOSL has committed the resources of the Government agencies (indicated in Table 6-1) to provide the services required to facilitate inter alia, the resettlement efforts of this project. A rapid assessment of the institutional capacity of these agencies to undertake the tasks assigned indicates that it is part of their regular mandate to provide these services. In addition,

6 INSTITUTIONAL ARRANGEMENTS

the agencies possess the relevant personnel with the capacity to deliver the services indicated and as such, no specific training requirements have been planned as part of this project to develop staff capacity.

The DSD has procured the services of a Technical Director, a Transaction Advisor, and a Geothermal Expert. The Technical Director works in close collaboration with the PCU and is housed at the offices of the PCU. The staff of the PCU has extensive experience working on World Bank-funded initiatives and are well placed to undertake the fiduciary responsibilities outlined previously. Notwithstanding this arrangement, it is recommended that a project steering committee is established to provide among other services, dedicated attention to the coordination of the implementation of the RAP.

6.2 PROJECT STEERING COMMITTEE

A Project Steering Committee (PSC) will be established by the DSD. The chairperson of the PSC will be selected by the PS from among the representatives of that Department. The PSC will be responsible for ensuring the smooth execution of project activities; and for the successful accomplishment of project objectives. The PSC will meet monthly to review project implementation and performance. Meetings will also be convened when necessary to attend to urgent matters, which may arise in the course of project implementation.

The roles and responsibilities of the PSC will be to:

- Assess project progress and performance;
- Provide technical advice and guidance on project implementation activities;
- Assist with resolving strategic-level issues and risks;
- Use influence and authority to assist the project in achieving its outcome.

The PSC will be accountable to the PS of the DSD, and comprise the following members

- Representatives of the Department of Sustainable Development:
 - Chief Technical Officer
 - Legal Officer
 - Technical Director - GRD Project
- Representative of the PCU
- Representatives of the Department of Physical Planning:
 - The Authorized Officer or his/her representative
 - Commissioner of Crown lands or his/her representative
 - Quantity Surveyor
 - Valuation Surveyor
- Social Transformation Officers for each of the affected communities
- Member of a recognized community-based organization (i.e. one member from each community)

6 INSTITUTIONAL ARRANGEMENTS

- Representative of the Department of Agriculture, Fisheries, Natural Resources and Cooperatives

6.3 GRIEVANCES REDRESS COMMITTEE

The Grievances Redress Committee (GRC) will be a subcommittee of the PSC. The GRC's will be responsible for managing in a fair, objective, and constructive manner, all concerns or complaints raised by PAPs (individual or group) within the communities affected by the Project. The GRC, which will be established by the PSC and sanctioned by the PS, DSD, will comprise, the Technical Director, other representatives of the DSD (the Legal Officer, and Chief Technical Officer), Social Transformation Officers and community-based organization for each of the affected communities; representative of the Department of Physical Planning (Commissioner of Crown Lands, Quantity Surveyor, Valuation Surveyor) as well as a representative of the Department of Agriculture, Fisheries, Natural Resources and Cooperatives

The broad responsibilities of the GRC include:

- Developing and publicizing the grievance management procedures
- Receiving, reviewing, investigating and keeping track of grievances
- Developing resolution options and responding to grievances
- Adjudicating grievances
- Monitoring and evaluating fulfillment of agreements achieved through the grievance redress mechanism

More details of the grievance redress mechanism are provided in Section 10 of the RAP.

7 IMPLEMENTATION SCHEDULE

7.1 STEPS IN THE DISPLACEMENT PROCESS

The main chronological steps involved in the implementation of the resettlement/ displacement are broken down below.

1. Receipt of final technical design clearly indicating planned location of test pits
2. Refine/approve project budget and establish PSC
3. Convene consultations with PAPs and communities on preliminary census and socioeconomic survey of PAPs
4. Update Preliminary Census and household surveys of PAPs
 - 4.1 Plan Surveys (budgeting and recruitment of enumerator)
 - 4.2 Identify and record affected land and crops
 - 4.3 Identify and record official names of RAP including addresses, demographic and socioeconomic characteristics
5. Finalize valuation methods and entitlements
 - 5.1 Review valuation methods
 - 5.2 Hold consultations to verify entitlements and disclose valuation methods;
 - 5.3 Establish cut-off-date for eligibility for compensation
 - 5.4 Develop draft agreement for land lease
6. Undertake land surveys and valuation of land
7. Undertake crop surveys and valuation of crop
8. Update the RAP Report
 - 8.1 Disclose/present draft RAP to PAPs
 - 8.2 Obtain and incorporate comments on draft RAP
 - 8.3 Prepare and approve updated RAP
9. Implement the RAP
 - 9.1 Establish budget for compensation payments
 - 9.2 Finalize procedure for compensation payments
 - 9.3 Verify eligibility of the PAPs
 - 9.4 Revise and approve compensation schedules
 - 9.5 Sign agreements/contracts and disburse compensation to PAPs
 - 9.6 Finalize arrangements for grievances mechanisms
 - 9.7 Take possession of the drilling and staging sites by DSD
10. Start civil works and exploratory drilling operations by contractor
11. Monitor and evaluate the implementation of the RAP

7 IMPLEMENTATION SCHEDULE

7.2 RESPONSIBLE AGENCIES

The DSD headed by the PS, will be the main Government agency responsible for implementing the RAP. The PSC will comprise representatives of other key agencies that have particular expertise to facilitate the smooth implementation of the project. The Grievances Redress Committee (GRC) will be a sub-committee of the PSC.

The main agencies responsible for implementation are listed below and their role in each step of the RAP process is provided in Table 7-1:

Agency	Abbreviation
Department of Sustainable Development	DSD
Permanent Secretary	PS
Chief Technical Officer	CTO
Technical Director	TD
The Legal Officer	LO
Project Steering Committee	PSC
Grievances Redress Committee	GRC
Social Transformation Officers; Department of Equity, Social Justice, Empowerment and Human Services	STO
Department of Physical Planning	DPP
Authorized Officer	AO
Commissioner of Crown Lands	CCL
Quantity Surveyor	QS
Valuation Surveyor	VS
Recognized community-based organization	CBO
Department of Agriculture, Fisheries, Natural Resources and Cooperatives;	(DAF)
Project Coordination Unit	PCU
Attorney General's Chambers	AGC

The project implementation schedule (Gantt/Bar chart) for resettlement is illustrated in Table 7-1. The agencies that are responsible for the various activities are also indicated in the schedule. It is anticipated that activities will be implemented within a 12-month duration coinciding with Government's fiscal year (2018-2019) to facilitate the local budgetary processes for funding for the implementation of the RAP.

7 IMPLEMENTATION SCHEDULE

Table 7-1 Implementation Schedule for the Land Resettlement

Activities	Main Agency*	Fiscal Year 2018/2019											
		Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
1. Receive final technical design with test pits' locations	DSD (PS, TD, CTO)												
2. Refine/approve Project budget & establish PSC	DSD (PS, TD, CTO)												
3. Convene consultations with PAPs & communities	DSD (TD, STO), CBO												
4. Update Census & household surveys of PAPs	DSD (TD, CTO), CBO												
4.1 Plan Census & Surveys	DSD (TD, CTO), CBO												
4.2 Identify & record affected land & crops	DSD (TD, CTO)												
4.3 Identify & record PAPs characteristics	DSD (TD, CTO)												
5. Finalize valuation & entitlements	DSD, DPP, DAFP												
5.1 Review valuation methods	DPP, DAFP												
5.2 Hold consultations to verify entitlements	DSD (TD, STO)												
5.3 Establish cut-off-date for compensation eligibility	DSD, DPP, DAFP												
5.4 Draft agreement for land lease.	DSD, PS, LO, AO												
6. Undertake land surveys and valuation of land	DPP, DAF												
7. Undertake crop surveys and valuation of crop	DAF												
8. Update RAP Report/present draft RAP to PAPs	DSD (TD, CTO)												
9. Implement RAP	DSD (TD, CTO)												
9.1 Finalize budget for compensation payments	PCU; DSD (PS, TD)												
9.2 Finalize procedure for compensation payments	DSD (LO, TD)												
9.3 Verify eligibility PAPs for compensation payments	DSD, DPP, STO												
9.4 Revise & approve compensation schedules	DSD, PCU,												
9.5 Sign agreements & disburse compensation to PAPs	DSD, AGC												
9.6 Finalize arrangements for grievances mechanisms	DSD (LO); GRC												
9.7 Take possession of drilling & staging sites by DSD	DSD (PS, TD)												
10. Start civil works & exploratory drilling by contractor	Contractor												
11. Monitor & evaluate the RAP	DSD (PS, TD)												

7 IMPLEMENTATION SCHEDULE

7.3 LINKAGE BETWEEN RESETTLEMENT AND CIVIL WORKS

The civil works will commence only after all compensations are satisfactorily agreed, payment is received by the PAPs and the sites taken over by the DSD. The PAPs will be allowed a period of four weeks within which all activities at the affected property should cease after receiving compensation payments. Once these activities have been completed, the contractor will be instructed to mobilize and take possession of the sites to commence implementation of the civil works. According to the schedule, all resettlement/ displacement activities will be completed in time for the drilling contractor to have full access to the land to commence the civil works and exploratory drilling operations.

