

## 資料－ 1 調査団員・氏名

## 添付資料

### 1. 調査団員・氏名

#### (1) 第1次現地調査

| 氏 名    | 担当業務                 | 現 職                                             |
|--------|----------------------|-------------------------------------------------|
| 前原 充宏  | 総括                   | 独立行政法人 国際協力機構<br>産業開発部 資源エネルギーグループ<br>電力課 課長    |
| 滝本 哲也  | 計画管理                 | 独立行政法人 国際協力機構<br>産業開発部 資源エネルギーグループ<br>電力課 主任調査役 |
| 不二葦 教治 | 業務主任／電力計画<br>／変電設備計画 | 八千代エンジニアリング（株）                                  |
| 玉井 昌幸  | 送配電設備計画              | 八千代エンジニアリング（株）                                  |
| 高嶋 繁生  | 環境社会配慮               | 八千代エンジニアリング（株）                                  |
| 赤塚 大輔  | 業務調整                 | 八千代エンジニアリング（株）                                  |

(2) 第 2 次現地調査

| 氏 名    | 担当業務                    | 現 職                                             |
|--------|-------------------------|-------------------------------------------------|
| 滝本 哲也  | 総括                      | 独立行政法人 国際協力機構<br>産業開発部 資源エネルギーグループ<br>電力課 主任調査役 |
| 不二葦 教治 | 業務主任／電力計画<br>／変電設備計画    | 八千代エンジニアリング (株)                                 |
| 玉井 昌幸  | 送配電設備計画                 | 八千代エンジニアリング (株)                                 |
| 今井 進   | 土木・基礎構造/施設計画/自然条<br>件調査 | 八千代エンジニアリング (株)                                 |
| 高嶋 繁生  | 環境社会配慮                  | 八千代エンジニアリング (株)                                 |
| 阿部 真   | 調達・施工計画/積算              | 八千代エンジニアリング (株)                                 |
| 赤塚 大輔  | 業務調整                    | 八千代エンジニアリング (株)                                 |

(3) 概略設計概要説明

| 氏 名    | 担当業務                 | 所属                                               |
|--------|----------------------|--------------------------------------------------|
| 長谷川 敏久 | 総括                   | 独立行政法人 国際協力機構<br>タンザニア事務所 次長                     |
| 滝本 哲也  | 計画管理                 | 独立行政法人 国際協力機構<br>産業開発部 資源・エネルギーグループ<br>電力課 主任調査役 |
| 不二葦 教治 | 業務主任／電力計画<br>／変電設備計画 | 八千代エンジニアリング（株）                                   |
| 高嶋 繁生  | 環境社会配慮               | 八千代エンジニアリング（株）                                   |
| 赤塚 大輔  | 業務調整                 | 八千代エンジニアリング（株）                                   |

## 資料－2 調査行程

2. 調査行程  
(1) 第1次現地調査

| No. | 月 日   | 曜日  | 調 査 内 容                                                                                                                                  |                                                      |                                                                                                                            |                                                          | 宿泊地                                                                              |           |                                              |         |
|-----|-------|-----|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------------------------------|-----------|----------------------------------------------|---------|
|     |       |     | 官団員                                                                                                                                      |                                                      | コンサルタント団員                                                                                                                  |                                                          |                                                                                  |           |                                              |         |
|     |       |     |                                                                                                                                          |                                                      | Team 1                                                                                                                     | Team 2                                                   |                                                                                  |           |                                              |         |
|     |       |     | 前原課長(総括)                                                                                                                                 | 滝本主任調査役(計画管理)                                        | 不二董                                                                                                                        | 赤塚                                                       | 玉井                                                                               | 高嶋        |                                              |         |
| 1   | 4月13日 | Tue |                                                                                                                                          | ①移動(成田→ドバイ)                                          |                                                                                                                            |                                                          |                                                                                  |           | 機中泊(滝本)                                      |         |
| 2   | 4月14日 | Wed |                                                                                                                                          | ①移動(ドバイ 10:50 → ダルエスサラーム 15:20 by EK725)             |                                                                                                                            |                                                          | ①移動(成田 11:00 → バンコク 15:35 by JL717)                                              |           | ダルエスサラーム(滝本)<br>バンコク(玉井、高嶋)                  |         |
| 3   | 4月15日 | Thu |                                                                                                                                          | ①技プロ打ち合わせ                                            |                                                                                                                            |                                                          | ①移動(バンコク 02:40 → ドバイ 05:45 by EK419)<br>②移動(ドバイ 10:50 → ダルエスサラーム 15:20 by EK725) |           | ダルエスサラーム(滝本、玉井、高嶋)                           |         |
| 4   | 4月16日 | Fri |                                                                                                                                          | ①表敬訪問及びインセプションレポートの提出・説明: JICA(事)、TANESCO、エネルギー鉱物資源省 |                                                                                                                            |                                                          | ①表敬訪問及びインセプションレポートの提出・説明: JICA(事)、TANESCO、エネルギー鉱物資源省                             |           | ダルエスサラーム(滝本、玉井、高嶋)                           |         |
| 5   | 4月17日 | Sat | ①移動(成田→ドバイ)                                                                                                                              | ①移動(ダルエスサラーム 7:20 → キリマンジャロ 8:40 by PW420)           | ①移動(成田 11:00 → バンコク 15:35 by JL717)                                                                                        |                                                          | ①移動(ダルエスサラーム16:45→キリマンジャロ18:05 by PW432)<br>②収集資料整理及び団内協議                        |           | キリマンジャロ(滝本、玉井、高嶋)<br>ドバイ(前原)<br>バンコク(不二董、赤塚) |         |
| 6   | 4月18日 | Sun | ①移動(ドバイ 10:50 → ダルエスサラーム 15:20 by EK725)<br>②移動(ダルエスサラーム 18:30 → キリマンジャロ 19:50 by PW725)                                                 | ①収集資料整理及び団内協議                                        | ①移動(バンコク 02:40→ドバイ 05:45 by EK419)<br>②移動(ドバイ 10:50→ダルエスサラーム 15:20 by EK725)<br>③移動(ダルエスサラーム 18:30→キリマンジャロ 19:50 by PW725) |                                                          | ①収集資料整理及び団内協議                                                                    |           | キリマンジャロ                                      |         |
| 7   | 4月19日 | Mon | ①表敬訪問及びインセプションレポートの提出・説明: TANESCOキリマンジャロ支店、②要請内容の確認、③サイト状況調査(Kiyungi変電所→YMCA変電所→KCMC変電所→Gomberi変電所→Trade School変電所→Machame変電所→Lawati変電所) |                                                      |                                                                                                                            |                                                          |                                                                                  |           |                                              | キリマンジャロ |
| 8   | 4月20日 | Tue | ①サイト状況調査(66kV送電線ルート→Makunyuni変電所)                                                                                                        |                                                      |                                                                                                                            |                                                          |                                                                                  |           |                                              | キリマンジャロ |
| 9   | 4月21日 | Wed | ①移動(キリマンジャロ10:30→ダルエスサラーム12:35 by PW420)<br>②ミッツ協議(エネルギー鉱物資源省、TANESCO)                                                                   |                                                      |                                                                                                                            | ①サイト状況調査(66kV送電線ルート→Same変電所)                             |                                                                                  |           | キリマンジャロ(玉井、高嶋、赤塚)<br>ダルエスサラーム(前原、滝本、不二董)     |         |
| 10  | 4月22日 | Thu | ①ミッツ協議(エネルギー鉱物資源省、TANESCO)                                                                                                               |                                                      |                                                                                                                            | ①サイト状況調査(33kV送電線ルート(Makuyuni変電所→Mkuu Rombo変電所))          |                                                                                  |           | キリマンジャロ(玉井、高嶋、赤塚)<br>ダルエスサラーム(前原、滝本、不二董)     |         |