8 COSTS AND BUDGETS

8.1 FINANCIAL RESPONSIBILITY AND AUTHORITY

To date, the World Bank has assisted Saint Lucia in accessing USD 2,000,000.00 of grant financing from the Global Environmental Facility and the SIDS DOCK Support Program for the project. In addition, technical assistance valued at USD 800,000.00 and USD 500,000.00 has been received from the Government of New Zealand and the Clinton Climate Initiative respectively. These funds are being used to provide the technical, transaction and regulatory support required for making informed decisions about geothermal exploration and development in Saint Lucia.

The funds are disbursed by the World Bank to a local account. The PS (DSD) is one of three signatories to the account and all payments are authorized by the PS (DSD). The PCU as the fiduciary agent is responsible for all finance and procurement activities of the project. Currently, there is no counterpart funding provided by the GOSL for the project. The DSD may have to make budgetary allocations for the next fiscal year (2018-2019) to facilitate the smooth implementation of the RAP.

8.2 COST OF DISPLACEMENT

The main cost associated with the temporary acquisition of land is the payment of cash compensation to be made to the PAPs for leasing their land to facilitate the exploratory drilling. Compensation will be made for the consequential loss of the use of the land, loss of crops/trees and income streams from agricultural production and/or land rent. The compensation amount payable to each PAP will be based on their individual entitlement which will be computed on the basis of the annual output of the leased land, plus the costs associated with land preparation and re-cultivation. Rental income lost will be covered by negotiated lease agreements.

The other areas of project expenditure include administrative expense for implementation, monitoring, and evaluation of the RAP.

8.3 PRELIMINARY BUDGET ESTIMATE

Table 8-1 presents a broad preliminary estimate of XCD150,000.00 for implementation of the RAP. The budget was derived using information obtained from the Department of Agriculture and the Crown Lands section of the Department of Physical Planning. It was observed that most of the rates/prices are dated; therefore, a price adjustment factor was used to reflect current market prices and the need to projectize the implementation of the RAP in order to

8 COSTS AND BUDGETS

achieve the desired objectives within the time schedule. However, the final budget estimate will be determined after the valuation exercises are conducted by the Valuation Section of the DPP and the Extension Division.

Given the uncertainty of the status of crops at the cut-off date, a relatively higher allowance of 25 percent was made for economic and performance contingencies. Since it is anticipated that these costs will be incurred during a one-year fiscal period (2018/2019), there will be no need for specific mechanisms to adjust cost estimates by the inflation factor. The actual compensation will need to be defined at the time of drilling site selection using current valuation for affected crops and lands.

Table 8-1 Preliminary Budget for Implementation of the RAP

Cost Component	Cost Estimate (XCD)
Cash Compensation:	
Loss of land/income restoration ^{1/}	25,000
Loss of crops and trees ^{1/}	20,000
Land Lease ^{2/}	15,000
Total Compensation Cost	60,000
Administrative Expenses ^{3/}	40,000
Monitoring & evaluation ^{4/}	20,000
Total Cost	120,000
Contingencies ^{5/}	30,000
Grand Total	150,000

1/ Figures are based on rates obtained from the Extension Division of the Department of Agriculture. The information is dated (1990 and 2008 Crop Valuation Guide" (2008). Therefore an adjustment factor was used to reflect current market prices. However, the final budget estimate for this cost will be determined by the Extension Division.

2/ Approx. 4 acres; these figures do not include the land at Mondesir (Crown lands) and are based on rates of \$100.00- \$300.00/acre/year for agricultural production obtained from the Crown Lands Section of the Department of Physical Planning (DPP). These rates were adjusted upwards to reflect the short-term nature of the lease and the need to achieve the project objectives within the time schedule. However, the final budget estimate for this cost will be determined by the Valuation Section of the DPP.

3/ Clerical staff.

4/ Figure is based on a short-term consultancy of 10-15 person-days.

5/ 25% of Total Cost due to economic and performance contingencies – the high uncertainty of (a) rates for cash compensation and (b) time delays in executing the RAP.

9 PARTICIPATION AND CONSULTATION

9.1 PROJECT STAKEHOLDERS

The stakeholders include individuals, groups, organizations, and institutions interested in and potentially affected by the project as well as those having the ability to influence the project, either positively or negatively. The primary stakeholders comprise persons that are directly or indirectly affected by the project impacts and include the PAPs and other community individuals and groups. The secondary stakeholders are the institutional (the government agencies, non-profit, community-based) organizations and other people who have an interest in the project including potential beneficiaries (such as consumers for the geothermal energy). Table 9-1 presents a brief analysis of the various stakeholders of the GRD project.

Table 9-1 Stakeholders of the GRD Project

Stakeholder Type	Individuals/Groups/Organization	Level/Influence
Potential receptors – those ultimately affected (directly or indirectly) by the project (positively or negatively) due to the project's impacts	Interested and affected parties in the project's area of influence	Primary key stakeholders (individuals and groups) High stake, but low influence
Project Affected Persons	Residents, landowners and farmers/ farm workers, agricultural squatters near the exploratory drilling sites in target communities	Primary key stakeholders (individuals and groups) High stake, but low influence
Other Affected Persons	Vulnerable persons (women, children, disabled); local community advisory groups; parliamentary representatives; drive-in, drive-out workers (DIDO) and fly-in, fly-out (FIFO) workers	Primary stakeholders Advocates/supporters Blockers/critics
Other Stakeholders in Soufriere, Laborie & Choiseul districts	Project Affected Communities Local private businesses, schools, hoteliers; tour operators The unemployed (potential workforce seeking employment) Local recreational users including national & foreign tourists	Primary stakeholders Advocates/supporters Blockers/critics

9 PARTICIPATION AND CONSULTATION

Stakeholder Type	Individuals/Groups/Organization	Level/Influence
National and local NGOs & CBOs /Regulators/organizations (Legal mandates)/ interest groups	Soufriere Regional Development Foundation; Fond St. Jacques Dev. Foundation; Laborie Dev. Foundation; Saint Lucia National Trust; Saint Lucia Archaeological & Historical Society	Secondary key stakeholders Advocates/supporters Blockers/critics
Government/Institutional/ Authorities/supporting organization (Legal mandates)/facilitators	Government Departments/Ministry of: <ul style="list-style-type: none"> • Agriculture, Fisheries, Physical Planning, Natural Resources & Co-operatives • Economic Development, Housing, Urban Renewal, Transport & Civil Aviation • Education, Innovation, Gender Relations & Sustainable Development • Equity, Social Justice, Empowerment, Youth Development, Sports & Local Government • Finance, Economic Growth, Job Creation, External Affairs & the Public Service • Health and Wellness • Infrastructure, Ports, Energy and Labor • Tourism, Information, and Broadcasting • Soufriere Town Council 	Secondary stakeholders Advocates/Supporters
Customer/Client/ Implementing Agency/Implementer	Renewable Energy Unit, Dept. of Sustainable Development; Ministry of Sustainable Development, Energy, Science, & Technology	Secondary project partners/ Advocates/ Supporters
Project Sponsor/Fiduciary Support/facilitator	Project Coordination Unit (PCU), Dept. of Planning and National Development; World Bank	Secondary Advocates/Supporters

9.2 CONSULTATION AND PARTICIPATION IN RESETTLEMENT PREPARATION AND PLANNING

From the inception of the project in 2014 and 2015, the DSD implemented an active consultation campaign to ensure public consultation and disclosure. The campaign involved a series of public meetings to facilitate the flow of information between the Government/Client and key stakeholders. These initial consultations were essential in promoting active public participation in the Project and providing the broad framework for achieving the objectives of resettlement planning.