| 11  | 4月23日 | Fri | ①ミッツ署名(エネルギー鉱物資源省、TANESCO)<br>②報告:JICA(事)、日本大使館                                                                                          |                                                      |                                                                                                                            | ①プロジェクト裨益効果の確認(砂糖工場、KCMC病院、Wild Life College)            |                                                                                  | ①環境社会配慮調査 | キリマンジャロ(玉井、高嶋、赤塚)<br>ダルエスサラーム(前原、滝本、不二董)     |         |
| 12  | 4月24日 | Sat | ①移動(ダルエスサラーム 16:50 → ドバイ 23:20 by EK726)                                                                                                 |                                                      | ①移動(ダルエスサラーム 7:20 → キリマンジャロ 8:40 by PW420)<br>②団内協議                                                                        | ①サイト状況調査(33kV送電線ルート(Makuyuni変電所→Mkuu Rombo変電所))<br>②団内協議 |                                                                                  |           | キリマンジャロ<br>機中泊(前原、滝本)                        |         |
| 13  | 4月25日 | Sun | ①移動(ドバイ→成田)                                                                                                                              |                                                      | ①収集資料整理及び団内協議<br>②現地調査結果概要(案)作成                                                                                            |                                                          |                                                                                  |           | キリマンジャロ                                      |         |
| 14  | 4月26日 | Mon |                                                                                                                                          |                                                      | ①サイト状況調査(Same変電所)<br>②現地調査結果概要(案)作成                                                                                        |                                                          | ①移動(キリマンジャロ10:30→ダルエスサラーム12:35 by PW420)<br>②現地調査結果概要(案)作成                       |           | キリマンジャロ<br>ダルエスサラーム(高嶋)                      |         |
| 15  | 4月27日 | Tue |                                                                                                                                          |                                                      | ①電力負荷の現状調査と電力需要予測<br>②YMCA変電所の用地確認                                                                                         | ①プロジェクト裨益効果の確認(結核病院、花卉栽培農家)                              | ①要請内容の技術評価<br>②YMCA変電所の用地確認                                                      | ①環境社会配慮調査 | キリマンジャロ<br>ダルエスサラーム(高嶋)                      |         |
| 16  | 4月28日 | Wed |                                                                                                                                          |                                                      | ①サイト状況調査(33kV送電線ルート(Trade School変電所→KCMC変電所→Gomberi変電所))                                                                   |                                                          |                                                                                  | ①環境社会配慮調査 | キリマンジャロ<br>ダルエスサラーム(高嶋)                      |         |
| 17  | 4月29日 | Thu |                                                                                                                                          |                                                      | ①サイト状況調査(33kV送電線ルート(Makuyuni変電所→Mkuu Rombo変電所)、YMCA変電所)<br>②電力負荷の現状調査と電力需要予測                                               | ①プロジェクト裨益効果の確認(Mkuu Rombo地区の製材工場)                        | ①サイト状況調査(33kV送電線ルート(Makuyuni変電所→Mkuu Rombo変電所)、YMCA変電所)<br>②要請内容の技術評価            | ①環境社会配慮調査 | キリマンジャロ<br>ダルエスサラーム(高嶋)                      |         |
| 18  | 4月30日 | Fri |                                                                                                                                          |                                                      | ①要請内容の暫定評価結果、国内検討の前提条件、次回調査までの宿題事項等の確認(TANESCOキリマンジャロ事務所)                                                                  | ①プロジェクト裨益効果の確認(コーヒー工場、花卉栽培農家)                            | ①要請内容の暫定評価結果、国内検討の前提条件、次回調査までの宿題事項等の確認(TANESCOキリマンジャロ事務所)                        | ①環境社会配慮調査 | キリマンジャロ<br>ダルエスサラーム(高嶋)                      |         |
| 19  | 5月1日  | Sat |                                                                                                                                          |                                                      | ①移動(キリマンジャロ10:30→ダルエスサラーム12:35 by PW420)<br>②収集資料整理及び団内協議、③現地調査結果概要(案)作成                                                   |                                                          | ①収集資料整理及び団内協議<br>②現地調査結果概要(案)作成                                                  |           | ダルエスサラーム                                     |         |
| 20  | 5月2日  | Sun |                                                                                                                                          |                                                      | ①収集資料整理及び団内協議、②現地調査結果概要(案)作成                                                                                               |                                                          | ①収集資料整理及び団内協議、②現地調査結果概要(案)作成<br>③移動(ダルエスサラーム 16:50 → ドバイ 23:20 by EK726)         |           | ダルエスサラーム<br>ドバイ(玉井、高嶋)                       |         |
| 21  | 5月3日  | Mon |                                                                                                                                          |                                                      | ①他ドナー支援状況調査(EDCF)                                                                                                          |                                                          | ①移動(ドバイ 03:15 → バンコク 12:25 by EK384)<br>②移動(バンコク 23:00 → 成田 07:10+1 by JL718)    |           | ダルエスサラーム                                     |         |
| 22  | 5月4日  | Tue |                                                                                                                                          |                                                      | ①他ドナー支援状況調査(世銀)、②表敬及び報告(JICA(事)、TANESCO)                                                                                   |                                                          | ①成田着(07:10)                                                                      |           | ダルエスサラーム                                     |         |
| 23  | 5月5日  | Wed |                                                                                                                                          |                                                      | ①移動(ダルエスサラーム 16:50 → ドバイ 23:20 by EK726)                                                                                   |                                                          |                                                                                  |           | ドバイ                                          |         |
| 24  | 5月6日  | Thu |                                                                                                                                          |                                                      | ①移動(ドバイ 03:15 → バンコク 12:25 by EK384)<br>②移動(バンコク 23:00 → 成田 07:10+1 by JL718)                                              |                                                          |                                                                                  |           | 機中泊                                          |         |
| 25  | 5月7日  | Fri |                                                                                                                                          |                                                      | ①成田着(07:10)                                                                                                                |                                                          |                                                                                  |           |                                              |         |