At the commencement of the ESIA assignment (in early August 2017), Panorama Inc. convened a stakeholder's conference. Several meetings and consultations were held with all relevant government departments/agencies, NGOs/CBOs, affected community residents and other project stakeholders. Table 9-2 provides a summary of these consultations. The notes of

9 PARTICIPATION AND CONSULTATION

public/community consultation are provided in Appendix C- Notes of Community Consultation.

Table 9-2 Summary of Consultations Convened

Consultation/Date/Venue	Stakeholders Consulted	Purpose & Outcome
Conference/Aug. 8, 2017, at PCU's conference room	All relevant government departments; DSD and Panorama in attendance	<ul style="list-style-type: none"> • To discuss the project and issues that would be covered in the ESIA • Comments were obtained from government agencies in attendance
Individual meetings/Aug. 8 and 11, 2017/at stakeholders' offices	Government ministers officials and ministers; DSD and Panorama in attendance	<ul style="list-style-type: none"> • To guide the scope of the analysis in the ESIA • To ensure that all stakeholders' concerns are considered and effective mitigation measures are adopted to address the negative impacts
Meeting/on Aug. 8, 2017 at the office of Soufriere Development Foundation	Representatives of concerned NGOs, CBO's and other project stakeholders	<ul style="list-style-type: none"> • To discuss the project and issues that would be covered in the ESIA • Comments were obtained from NGOs and CBOs
Community/public Consultations/between Aug. 31 and Sept.3 2017/Fond St. Jacques Resource Centre; Bellevue Farmers' Cooperative; and Saltibus Combined School	Community stakeholders and other interested persons	<ul style="list-style-type: none"> • Stakeholders were briefed regarding the anticipated impacts of the project and their concerns were documented • Avoidance and mitigation options to be considered in the project design and ESIA were also discussed

The aforementioned consultations have established the ground-work for the next rounds of consultations with stakeholders for the planning and implementation of the RAP. The next round of consultations will be convened to inform the key stakeholders about the resettlement component of the project and to provide opportunities for the PAPs to voice their concerns and propose alternatives.

The main key stakeholders that will be involved in the resettlement component of the project include:

- PAPs and their representatives
- Local NGOs & CBOs
- Soufriere Town Council
- Government agencies supporting the project

9 PARTICIPATION AND CONSULTATION

- The drilling contractor
- Consultants conducting various studies

One-on-one meetings will be convened with the PAPs and their representatives to discuss inter alia, eligibility requirements and to negotiate their compensation packages. These consultations will assist in building consensus on the proposed resettlement plan and address legitimate concerns of the PAPs. The DSD/Social Transformation Officers (STO) will recruit a Community Liaison Officer (resident in the Soufriere-Choiseul area) to facilitate the management of these public consultations for the resettlement preparation and implementation.

As a mechanism for continual consultations during the planning of the RAP, regularly scheduled meetings will be held between the PC/STO and PAPs preferably at the same location and the same date/day of every month to avoid any difficult logistics sometimes involved in planning such events. A consultation log (registering the date, location/community, issues discussed, and actions taken) will be maintained by the PC/STO. These consultations with the PAPs will continue throughout RAP planning and implementation.

9.3 STAKEHOLDER INVOLVMENT IN RESETTLEMENT IMPLEMENTATION AND MONITORING

The cooperation and collaboration of all people affected by the project in the resettlement planning and implementation are essential for the successful execution of the project. Therefore, throughout the implementation and monitoring phases of the project, the PAPs will be involved in identifying other alternatives available. Special efforts will be made to ensure that women and vulnerable persons are included in expressing their issues and concerns in implementation and monitoring.

The PAPs will be contacted directly to ensure that the views being reflected by other stakeholders are indeed those of the PAPs. Key income restoration issues such as the compensation rates and timing of resettlement will be discussed directly with the PAPs during the implementation and monitoring of the resettlement/displacement.

The local CBOs and NGOs stakeholders, as well as the STO and Community Liaison Officer, will also be involved in providing critical assistance to ensure continual community participation during the implementation and monitoring stages.

9.4 STRATEGY FOR DISSEMINATING INFORMATION TO PROJECT AFFECTED PERSONS

After completion of the census and the updated socioeconomic survey of the PAPs, notices will be issued to the PAPs concerning the eligibility criteria and the cut-off date for qualification as a PAP. The notices will also inform that the erection of new structures or improvements on lands to be temporarily acquired in the potential exploration target areas will not be considered when compensation is determined. Information will also be provided compensation rates and other entitlements, the timetable for implementation, and grievance procedures.

9 PARTICIPATION AND CONSULTATION

During the baseline socio-economic survey conducted in September 2017, most of the PAPs had indicated that mobile telephone was the best method for direct and immediate contact to obtain updates on the project. The PAPs mobile contact will be re-confirmed during the census/updated socio-economic surveys. Given the relatively small number involved in the resettlement exercise, the PAPs will be contacted directly via their mobile telephone to facilitate updates and the dissemination of information. General information will be disseminated through leaflets/flyers posted on community information boards. Although this may not represent the best method of communicating information to PAP, the leaflets/flyers will provide physical proof of this form of information dissemination. Printed notices of community meetings will be sent for announcement at places of worship where some PAPs usually gather. The Community Liaison will also assist in disseminating information to the PAPs.

The national and local media (for example, Soufriere radio station) will also be used for disseminating information to the PAPs. The information will be given to the media representatives for dissemination to PAPs in both English and Kweyol (the local language) as the baseline socio-economic survey noted that some of the older PAPs used Kweyol to communicate.

9 PARTICIPATION AND CONSULTATION

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10 GRIEVANCE REDRESS

A grievance redress mechanism is necessary for addressing the legitimate concerns of the PAPs. It is anticipated that these concerns will focus mainly on eligibility criteria, compensation entitlements; and noise associated with drilling. The mechanism for grievance redress will thus include:

- Provision for the establishment of a Grievance Redress Committee
- A reporting and recording system
- Procedure for assessment of the grievance
- A time frame for responding to the grievances filed
- The mechanisms for adjudicating grievances and appealing judgments

In the interest of all parties concerned, the grievance redress mechanisms are designed with the objective of solving disputes at the earliest possible time. World Bank OP. 4.12 emphasizes that the PAPs should be heard and as such, they must be fairly and fully represented. Further, the mechanism should implicitly discourage referring matters to the court system for resolution. Table 10-1 outlines the process for registering and addressing grievances and provides specific information regarding registering complaints, response time, communication modes.

Table 10-1 Grievance Redress Procedures

Issue/Action	Procedure
Establishment of a Grievances Redress Committee (GRC)	<p>The GRC shall be established by the Project Steering Committee (PSC) and sanctioned by the Permanent Secretary (PS), Department of Sustainable Development (DSD).</p> <p>The members of the GRC shall comprise the following:</p> <ul style="list-style-type: none"> • Technical Director (TD) - DSD • Social Transformation Officers (STO) for each of the affected communities • The Authorized Officer or his/her representative – Department of Physical Planning (DPP) • Member of a recognized community-based organization (i.e. one member from each community) • The Legal Officer, DSD • Chief Technical Officer, DSD • Representative of the Department of Agriculture, Fisheries, Natural Resources and Cooperatives • Commissioner of Crown Lands or his/her representative, DPP • Quantity Surveyor, DPP • Valuation Surveyor, DPP

10 GRIEVANCE REDRESS

Issue/Action	Procedure
Reporting, recording, and transmission of grievances	<ul style="list-style-type: none"> • Grievances must be filed with the PSC, though the project office (location anticipated at Soufriere Regional Development office) • Grievances must be made in writing and be signed and dated by the PAP • Grievances received verbally must be documented, verified and signed by the PAP and the officer receiving the report • Grievances received anonymously or via phone calls must be documented; signed and dated by the TD or PSC. • The TD will establish a grievance log or register; all reports must be recorded in the log • Grievances received via a web complaint form on the project/institutional website must also be recorded in the log. • The grievance log will outline the name of the PAP (where available) and the reason for the complaint • The PSC will submit the grievance reports to the chairperson of the GRC within 24 hours of receipt. The report will also be copied to the PS, DSD • Acknowledgement of the grievance shall be issued by the TD to the PAP in writing, within 3 working days of receipt
<p>Assessment of the grievance and timeframe for response</p> <p>Mechanisms for adjudicating grievances and appealing judgments</p>	<ul style="list-style-type: none"> • The first assessment of the grievance will be conducted by the GRC • The nature of the grievance would ascertain the period (not exceeding 3 working days) necessary for the GRC to address the grievance • The 3-day timeframe will not apply in the case of complaints and grievances that specifically pertain to the valuation of affected assets, since these may be determined by a Board of Assessment or the courts • Where resolution is not reached at the level of the GRC or if the PAP does not receive a response or is not satisfied with the outcome within the agreed time he/she can appeal to the PS, DSD • If the PAP is not satisfied with the decision of the GRC or the response to the appeal to the PS, he/she as a last resort may submit the complaint to a court of law • The PAP will be exempt from all administrative and legal fees incurred pursuant to the grievance redress procedures

11 MONITORING AND EVALUATION

The monitoring and evaluation plan is designed to provide timely and operationally useful information on the progress of the resettlement effort, the disbursement of compensation, the effectiveness of public consultation and participation activities; and the sustainability of the income restoration and development efforts planned for the PAPs. The objective of the monitoring and evaluation is to provide feedback on RAP implementation and to identify problems and successes as early as possible, to allow timely adjustment of implementation arrangements.

11.1 MONITORING

Internal monitoring of the implementation of the RAP will be the responsibility of the PSC and the DSD. The Technical Director (TD) will provide the DSD and PSC with monthly status reports on the progress made with resettlement preparation and implementation. A database of resettlement monitoring information will be established and updated monthly. This information will be utilized to improve monitoring procedures and the efficiency of the processes employed.

Quarterly internal monitoring reports will also be prepared by the TD and submitted through the DSD and the World Bank. The quarterly reports shall include information about the following monitoring indicators:

- **Payment of compensation** to the various categories of PAP, according to the compensation policy described in the RAP
- **Delivery of other forms of assistance** including the return of land to owners after use
- Delivery of **income restoration** and social support entitlements
- **Public information dissemination and consultation procedures**
- **Adherence to grievance procedures** and outstanding issues requiring management's (i.e. Permanent Secretary - DSD) attention
- Attention given to **the priorities of PAPs** regarding the options offered
- Coordination and **completion of resettlement activities**

In accordance with World Bank requirements for consultant procurement, the PCU will hire a company/consortium/individual to conduct the independent monitoring and evaluation of the implementation of the RAP. The entity will provide specialized services in social sciences and should be experienced in resettlement monitoring. The organization should start its work as soon as the updated RAP has been approved.

11 MONITORING AND EVALUATION

The rationale for hiring an external institution is to ensure that the overall objective of the resettlement plan is achieved in an equitable and transparent manner. In addition to reviewing the issues covered by the internal monitoring progress report, the external agency will also evaluate and assess:

- The competence and effectiveness of the project implementing agencies
- The adequacy of compensation, development and transitional assistance packages provided for the PAPs
- The ability of the project to meet the needs of all PAPs
- Consultation and public disclosure of the RAP
- The effectiveness of the grievance redresses mechanism

11.2 EVALUATION

The evaluation component of the plan will determine whether policies (both local and the World Bank's) have been adhered to, and provide the feedback necessary for adjusting strategic directions. The objectives of the evaluation are therefore as follows:

- To undertake a general assessment of the compliance of resettlement activities with the objectives and methods as set out in this RAP
- To assess the compliance of resettlement activities with the laws and safeguard policies cited in Section 4.0
- To assess resettlement procedures as they have been implemented
- To evaluate the impact of resettlement on the incomes and standard of living of the PAPs
- To identify lessons learned from the implementation of the RAP

In the conduct of the evaluation, the project and consultant(s) will utilize local legislation and policy and the World Bank's OP 4.12 on Involuntary Resettlement as the guidance documents.

APPENDIX A – TOTAL PARCELS OF LAND IN TARGET GEOTHERMAL RESOURCE AREA

Appendix – A - Land Ownership in the Target Communities

Block	Parcel	Area (m²)	Owner of Record	Encumbrances
Fond St. Jacques Site				
0429B	196	1,897 (Staging)	Four Trustees for Sale –(private land)	Private pedestrian right of way as shown on Registry Map. Vendor's Privilege
	174	5560	Private land owner	Private pedestrian right of way as shown on Registry Map.
	175	10,584 (Drilling)	Private land owner	Private pedestrian right of way as shown on Registry Map. (Partly along Eastern Boundary)
	238	255	The Water & Sewerage Company Inc.	Private pedestrian right of way as shown on Registry Map.
0428B	82	9,762	Executor of private land owner	Two Private pedestrian rights of way as shown on Registry Map.
	48	1,786	Heirs of Private land owner	Private pedestrian right of way as shown on Registry Map.
Belle Plaine Site				
0427B	193	2,152	Executors of private land owner	Private pedestrian right of way as indicated on the Registry Map.
	190	28,000		
	188	10,571		
	191	28,708		

Block	Parcel	Area (m²)	Owner of Record	Encumbrances	Comments
0427B	189	26,260	Executors of private land owner	Private pedestrian right of way as indicated on the Registry Map.	
	156	21,437			
	155	6,781	Private land owner	None	
	154	9,374	Two private land owners	One Hypothec	
	157	2,596	Private land owner	One Hypothec	
	158	2,234	Two private land owners	None	
	159	1,225	Private land owner	None	
	194	3,300	Private land owner	Two Hypothecs	Dismembered from 123
	196	600	Crown	None	Dismembered from 194 & 195
	197	41,100	Private land owner	Two Hypothecs	
	103	3,334	Crown	Public pedestrian right of way as shown on Registry Map.	
	104	4,532	Heirs of Private land owner	Public pedestrian right of way as shown on Registry Map.	
	105	4,699	Heirs of private land owner	Public pedestrian right of way as shown on Registry Map.	
	106	3,834	Administrators of estate of private land owner	<ul style="list-style-type: none"> • Usufruct: Brigitte Simeon for life. • Public pedestrian right of way as shown on Registry Map. 	
0427B	107	12,601	Heirs of private land owner	Public pedestrian right of way as shown on Registry Map.	
	108	12,425	Heirs of private land owner	Public pedestrian right of way as shown on Registry Map.	
	109	5,444	Five private land owner	Public pedestrian right of way as shown on Registry Map.	

0428B	126	5,393	Executors of estate of private land owner	Private pedestrian right of way as indicated on the Registry Map.	
	127	9,562			
	128	9,580			
	129	9,625			
	130	9,701			
	124	10,188			
	125	30,576			
	117	2,236			
	121	394			
	122	251			
Mondesir Site					
0624B	140	87,000	Crown	None	

APPENDIX B - SUMMARY OF MAIN DEMOGRAPHIC AND SOCIOECONOMIC CHARACTERISTICS OF PROJECT AFFECTED PERSONS

APPENDIX 3-1

SUMMARY OF THE BASELINE SOCIOECONOMIC SURVEY¹

Age and Gender

The ages of respondents in the project-affected communities ranged from 20 to 85 years; the youngest (1.5 years) being a female from Belvedere and the oldest, an 89-year-old male from Parc Estate. The majority of respondents (59 percent) were males. Reported household sizes ranged from 1 to 15 persons. The higher end of the spectrum comprised households with extended families. These types of households were more prevalent in Belvedere and Mondesir settlements. The largest household was an extended family in Parc Estate. It was reported that this settlement basically comprises 7 to 8 families living in separate or extended family households. The average size of all the households surveyed was 3.5 persons.

Males account for roughly 60 percent of the total household population. The working age group (15 to 64 years) was the largest proportion of the population (69 percent). Three disabled (mentally challenged) males, both in the 50 to 55 years age group, are accommodated in households in Belvedere. One physically disabled male was identified in Gayabois. Dependents (residents younger than 15 or older than 64 years) accounted for about 31 percent of the household population with persons 65 years and over representing 13 percent.

Education

Approximately 54 percent of the household populations attained primary level education; 28 percent were educated at the secondary and 9 percent at tertiary (community college) levels. Around 9 percent had no schooling; these individuals comprised older (73 to 89 years old) persons who live in Belvedere and Mondesir. Belle Plaine's population had the highest proportion of tertiary and secondary level schooling. Respondents in Mondesir had the lowest percentage of tertiary and secondary schooling. The Mondesir community also had the highest percentage of residents with no schooling.

Type of Housing Facilities

The houses in the three communities are all detached/individual structures mostly built of masonry (concrete/block-wall) or a combination of masonry and wood. The Belle Plaine community had the highest proportion of houses constructed out of a combination of masonry and wood materials. A higher percentage of wooden houses was observed in Belvedere and Mondesir.