[備考]: JICA: Japan International Cooperation Agency, TANESCO: タンザニア電力公社(Tanzania Electric Supply Company), PW:Precision Air

|     |       |     | 調 査 内 容                                                                 |  |                                                 |    |                                                                                                                      |                                                                                  |                                                                                                                                      |                                           | 宿泊地                                                                                               |                                          |
|-----|-------|-----|-------------------------------------------------------------------------|--|-------------------------------------------------|----|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------|------------------------------------------|
| No. | 月 日   | 曜日  | コンサルタント団員                                                               |  |                                                 |    |                                                                                                                      |                                                                                  |                                                                                                                                      |                                           |                                                                                                   |                                          |
|     |       |     | 官団員                                                                     |  | Team 2                                          |    |                                                                                                                      | Team 3                                                                           |                                                                                                                                      |                                           |                                                                                                   |                                          |
|     |       |     | 滝本主任調査役(総括)                                                             |  | 今井                                              | 赤塚 | 高嶋                                                                                                                   | 玉井                                                                               | 阿部                                                                                                                                   |                                           |                                                                                                   |                                          |
|     |       |     | Team 1                                                                  |  |                                                 |    |                                                                                                                      |                                                                                  |                                                                                                                                      |                                           |                                                                                                   |                                          |
|     |       |     | 不二重                                                                     |  |                                                 |    |                                                                                                                      |                                                                                  |                                                                                                                                      |                                           |                                                                                                   |                                          |
| 1   | 6月6日  | Sun | ①移動 [成田 20:50 → ドーハ 05:15+1 by QR803]                                   |  |                                                 |    |                                                                                                                      | ①移動 [成田 20:50 → ドーハ 05:15+1 by QR803]                                            |                                                                                                                                      |                                           | 機中泊                                                                                               |                                          |
| 2   | 6月7日  | Mon | ①移動 ドーハ 7:45→ダムスツラム 13:25 by QR544]                                     |  |                                                 |    |                                                                                                                      | ①移動 [ドーハ 7:45→ダムスツラム 13:25 by QR544]<br>②移動 [ダムスツラム 16:45→キマンジャロ 18:05 by PW432] |                                                                                                                                      |                                           | ダムスツラム(不二重、今井、赤塚、高嶋)<br>キマンジャロ(玉井、阿部)                                                             |                                          |
| 3   | 6月8日  | Tue | ①表敬訪問及び国内解析結果の説明(JICA(事)、TANESCO本社)<br>②現地工事会社施工能力調査<br>③資材・建機・労働単価見積徴収 |  |                                                 |    | ①表敬訪問及び国内解析結果の説明: JICA(事)、TANESCO本社<br>②環境影響評価手続き進捗確認                                                                |                                                                                  | ①表敬訪問及び国内解析結果の説明:TANESCOキマンジャロ支店<br>②Kiyungi変電所サイト調査                                                                                 |                                           | ダムスツラム(不二重、今井、赤塚、高嶋)<br>キマンジャロ(玉井、阿部)                                                             |                                          |
| 4   | 6月9日  | Wed | ①現地再委託業者(候補)との打合せ<br>②現地工事会社施工能力調査<br>③資材・建機・労働単価見積徴収                   |  |                                                 |    | ①環境関連法規、基準、規制調査                                                                                                      |                                                                                  | ①66kV送電線ルート詳細調査(1) (Kiyungi S/S 周辺、水田)                                                                                               |                                           | ダムスツラム(不二重、今井、赤塚、高嶋)<br>キマンジャロ(玉井、阿部)                                                             |                                          |
| 5   | 6月10日 | Thu | ①電力開発計画、全国送電網拡張計画調査<br>②TEDAPプロジェクトのスケジュール、設計内容確認: TANESCO、TEDAPコンサルト   |  | ①現地再委託業者(候補)との打合せ<br>②現地再委託業者の選定及び契約交渉          |    | 同左                                                                                                                   | ①キマンジャロ周辺における鉄道路線拡張計画、建築制限の調査                                                    |                                                                                                                                      | ①66kV送電線ルート詳細調査(2) (Makuyuni S/S 周辺)      | ダムスツラム(不二重、今井、赤塚、高嶋)<br>キマンジャロ(玉井、阿部)                                                             |                                          |