All the houses surveyed in the Belle Plaine community reported having septic tank toilet facilities whereas 18 percent and 36 percent in Belvedere and Mondesir, respectively, had pit latrines. In all the target communities, every house in the sample stated that electricity is their

¹ Extracted from the Scoping Studies Report, ESIA Geothermal Resource Development project, October 2017

main form of lighting; however, electricity was not used as fuel for cooking. The majority of households used either gas (LPG) or a combination of LPG and charcoal as fuel for cooking. The use of charcoal and wood was reported more frequently in Mondesir and Belvedere.

Sources and Quality of Water Supplies

The survey indicated that the majority of households in all the affected communities use mainly public pipe-borne (WASCO's) water as their primary source of water for domestic purposes. A few households in Mondesir reported using public standpipe as their main source of water. Overall, the quality of WASCO's water was rated as good and generally reliable. Rainwater harvesting tanks/containers were also used by most households. Spring "sous" water was generally used for other non-drinkable domestic purposes and farming in all the communities.

A few households in Mondesir also reported using a combination of public standpipe, spring, and river as their sources of water. Some households were of the perception that spring water was a better and a more natural source of water than the public-piped water, which they believe contains too much chlorine. This view was expressed more frequently in Belvedere where 36 percent of respondents reported using only spring water. It should be noted that a spring is located near the target drilling area; WASCO's water storage tank is also within close proximity to the affected households.

Belvedere's respondents indicated that the spring water is extremely important to them as a "back-up" particularly during public water shortages and natural disasters such as Hurricane Tomas when WASCO's supplies had been damaged. Some respondents indicated that their spring water supplies are piped alongside WASCO's pipelines and into their households. One respondent reported that since Hurricane Tomas, spring water, instead of WASCO's water, was now piped to the household for domestic purposes (except drinking).

Land Ownership and Land Use

The respondents indicated that the primary form of land tenure was family-owned land followed by leased and privately-held land. Among the three communities, private ownership of lands was highest in Belle Plaine, whereas family-owned land was the main form of land tenure in Belvedere. Leasing, primarily from the Crown and Invest Saint Lucia was the predominant form of land tenure in Mondesir.

Belle Plaine's respondents reported the highest percentage (80 percent) of family-land used for farming. In the Belle Plaine community cluster, members of a family comprising many siblings declared ownership of over 81 hectares (200 acres) of land, which is currently being used to grow a variety of crops for sale. These lands have already been sub-divided and titles are currently being prepared. In Belvedere, family-owned land was the main form of tenure reported for both housing and farming. Leasing from the Crown and Invest Saint Lucia was the primary form of land tenure in Mondesir. Some respondents in Mondesir claimed that they had acquired lands from the Danes' Project in the 1990's.

Employment, Livelihoods, and Income

Approximately 36 percent of the total working household population are unemployed. A large proportion (39 percent) reported being self-employed, primarily as farmers. The main type of farming practiced is crop production, especially root crops (dasheen and sweet potatoes) followed by vegetables (cucumbers, cabbages, melons, and tomatoes). Subsistence cattle, sheep, and goat rearing was also being undertaken by a few households (mainly in Belle Plaine and Belvedere). In Belle Plaine, 62 percent of the household population were self-employed in farming. Around 50 percent of Belle Plaine's respondents indicated that their employment would likely be negatively affected by loss of land to the project. Compared with Belvedere and Mondesir, fulltime employment was relatively higher in Belle Plaine, with 38 percent of household population working in the private or public sector. A few respondents of Belle Plaine also reported being retirees from overseas. Unemployment in Belle Plaine was not reported by any of the households interviewed.

Conversely, 33 percent of the households' working population surveyed in Belvedere (Fond St. Jacques) was unemployed; 39 percent self-employed in farming and 22 percent were employed full-time. Among the three communities, Belvedere had the widest range of livelihoods comprising hotel work, construction, small business/shop owner, and Government work. The majority (64 percent) of Belvedere's respondents were of the view that their livelihoods would likely be negatively affected by loss of land to the project compared with 50 percent in Belle Plaine.

Mondesir reported the highest level (43 percent) of unemployed persons. Self-employment was around 39 percent and full-time employment, the lowest at 18 percent. About 57 percent of Mondesir's respondents were of the view that their employment would likely be negatively affected by loss of land to the project. Respondents were generally unwilling to provide information on income. From the data obtained, Belle Plaine reported the highest income levels, followed by Belvedere. Mondesir had the lowest income level, reporting monthly household incomes ranging from less than \$500.00 to \$1,000.00.

APPENDIX C – NOTES OF COMMUNITY CONSULTATIONS

7. Household monthly income range: ☐ \$0-500 ☐ \$501-1000 ☐ \$1001-2000 ☐ \$2001-3000
☐ \$3001-4000 ☐ >\$4000
8. Main economic activities/sources of household income: ☐ farming ☐ fishing ☐ domestic
☐ construction ☐ labourer ☐ office ☐ hotel ☐ store/shop
☐ teacher ☐ Gov't worker ☐ income from family overseas
☐ other _____
9. Is there any work/employment done by household members likely to be affected by the loss of land to the project? ☐ Yes ☐ No If yes, Which -----
10. Type of house: ☐ wooden ☐ masonry ☐ wood/masonry ☐ other -----
11. Type of toilet: ☐ Septic tank ☐ Pit Latrine ☐ other -----Sources of water:
☐ WASCO/pipe borne ☐ RWH tanks ☐ springs ☐ river
12. Quality & reliability of water: ☐ good ☐ not good/muddy/unsafe
☐ WASCO reliable ☐ WASCO unreliable
13. Form of lighting: ☐ electricity ☐ other-----
14. Form of cooking fuel: ☐ electricity ☐ gas ☐ charcoal ☐ wood
15. Land ownership and use
- Housing: ☐ Private ☐ Family Owned ☐ Rented/Private Lease) ☐ Gov't/NDC
☐ Private Leased ☐ Caretaker ☐ Squatting
- Farming: ☐ Private ☐ Family Owned ☐ Rented/Private Lease) ☐ Gov't/NDC
☐ Private Leased ☐ Caretaker ☐ Squatting
16. Type of animals reared/crops grown-----
17. Is there a community group in your community? ☐ Yes ☐ No
If yes, which group -----
If yes does any member of the household belong to a community group? ☐ Yes ☐ No
18. Have there been any changes (good or bad) in the community over the past 5-10 years
☐ Yes ☐ No If yes, please explain-----

19. In your opinion, what is your general perception of the natural environment in your community in last 2 years? ☐ 1. Very bad ☐ 2. Not very good ☐ 3. Fair ☐ 4. Good ☐ 5. Very good

20. What do you like/don't like about your community?

21. What improvement would you like to see in the community?

22. Where/how did you hear about the Geothermal Project?

23. What do you know of the history of the past Geothermal Project?

24. How do you think the project will affect you, your household and the community (problems & advantages)?

25. Would you be looking for a job with the Geothermal Project? ☐ Yes ☐ No If yes, what type of job?

26. What should the Project do to make sure that the benefits to your community is maximised and the negative effects minimised?

27. What is the best way to contact you so that we can provide more information about the project in the future?

ESIA – GEOTHERMAL ENERGY DEVELOPMENT PROJECT - SAINT LUCIA

Notes of Belle Plaine Community Consultation

Date: Saturday, 2 September 2017

Time: 6:00 pm

Location: Belle Vue Farmers' Cooperative, Soufriere

Attendees: Participants/community members

Valerie Leon – Permanent Secretary (PS), Department of Sustainable Development (DSD)

Al Barthelmy (AB) – Geothermal Technical Coordinator, DSD

Charlin Bodley (CB) – Public Utilities Officer, DSD

Kurt Inglis (KI) – Public Utilities Officer, DSD

Bethia Thomas – Science and Technology Officer, DSD

Dr. Frederick Smith - Panorama Sub-consultants/Archaeologist

Alison King (AK) – Panorama Sub-consultants/ECMC

Egbert Louis (EL) – Panorama Sub-Consultants/ECMC

Theresa Alexander-Louis – Panorama Sub-consultants/ECMC

Community Members Profile

19 community members/participants (5 females; 14 males) attended the consultation.

Welcome and Background Information

Charlin Bodley delivered the welcome remarks. Bethia Thomas led the group in prayer. Valerie Leon provided an overview of the Geothermal Energy Development Project, followed by a presentation delivered by Al Barthelmy on the project location and the results of the surface exploration phase recently completed. Dr. Smith gave an overview of the archaeology work he will be doing, and the types of recommendations he would make if he identified any concerns in potential drilling areas.

ESIA of the Planned Exploration Phase

An overview of the geothermal exploration drilling and the ESIA process was provided by Alison King. This was based on the PowerPoint presentation developed by Panorama.

Plenary Discussion

Following presentation of the Permanent Secretary:

Participant Input: If the project fails, are there other options e.g. water and wind? We are surrounded by water.

Response (DSD): The potential for hydro power here is small. Technology for harnessing of tidal energy is still in its infancy, and is not included in the plans of the government at this time. The focus is on the most viable resources, i.e. wind, solar and geothermal.

Participant Input: There used to be a hydro-plant in Soufriere. We have so many rivers, Can't that be an option?

Response: Hydro is not of great significance. The others have more potential. Our rivers are drying up, further reducing the potential for hydro.

Participant Input: The rivers are drying up because of man. We had 2 rivers along the Palmiste road, and they dried up one to do what they wanted, to build a school, etc. But when it rains, the river finds its path, and everywhere floods.

Following presentation of the Technical Coordinator:

Participant Input: Is there any problem with any of the sites?

Response (AB): It is too early to say. This is the reason for the studies.

Following presentation of the ESIA Consultant:

Participant Input: What if when drilling, instead of steam, you get fire?

Response (AB): Given all the data available to us to now, this is very unlikely.

Participant Input: In the last time of drilling in the Sulphur Springs, above the river, steam came up and they were happy. Then they stopped because they got fire coming up and they had to seal it.

Response (AB): It was not fire, they had a blowout. A well is a series of pipes. We must admit it. There was instability at Sulphur Springs. If the job is not done properly and material is coming up under high pressure there is a risk.

Participant input: I physically visited the site during the drilling. I saw fire. Even trees in the vicinity got burnt. Steam was coming off the mouth of the well. I saw gas or fire.

Response (AB): Steam is heat, more than 100 degrees. If it comes into contact with the trees it will destroy them.

Participant input: The fire was under the steam. It came after.

Participant input: In other places, is drilling done in residential areas? Sulphur is hazardous to health. It affects the lungs and the eyes. Persons working at the Sulphur Springs are getting these problems. What does the research show regarding the impacts? I am aware of the energy benefits but what about the health issues?

Secondly, the assessment must be done in a transparent manner. Ensure that community persons are privy to the reports, particularly regarding effects on their health.

Response (CB/AB): We have seen similar projects in similar settings. Government invested in sending a Ministry team to Hawaii where there was a functioning geothermal plant. Government has a developer in mind, the same developer for the Hawaii plant. The feedback from the team was that they were impressed with what they saw and observed no adverse effects. They followed a similar ESIA process to the one being undertaken here, and the ESIA document informed as to how to proceed with the project. Mitigation measures were developed after identifying possible negative effects. At a plant in Iceland, the

pipes are in a residential area. There is a plant operating in Guadeloupe, and explorations are underway in St. Kitts, Grenada, St. Vincent and Dominica. We are not aware of any serious negative effects.

(PS) In terms of transparency, the report will not be hidden. It will be available for public review, although this is not mandatory under the law. It will be online, in libraries and other public places where people can see it. If persons need help in reviewing it, we will send a team to assist. You will see the recommendations, and know whether the project proceeds in the manner recommended.

Participant input: Who is paying the experts?

Response (PS): The Government. The experts are independent and international experts, not involved in other aspects of the work. There are international standards that they are required to meet. ECMC is a sub-consultant to the company in California. This is a reputable company with expertise in this area. There has been no political interference in any way, and the technocrats are being left to do their work. We do not foresee any interference.

Participant Input: Conditions differ in different countries. In drilling we can have migration of gases.

Response (AK): The testing will include testing of the steam to determine what other constituents are in there and the risks they pose.

Participant Input: Geothermal sites usually experience dry spells. Will studies take that into account? Also, when drilling was done before, there were earth tremors in this area. The lands were not stable. Will the ESIA address this?

Response (AB): One well will not last; there must be makeup wells. If a well becomes non-viable, further drilling is needed.

When drilling SL2, the frequency of earthquakes increased, and there was concern that this was caused by the drilling. He visited the site and there was no evidence to support that. In his view, there was no connection.

Participant Input: The literature tells us that there is instability and ground movement. The ESIA must capture that.

Response (AB): Re-injection wells are required to replace the fluid and this largely addresses the stability issue. It is almost like recycling. The pre-feasibility will also examine the possibility of seismic activity in response to the TOR. If it is a concern, measures to address will be recommended.

Participant Input: Can the amount of steam and likelihood of dry spells be measured?

Response (AB): In SL2, the test ran for 2 weeks, and the steam declined thereafter.

Health-wise, we need to ensure that every contract has clauses to ensure that responsible entities comply with specified safety standards, to protect human health and the environment.

Participant Input: A project of this nature has positive and negative impacts. It will cost millions. We are told that it does not mean that the cost of electricity will go down, but this is something we were expecting. If not, is it economically viable in terms of the cost of exploring and drilling? There have been studies in other areas (solar, wind), but have you considered the comparative costs, and whether it is advisable to proceed over the long term? What is the long term sustainability of the project? We need to know how long the geothermal resource will last. Is it 10, 50, 100 years?

Looking at the negative aspects, what are the risks to the environment? Can drilling affect availability of water in streams or underground? Can it cause a volcanic reaction? Our grandparents said that all these valleys (Roblot, Fond St. Jacques, Belle Plaine) were linked underground, and there was "La Tou Noir" (the black hole), where water gets sucked into the ground.

We had higher rainfall before, all the valleys were swamps, and we had a lot of water that fed the hot rocks. What are the implications of the changing rainfall patterns?

What will be the implications for livelihoods? Many of these lands are farmed by Belle Plaine farmers, and this is a major revenue earner.

We must have access to the report.

Response (AB): The pre-feasibility study will include an economic assessment to address these. The national energy transition strategy (NETS) examined and compared the various sources of renewable energy. While geothermal may not guarantee a decrease in price, it provides stability in the price of electricity. The power purchase agreement between the generator and the utility will determine the price to consumers, over the 20 to 30 year life of the plant.

(CB) Although not widely publicized, government over the last three years has investigated the best mix of renewable energies for St Lucia, to achieve the best price for St Lucians. The mix must be stable. The NETS study is to be submitted to Cabinet for approval before the results can be shared. Our peak demand is 60 megawatts. Wind and solar are intermittent sources, especially wind. Geothermal is not a variable renewable energy source. The target is to develop a 30 MW plant, which with availability factors, may yield 28 MW and we would get it consistently. LUCELEC agrees that geothermal works well because our base load is 28 to 30 MW.

(CB) The two main objectives of the pre-feasibility study are to investigate the technical and economic feasibilities of the resource. We are hearing in other countries, a price of 18 US cents per kilowatt hour for geothermal power, but in these instances the developer does the exploration, and includes the cost of the risk associated with that. Government of St Lucia decided to get grant funding to do most of the exploration, so there is an expectation that the cost will be considerably reduced.

Participant Input: The last time they drilled in Sulphur Springs there were 13 strong quakes. Some houses got damaged. If it happens again, would there be compensation? Would the company take that responsibility?

Response (EL): One would have to establish a link between the drilling and the quake. This is difficult to pinpoint. If the property is insured the owner can call on insurance.

Participant input: This reminds me of a situation with LUCELEC. Appliances in Belle Vue were damaged after an electrical storm, and LUCELEC told customers it was their problem. I am hearing the same thing. What you are saying is "brace yourself".

Response (EL, AB): No, but it would have to be established that the quake is associated with the drilling. This would be difficult. The burden of proof is very important. Nobody can predict an earthquake. In the US, they are considering whether fracking may cause an earthquake.

Dr. Smith noted during his later comments that fracking is a big problem in the USA now, and the impacts are still being studied.

Participant Input: Are we saying that people need to get insurance for their houses? Who would pay for that?

Participant Input: I (KI) am wearing a resident's hat and have three concerns:

1. The access to the two sites in Belle Plaine. This is not truck friendly and would need to be upgraded, and reinstated after use.
2. The risk of contamination of farmlands to be used for drilling. If these are to be leased and returned to owners after two to three months, they must not be contaminated and made unusable.
3. Drilling along a fault or crack may cause these to widen. Residents are advised to photograph their homes before drilling starts, so that they may produce evidence of damage in the event of tremors.

A complaints board or some other facility should be established where community members may bring their concerns and not be turned away. Person conducting the investigation into such complaints should be independent of the project.