| 6   | 6月11日 | Fri | ①TANESCOの組織・要員・財務状況調査<br>②他ドナーによる送電プロジェクトのコスト調査<br>③現地再委託契約締結           |  | ①現地工事会社施工能力調査<br>②資材・建機・労働単価見積徴収<br>③現地再委託契約締結  |    | 同左                                                                                                                   | ①道路拡幅保全地の基準調査<br>②変電所、送電線建設予定地の土地登記情報収集                                          |                                                                                                                                      | ①66kV送電線ルート詳細調査(3) 湿地帯踏査<br>②YMCA変電所サイト調査 | ダムスツラム(不二重、今井、赤塚、高嶋)<br>キマンジャロ(玉井、阿部)                                                             |                                          |
| 7   | 6月12日 | Sat | 移動 [成田 → ドバイ]                                                           |  | ①団内協議<br>②移動 [ダムスツラム16:45→キマンジャロ18:05 by PW432] |    | ①Kiyungi変電所サイト調査                                                                                                     |                                                                                  |                                                                                                                                      |                                           | ダムスツラム(不二重、今井、赤塚、高嶋)<br>キマンジャロ(玉井、阿部、今井、赤塚、高嶋)                                                    |                                          |
| 8   | 6月13日 | Sun | ①移動 [ドバイ 10:50 → ダムスツラム 15:20 by EK725]<br>②団内協議                        |  | ①収集資料整理<br>②団内協議                                |    | ①収集資料整理及び団内協議                                                                                                        |                                                                                  |                                                                                                                                      |                                           | ダムスツラム(滝本、不二重)<br>キマンジャロ(玉井、阿部、今井、赤塚、高嶋)                                                          |                                          |
| 9   | 6月14日 | Mon | 表敬訪問及び国内解析結果の説明: JICA(事)、エネギ-館物資源省、TANESCO                              |  |                                                 |    | ①技術協議 (TANESCOキマンジャロ支店)<br>②Trade School S/S拡張サイト調査<br>③KCMC変電所建設サイト調査<br>④KCMC変電所建設サイト調査                            |                                                                                  | ①技術協議 (TANESCOキマンジャロ支店)<br>②Trade School S/S拡張サイト調査<br>③33kV配電線ルート調査(Trade School→KCMC S/S間)<br>④及び対象地の地図収集 (Moshi Municipal Office) |                                           | ダムスツラム(滝本、不二重)<br>キマンジャロ(玉井、阿部、今井、赤塚、高嶋)                                                          |                                          |
| 10  | 6月15日 | Tue | ①ミニツ協議・署名(エネギ-館物資源省、TANESCO)<br>②報告:JICA(事)                             |  |                                                 |    | ①サイト調査 (Kiyungi S/S→66kV送電線ルート→Makuyuni S/S→YMCA S/S→Machame S/S→Lawati S/S)                                         |                                                                                  | ①33kV配電線ルート(Trade School→KCMC S/S間) 環境社会配慮調査                                                                                         |                                           | ①Kiyungi変電所サイト調査<br>②33kV配電線ルート調査(Trade School→KCMC S/S間)<br>③及び対象地の地図収集 (Moshi Municipal Office) | ダムスツラム(滝本、不二重)<br>キマンジャロ(玉井、阿部、今井、赤塚、高嶋) |
| 11  | 6月16日 | Wed | ①現地市場調査(工事資材、機材) (不二重)<br>②現地工事会社施工能力調査 (不二重)                           |  |                                                 |    | ①現地再委託調査立会い及びサイト状況調査 (Kiyungi S/S→66kV送電線ルート→Makuyuni S/S→YMCA S/S→KCMC S/S→Trade School S/S→Machame S/S→Lawati S/S) |                                                                                  | ①66kV送電線ルート環境社会配慮調査                                                                                                                  |                                           | ①Machame変電所、Lawati変電所サイト調査                                                                        | ダムスツラム(滝本、不二重)<br>キマンジャロ(玉井、阿部、今井、赤塚、高嶋) |
| 12  | 6月17日 | Thu | ①移動 [ダムスツラム 16:50 → ドバイ 23:20 by EK726]<br>②報告:JICA(事)                  |  |                                                 |    | ①報告:日本大使館<br>②移動 [ダムスツラム16:00→キマンジャロ17:20 by PW432]                                                                  |                                                                                  | ①現地再委託調査立会い及びサイト状況調査 (66kV送電線ルート)                                                                                                    |                                           | ①送配電線の離隔距離確認 (Moshi District Council)                                                             | キマンジャロ                                   |
| 13  | 6月18日 | Fri | ①移動 [ドバイ → 成田]                                                          |  |                                                 |    | ①署名済みミニツの説明 (TANESCOキマンジャロ支店)<br>②送配電線の離隔距離確認 (Moshi Municipal Council)<br>③33kV配電線ルート調査(Trade School→KCMC S/S間)     |                                                                                  | ①署名済みミニツの説明 (TANESCOキマンジャロ支店)<br>②現地再委託調査立会い及びサイト状況調査 (66kV送電線ルート)<br>③33kV配電線ルート調査(Trade School→KCMC S/S間)                          |                                           | ①署名済みミニツの説明 (TANESCOキマンジャロ支店)<br>②Trade School S/S拡張サイト調査<br>③KCMC変電所建設サイト調査<br>④KCMC変電所建設サイト調査   | キマンジャロ                                   |
| 14  | 6月19日 | Sat |                                                                         |  |                                                 |    | ①フィールドレポート作成<br>②現地調査結果概要作成<br>③補足調査                                                                                 |                                                                                  | ①フィールドレポート作成<br>②現地調査結果概要作成<br>③補足調査                                                                                                 |                                           | キマンジャロ                                                                                            |                                          |
| 15  | 6月20日 | Sun |                                                                         |  |                                                 |    | ①フィールドレポート作成<br>②現地調査結果概要作成                                                                                          |                                                                                  | ①フィールドレポート作成<br>②現地調査結果概要作成                                                                                                          |                                           | キマンジャロ                                                                                            |                                          |
| 16  | 6月21日 | Mon |                                                                         |  |                                                 |    | ①フィールドレポート作成<br>②現地調査結果概要作成<br>③補足調査                                                                                 |                                                                                  | ①フィールドレポート作成<br>②現地調査結果概要作成<br>③Kiyungi変電所、YMCA変電所サイト調査                                                                              |                                           | ①フィールドレポート作成<br>②現地調査結果概要作成<br>③現地市場調査(工事資材、機材)<br>④現地工事会社施工能力調査                                  | キマンジャロ                                   |
| 17  | 6月22日 | Tue |                                                                         |  |                                                 |    | ①フィールドレポート作成<br>②現地調査結果概要作成<br>③66kV送電線ルート詳細調査 (Kiyungi S/S 付近)<br>④Trade School S/S拡張サイト調査                          |                                                                                  | ①フィールドレポート作成<br>②現地調査結果概要作成<br>③KCMC変電所建設サイト調査                                                                                       |                                           | ①フィールドレポート作成<br>②現地調査結果概要作成<br>③増設効果(受電者インタビュー)追加調査<br>④プロジェクトの成果指標に係るベースライン調査                    | キマンジャロ                                   |
| 18  | 6月23日 | Wed |                                                                         |  |                                                 |    | ①フィールドレポート作成<br>②現地調査結果概要作成                                                                                          |                                                                                  | ①フィールドレポート作成<br>②現地調査結果概要作成                                                                                                          |                                           | キマンジャロ                                                                                            |                                          |
| 19  | 6月24日 | Thu |                                                                         |  |                                                 |    | ①フィールドレポート(案)提出、説明、協議 (TANESCOキマンジャロ支店)<br>②現地調査結果概要作成                                                               |                                                                                  | ①フィールドレポート作成<br>②現地調査結果概要作成                                                                                                          |                                           | キマンジャロ                                                                                            |                                          |
| 20  | 6月25日 | Fri |                                                                         |  |                                                 |    | ①フィールドレポート協議、承認取得 (TANESCOキマンジャロ支店)<br>②現地調査結果概要作成                                                                   |                                                                                  | ①フィールドレポート作成<br>②現地調査結果概要作成                                                                                                          |                                           | キマンジャロ                                                                                            |                                          |
| 21  | 6月26日 | Sat |                                                                         |  |                                                 |    | ①移動 [キマンジャロ10:30→ダムスツラム12:35 by PW420]<br>②現地調査結果概要作成                                                                |                                                                                  | ①移動 [キマンジャロ10:30→ダムスツラム12:35 by PW420]<br>②現地調査結果概要作成                                                                                |                                           | ダムスツラム                                                                                            |                                          |
| 22  | 6月27日 | Sun |                                                                         |  |                                                 |    | ①現地調査結果概要作成                                                                                                          |                                                                                  | ①現地調査結果概要作成                                                                                                                          |                                           | ダムスツラム                                                                                            |                                          |
| 23  | 6月28日 | Mon |                                                                         |  |                                                 |    | ①フィールドレポート協議 (TANESCO本社)<br>②現地調査結果概要作成                                                                              |                                                                                  | ①フィールドレポート協議 (TANESCO本社)<br>②現地調査結果概要作成                                                                                              |                                           | ダムスツラム                                                                                            |                                          |
| 24  | 6月29日 | Tue |                                                                         |  |                                                 |    | ①フィールドレポート協議、承認取得 (TANESCO本社)<br>②現地調査結果概要作成                                                                         |                                                                                  | ①フィールドレポート協議、承認取得 (TANESCO本社)<br>②現地調査結果概要作成                                                                                         |                                           | ダムスツラム                                                                                            |                                          |
| 25  | 6月30日 | Wed |                                                                         |  |                                                 |    | ①現地調査結果概要作成<br>②補足調査                                                                                                 |                                                                                  | ①現地調査結果概要作成<br>②補足調査                                                                                                                 |                                           | ダムスツラム                                                                                            |                                          |
| 26  | 7月1日  | Thu |                                                                         |  |                                                 |    | ①表敬及び報告 (JICA(事)、日本大使館)                                                                                              |                                                                                  | ①表敬及び報告 (JICA(事)、日本大使館)                                                                                                              |                                           | ダムスツラム                                                                                            |                                          |
| 27  | 7月2日  | Fri |                                                                         |  |                                                 |    | ①移動 [ダムスツラム 14:25 → ドーハ 20:00 by QR545]                                                                              |                                                                                  | ①移動 [ダムスツラム 14:25 → ドーハ 20:00 by QR545]                                                                                              |                                           | 機中泊                                                                                               |                                          |
| 28  | 7月3日  | Sat |                                                                         |  |                                                 |    | ①移動 [ドーハ 01:05 → 成田 19:30 by QR802]                                                                                  |                                                                                  | ①移動 [ドーハ 01:05 → 成田 19:30 by QR802]                                                                                                  |                                           |                                                                                                   |                                          |