Participant Input: I am a resident of Etangs. When they were drilling there, they did not notify us. The generator used to pump water was making noise all the time. I could not hear my wife. We could not sleep at night.

Participant Input: Will the noise be bearable?

Response (AK, EL): There are measures that can be put in place to reduce noise. A baseline survey of noise will be undertaken, and noise standards will have to be complied with to ensure that the noise is bearable.

Participant Input: We have an issue now at Belle Plaine with LUCELEC generators. They were put there when work was being undertaken on the Soufriere feeder, but were not removed and are occasionally used since then. There is a siren that goes off on most weekends (late nights and early mornings).

Participant Input: If you have to drill on my property, can I refuse?

Response (PS): The government hopes to engage persons in negotiation, but compulsory acquisition for the national good can be a last resort.

Participant Input: My concern is the noise. I am an insomniac. I do not sleep well. How will it affect my health?

Response (AB): We do not know for sure where drilling will take place. We must select a developer with a good work record in environmental and health issues. The developer under consideration now is good. That developer has a proprietary technology that is environmentally friendly.

Participant Input: The permanent secretary mentioned a US\$22 million grant. What is it to be used for?

Response (PS): It will be used for the drilling exploration and well testing.

Participant Input: We have a target for 35% renewables by 2025. What is it now?

Response (PS): Less than 1%.

Participant Input: Why did you stop the wind project?

Response (PS): It has not stopped. We are still in discussion with the developer. It is on hold for now. There are issues with land acquisition. We hope we will not have these issues with the geothermal project, and people will support for the good of St Lucia.

Participant Input: How will livelihood issues be addressed? If lands are acquired, how is this affect farmers and persons rearing animals?

Response (PS): These social aspects must be considered as part of the ESIA and will inform the decisions, including for compensation. The World Bank has safeguard measures that must be applied if we are to access the funding.

Participant Input: If residents live in close proximity, will they be relocated?

Response (AB): If we do not address these things we do not have a project.

Participant Input: The project has long term benefits. Consultation and feasibility studies are good. We do not want chaos like the DSH Project. You must present what will affect us. Our children stand to benefit.

Response (PS): There will be no chaos. When we get the results of the studies we will come back.

Participant Input: What about water quality?

Response (PS): Hydrologists will gather baseline information over next week, and the impact on water will be assessed. They will look at issues like when water disappeared as we heard in the last consultation, and what caused that to happen.

Participant Input: After completion, will geothermal energy be reliable and sustainable?

Response (AB): It has been factored into the NETS, which looked at improving energy security. We will reduce consumption of fossil fuels. We know roughly what the geothermal potential is, about 75 MW, more than we need.

(PS) The persons conducting the study will be in the area asking questions. They will have ID badges provided by our department.

Participant input: We are not against the project but we have genuine concerns based on past experiences, as well as current experiences, for example in relation to noise pollution. We want to see our concerns taken into consideration. We need to see what is being recommended, for example would it be advisable to take out insurance?

Response (PS): We will be surveying households close to the sites, to understand land ownership, land use etc., to ensure persons are not put in a worse situation.

Participant input: You mentioned consideration of including a requirement for the drillers to adhere to standards. There must be penalties for non-compliance.

Response (AK): The monitoring plan will set up a system, and identify who is responsible for monitoring and enforcement.

Closing Remarks

The Permanent Secretary noted that experts will be in the field for the next three weeks. She requested a volunteer from the community who would ensure that instrumentation is not tampered with. She requested that interested persons contact the DSD. The equipment is expensive, and loss of data can affect the progress of the project adversely.

Bethia Thomas closed the meeting at 9.30 pm, thanking all for their participation, and inviting them to share some refreshments.

Notes of Community Consultation

Date: Thursday, 31 August 2017

Time: 7:00 pm

Location: Fond St Jacques Resource Centre, Soufriere

Attendees: Participants/community members
Valerie Leon – Permanent Secretary, Department of Sustainable Development (DSD)
Al Barthelmy – Geothermal Technical Coordinator, DSD
Charlin Bodley – Public Utilities Officer, DSD
Kurt Inglis – Public Utilities Officer, DSD
Alison King – Panorama Sub-consultants/ECMC
Egbert Louis – Panorama Sub-consultants/ECMC
Theresa Alexander-Louis – Panorama Sub-consultants/ECMC

Community Members Profile

Twenty-five participants comprising six females and nineteen males attended. Their ages ranged from 30 – 70 years.

Welcome and Background Information

Charlin Bodley made the welcome remarks. Kurt Inglis lead the group in prayer. Valerie Leon provided an overview of the Geothermal Energy Development Project, followed by a presentation delivered by Al Barthelmy on the project location and the results of the surface exploration phase recently completed.

ESIA of the Planned Exploration Phase

An overview of the geothermal exploration drilling and the ESIA was provided by Alison King. This was based on the PowerPoint presentation developed by Panorama.

Plenary Discussion

Spring Water Supplies

There are several springs in the Fond St. Jacques area (from Migny, down towards the community), that a significant number of persons in the community harness for drinking water. There is concern that the project will affect these very important water sources. The example of the disappearing lake at Robot after drilling was cited. The community members are very passionate about these springs.

One participant indicated that this has been his drinking water supply for more than 30 years. This water is all that some people in the Fond St. Jacques and surrounding communities drink. Although most people have a WASCO supply, many still use the local spring sources for drinking, and other surface supplies for washing.

When the WASCO water supply is interrupted, this is the only source of water for the community. They were forced to rely on this source for a protracted period after the passage of Hurricane Tomas.

Provision of increased storage of WASCO water in the community to improve water security would not be an acceptable mitigation measure, as:

- This is chlorinated water, and
- Where would the water come from if not the same source that would be affected by the project?

When asked to indicate the importance of this water supply to the community on a scale of 1 to 10, the community members were unanimous in rating it at 10.

Another participant noted that the WASCO supply to the community is unreliable, even though the area is an important source of raw water for WASCO (there are 3 WASCO intakes in the area) that is used to serve communities as far afield as Choiseul, Cresslands and Hotel Chocolat. As a result, some people have no choice but to go to the springs.

Impact on Agriculture

DSD must work hand in hand with Ministry of Agriculture. This is an agricultural community, and cultivated areas will be affected.

An undertaking was made by the Permanent Secretary to collaborate.

Impact of Noise

One participant indicated that he was a child during the first drilling project, and the noise was very intense. He is very concerned that persons would not be able to live next to the proposed well location shown, within the community. They would have to be moved.

ECMC and DSD representatives noted that the technology has advanced since then, and it is possible to reduce noise. It is also possible use directional drilling to set back the pad from the community.

DSD noted a need to include environmental standards in every contract, to protect against such impacts, with proper enforcement by the supervising entity.

One participant enquired whether there would be penalties in the contract for non-compliance with such clauses.

Cynicism

A participant noted that often the end justifies the means, and politicians often have their own agenda. Is the primary objective to reduce Saint Lucia's carbon footprint? The community is in great need of jobs, infrastructural development, and all the possible benefits of such a project. People can come in with a nice smile and big words that lay people do not understand, and only afterwards do the people understand that things are not what they expected. He recalled an experience with WASCO where the community was opposed to tapping into a water source, and this project was only aborted after significant expense had been incurred by the company.

After Hurricane Tomas, the geological report touted by technocrats was never shared with the community, as it was thought that it was something they would not understand. The people need to be provided with information and equipped to make informed decisions for themselves.

ECMC noted, confirmed by the Permanent Secretary, that the ESIA report will be made public. It will be placed on a website and in community libraries and resource centres such as this one in Fond St. Jacques. ECMC also noted that the funding agencies that support this project are very concerned about environmental and social issues and will not disburse any money unless the issues are properly addressed.

Aesthetics

After the drilling near Sulphur Springs, some 50 pipes were left all about the place, and the holes are still there. Another participant noted that aesthetics are important as they sell the area as an attraction.

DSD conceded that this did occur with one of the previous exploration projects. ECMC noted that it will be a requirement of contractors to properly remediate after completion.

Land Availability

The community is deprived of land space that is arable and/or flat. The demarcated potential drilling areas fall within such spaces. These lands are used for homes, recreation and farming by the community. *(Note that there was some uncertainty about the exact locations being proposed).*

The smaller portion of land identified does not appear to be large enough for the size of well pad described in the presentation. There would be no playing field anymore if this area was to be used.

Impacts of Weather on Drilling

A participant enquired whether drilling would continue, rain or shine. ECMC noted that work would likely be halted if a storm was approaching.