【備考】  
JICA: Japan International Cooperation Agency  
TANESCO: タンザニア電力公社(Tanzania Electric Supply Company)  
S/S: Substation, 変電所

| No. | 月 日    | 曜日  | 調 査 内 容                                                               |                                                                                  |                                                               |                                                | 宿泊地                                       |
|-----|--------|-----|-----------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------|-------------------------------------------|
|     |        |     | 官団員                                                                   | コンサルタント団員                                                                        |                                                               |                                                |                                           |
|     |        |     | 長谷川次長(総括、現地から参团)<br>滝本主任調査役(計画管理)                                     | 不二葦                                                                              | 高嶋                                                            | 赤塚                                             |                                           |
| 1   | 11月20日 | Sat |                                                                       | ①移動 {成田 20:50 → ドーハ 05:10+1 by QR803}                                            |                                                               |                                                | 機中泊                                       |
| 2   | 11月21日 | Sun |                                                                       | ①移動 {ドーハ 7:20→ダレスサラム 13:15 by QR544}                                             |                                                               |                                                | ダレスサラム                                    |
| 3   | 11月22日 | Mon |                                                                       | ①表敬訪問及び概要書説明: JICA(事)、日本大使館、エネルギー鉱物資源省、TANESCO                                   | ①表敬訪問及び概要書説明: JICA(事)、日本大使館、TANESCO<br>②環境社会配慮に係る協議 (TANESCO) | ①表敬訪問及び概要書説明: JICA(事)、日本大使館、エネルギー鉱物資源省、TANESCO | ダレスサラム                                    |
| 4   | 11月23日 | Tue | ①移動 {成田 20:50 → ドーハ 05:10+1 by QR803}                                 | ①概要書説明 (TANESCO)<br>②補足調査                                                        | ①同左<br>②環境社会配慮調査<br>③移動 {ダレスサラム 18:00→キリマンジャロ 19:20 by PW434} |                                                | ダレスサラム(不二葦)<br>キリマンジャロ(高嶋、赤塚)<br>機中泊(官団員) |
| 5   | 11月24日 | Wed | ①移動 {ドーハ 7:20→ダレスサラム 13:15 by QR544}<br>②ミニツ協議準備<br>③タンザニア技プロ打ち合わせ    | ①概要書説明 (TANESCO)<br>②補足調査                                                        | ①概要書説明 (TANESCOキリマンジャロ支店)<br>②環境社会配慮調査<br>③サイト状況調査            | ①概要書説明 (TANESCOキリマンジャロ支店)<br>②サイト状況調査          | ダレスサラム<br>(官団員、不二葦)<br>キリマンジャロ(高嶋、赤塚)     |
| 6   | 11月25日 | Thu | ①ミニツ協議(エネルギー鉱物資源省、TANESCO)<br>②補足調査                                   |                                                                                  | ①環境社会配慮調査<br>②サイト状況調査                                         | ①サイト状況調査<br>②プロジェクトの裨益効果に係る補足調査                | ダレスサラム<br>(官団員、不二葦)<br>キリマンジャロ(高嶋、赤塚)     |
| 7   | 11月26日 | Fri | ①ミニツ協議(エネルギー鉱物資源省、TANESCO)<br>②補足調査                                   | ①ミニツ協議(エネルギー鉱物資源省、TANESCO)<br>②移動 {ダレスサラム 18:00→キリマンジャロ 19:20 by PW434}<br>③団内協議 | ①環境社会配慮調査<br>②サイト状況調査<br>③団内協議                                | ①プロジェクトの裨益効果に係る補足調査<br>②団内協議                   | ダレスサラム(官団員)<br>キリマンジャロ<br>(不二葦、高嶋、赤塚)     |
| 8   | 11月27日 | Sat | ①移動 {ダレスサラム 9:20→ サンジハル 9:50 by PW730}<br>②サンジハル無償案件フォローアップ           | ①サイト状況調査                                                                         |                                                               |                                                | サンジハル(官団員)<br>キリマンジャロ<br>(不二葦、高嶋、赤塚)      |
| 9   | 11月28日 | Sun | ①サンジハル無償案件フォローアップ<br>②移動 {サンジハル 17:00→ダレスサラム 17:30 by PW431}<br>③団内協議 | ①補足調査<br>②移動 {キリマンジャロ10:30→ダレスサラム12:35 by PW420}<br>③団内協議                        |                                                               |                                                | ダレスサラム                                    |
| 10  | 11月29日 | Mon | ①ミニツ協議・署名(エネルギー鉱物資源省、TANESCO)                                         |                                                                                  |                                                               | ①同左<br>②環境社会配慮調査                               | ダレスサラム                                    |
| 11  | 11月30日 | Tue | ①報告(JICA(事)、日本大使館)<br>②移動 {ダレスサラム 14:25 → ドーハ 20:00 by QR545}         |                                                                                  |                                                               |                                                | 機中泊                                       |
| 12  | 12月1日  | Wed | ①移動 {ドーハ 01:10 → 成田 19:05 by QR802}                                   |                                                                                  |                                                               |                                                |                                           |