Impact on Telephone and Electricity Lines

A participant enquired about the impact of large trucks on low hanging lines.

ECMC responded that the access routes would be reviewed in the ESIA to ensure these would not be impacted.

Employment

A participant enquired whether priority will be given to persons in the area for jobs. Politics often becomes a factor.

The Permanent Secretary responded that once persons from the area have the required skill sets, they will be given priority. There are some things beyond the control of technocrats, but they would do all within their purview. Consideration may be given to placing in the contract, the need to use persons in the area for labour, and to also engage in knowledge transfer for a specified number of persons.

DSD is also presently reviewing the possibility of requesting that relevant training be included on the government's training priority list, in anticipation of future jobs in this field. Such persons could find work across the globe as the world goes green.

One participant asked where the drilling company would come from.

The Permanent Secretary noted that the project is not at the stage where she can confirm that there is a viable resource for drilling. More information will be available in early 2018 after the studies are complete. Although government has a preferred developer, if that negotiation process is not successful, the project will be opened up to international and unrestricted tender through a transparent and open process.

Cost of Electricity

One participant noted that if electricity costs will be reduced, he is in 100% support of the project. This position was supported by most others present, with the proviso that all mitigations required are put in place, so that they are not negatively impacted.

The Permanent Secretary noted that government has secured grant support to do much of the exploratory work, reducing costs to local tax payers, significantly de-risking the project for a power plant investor, and placing the government in a stronger position to negotiate. This should redound to the benefit of the consumer in terms of cost.

A participant noted that the NURC will regulate the pricing, not LUCELEC.

Another noted that everyone in the country pays for the dam remediation although not all benefit from the dam supply.

Level of Participation in the Meeting

One participant was of the view that participation was low.

The Permanent Secretary responded that no effort was spared in informing the community about the meeting and it is up to persons to take an interest in matters that can affect them. This is the 4th community meeting in relation to this project.

Closing Remarks

Charlin Bodley closed the meeting at 9 pm, thanking all for their participation, and inviting them to share some refreshments. Contact numbers were provided for DSD so that participants may continue to engage project personnel.

ESIA – GEOTHERMAL ENERGY DEVELOPMENT PROJECT - SAINT LUCIA

Notes of Mondesir Community Consultation

Date: Sunday, 3 September 2017

Time: 3:00 pm

Location: Saltibus Primary School, Choiseul

Attendees: Participants/community members

Valerie Leon – Permanent Secretary, Department of Sustainable Development (DSD)

Al Barthelmy – Geothermal Technical Coordinator, DSD

Charlin Bodley – Public Utilities Officer, DSD

Kurt Inglis – Public Utilities Officer, DSD

Bethia Thomas – Science and Technology Officer, DSD

Dr. Frederick Smith - Panorama Sub-consultants/Archaeologist

Mr. Kerry McCallum - Panorama Sub-consultants/Dewhurst Group

Alison King – Panorama Sub-consultants/ECMC

Egbert Louis – Panorama Sub-consultants/ECMC

Theresa Alexander-Louis – Panorama Sub-consultants/ECMC

Community Members Profile

23 (10 female; 13 males) community members/participants attended.

Welcome and Background Information

Curt Inglis made the welcome remarks. Bethia Thomas lead the group in prayer. Permanent Secretary Valerie Leon provided an overview of the Geothermal Energy Development Project, followed by a presentation delivered by Protect Coordinator Al Barthelmy on the project location and the results of the surface exploration phase recently completed.

ESIA of the Planned Exploration Phase

Dr. Fred Smith gave an overview of the archaeological work he will be doing, and the types of recommendations he would make if he identified any concerns in potential drilling areas. He informed the meeting that he had spent some time before the meeting on the Parc Estate site, north of the playing field, which is earmarked for possible geothermal exploration. He found ceramic pottery dating back to the mid 18th century to the 1830's, which suggests that people were living there at those times. It is possible that there may be other discoveries to be made there, and more research is required.

Mr. Kerry McCallum informed the meeting about the air quality sampling tubes that will be placed at various locations around Soufriere and Choiseul, and left for about 3 weeks, at which time they will be collected.

An overview of the geothermal exploration drilling and the ESIA process was provided by Alison King. This was based on the PowerPoint presentation developed by Panorama.

Plenary Discussion

Participant Input: The area is agricultural flat land. The top soil will have to be removed to prepare for drilling. If the exploration is not successful, what will become of the area? Will they replace the topsoil? Secondly, what becomes of the pit/plug to ensure it does not become a hazard? Thirdly, what is the minimum distance that houses should be from the drill pad?

Response (DSD): The site must be restored to its previous condition. We had a situation in the 1970s where this did not happen, but this should be a requirement of the contract, with implications for non-payment if it does not occur satisfactorily. We will also need to require under the contract that the wells are plugged (with concrete) appropriately after the work is completed. This also has not been satisfactory under previous programmes, and we must ensure that it is done. The pipes will remain in the ground.

Participant Input: I was a taxi and truck driver before, and had work to supply the previous project. The area was left in the same way, top soil was not replaced.

Response (ECMC): We will recommend that top soil be set aside during site preparation, and spread back over the site as part of the site restoration works.

Participant Input: Mr. Barthelmy mentioned 6 miles to drill the well. How far down is the rock?

Response (DSD): From the moment you start drilling, you encounter rock.

Participant Input: I am born in Choiseul, resident in Gros Islet. What benefits will be derived by the population from this activity? Will there be competition? We only have 1 supplier, LUCELEC. What is the cost benefit for Saint Lucians?

Response (DSD): Our peak load is 60 MW. Geothermal can generate 30 MW, or 50% of our electricity. This is an indigenous resource, reducing our need for imported oil. Electricity prices will be less volatile because of fluctuations in oil prices. Geothermal brings added stability, which is attractive to investors. A lower cost power supply is also possible, which would benefit all residents.

Because we are a small island, it is not feasible to have multiple companies. We are 99% electrified and have very good infrastructure. LUCELEC will continue to provide the transportation infrastructure. Power generated by independent power producers will be sold to LUCELEC at a price lower than it costs LUCELEC to produce power from oil.

Although there is no guarantee, hopefully the price of power will go down.

Participant input: I work with the Ministry of Agriculture, based in this area. I am concerned as this area is a water catchment area and a farming area. It feeds water to the pineapple area. There is an intake at the Gia Bois. Mr. Ferguson John (past MP for the area) has three fish ponds with water fed from there. There is spring water lower down. When there is no water in the mains, the people go there for water. The Ministry of Agriculture may have more information on these water sources.

Participant input: Will members of the community be trained to help with equipment deployment?

Response (PS): The project is not in full force. We are just doing testing and analysis, and these experts have been contracted for that. The work is so specialised, but there may be some limited opportunity for young people to observe.

The contract will require the drilling company to employ persons from the community.

If there is a viable resource, there will be a power plant. Once the power plant is opened, there is a world of opportunities for young people.

Participant input: I have read that they have been different feasibility studies, and drilling. Will this be another failure?

Response (PS): A number of drilling programmes have been conducted. That is why the pre-feasibility consultant is required to analyse existing information, to guide next steps.

Of 7 wells, two were producing, but SL2 was acidic. It would corrode equipment. Now, we are not drilling in the same place. More drilling is needed to capture the quality of the resource. We hope this is the last go, and we will discover a commercially viable resource.

(AB): Geothermal is very challenging and complex, even for countries with more resources than us, such as the British and the Americans, who do not always succeed.

(PS): By the second half of next year we will know if we can drill production size wells.

Participant input: This is a very fertile area. From here to Tete Morne, you can grow anything. We would have to gain big time because there is a lot to lose.

In the past, lands here have been identified here for relocation of farmers from the water catchment area (upper Saltibus) and Black Bay. This is prime agricultural land. Speak to Invest St Lucia. Some of these lands are leased by farmers from the Crown/ Invest St Lucia.

Participant input: If you develop that area, what would be the buffer zone for farmers?

Response (DSD): The studies will advise.

Participant input: Will there be a follow up?

Response (PS): Yes, we will have a public review. The public will have access to the document.

Closing Remarks

Ms. Charlin Bodley noted that experts will be in the field for the next three weeks. She requested a volunteer from the community who would ensure that instrumentation is not tampered with. She requested that interested persons contact the DSD. The equipment is expensive, and loss of data can affect the progress of the project adversely.

Mr. Curt Inglis closed the meeting, thanking all for their participation, and inviting them to share some refreshments.