[備考]:

JICA: Japan International Cooperation Agency

TANESCO: タンザニア電力公社(Tanzania Electric Supply Company)



### 資料－３ 関係者（面会者）リスト

### 3. 相手国関係者リスト

| <u>所属及び氏名</u>                                                                                    | <u>職位</u>                                                    |
|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| エネルギー鉱物資源省<br><b>Ministry of Energy and Minerals (MEM)</b>                                       |                                                              |
| Mr. Bashir J. Mrindoko                                                                           | Commissioner for Energy and Petroleum Affairs                |
| Mr. Prosper Victus                                                                               | Assistant Commissioner of Petroleum and gas                  |
| Mr. Juma Mkobya                                                                                  | Acting Assistant Commissioner of Electricity                 |
| Mr. Salum M. Inegeja                                                                             | Energy Engineer                                              |
| Mr. John F. Kitonga                                                                              | Energy Engineer                                              |
| Mr. Marwa R. Petro                                                                               | Energy Engineer                                              |
| Mr. Levina Kashushura                                                                            | Eng. Trainee                                                 |
| タンザニア電力公社<br><b>Tanzania Electric Supply Company ltd (TANESCO)</b>                               |                                                              |
| Mr. Wiliam G. Mhando                                                                             | General Manager (Marketing)                                  |
| Mr. Felchesmi J. Mramba                                                                          | Ag. General Manager (Marketing)                              |
| Ms. Sophia S. Mgonja                                                                             | Senior Manager Distribution                                  |
| Mr. Robert M. Semsella                                                                           | Manager Electrification                                      |
| Mr. Seleman Mgwira                                                                               | Principal Engineer                                           |
| Mr. Theodory F. Bayona                                                                           | Principal Engineer – Distribution Planning                   |
| Mr. Emmanuel G. Manirabona                                                                       | Senior Electrical Engineer (Projects)                        |
| Mr. Hamdun R. Mansur                                                                             | Principal Environmental Engineer                             |
| Mr. Elisa Kirimbo                                                                                | Mapping Engineer                                             |
| タンザニア電力公社 キリマンジャロ事務所<br><b>Tanzania Electric Supply Company ltd (TANESCO) Kilimanjaro Office</b> |                                                              |
| Mr. Zakayo G. Temu                                                                               | Regional Manager                                             |
| Mr. Stephan J. Mfundo                                                                            | Principal Engineer /<br>Regional Revenue Protection Engineer |
| Mr. Honest E. Moshly                                                                             | Principal Engineer                                           |
| Mr. Donasiano J. Shamba                                                                          | Construction Engineer                                        |
| Mr. Charles Mwandu                                                                               | Design and Planning Engineer                                 |
| Mr. Peter U. Masanja                                                                             | Emergency and Maintenance Engineer                           |
| Mr. Jackson J. Mndeme                                                                            | Electrical Technician                                        |
| Mr. Rajab M. Haule                                                                               | Electrical Technician                                        |

|                      |                                       |
|----------------------|---------------------------------------|
| Mr. Amir Kilimo      | Senior Technician                     |
| Mr. Oscar Muhanba    | Surveyor of Tanga Office              |
| Mr. James E. Chinula | District Manager of Hai Office        |
| Mr. Hashim M. Munisi | Electrical Engineer of Hai Office     |
| Mr. Raymond H. Tuppa | District Manager of Rombo Office      |
| Mr. Gabriel Shoo     | Accounts Supervisor of Tarakea Office |
| Mr. Rodrock Kiwea    | Foreman of Tarakea Office             |
| Mr. Festo Nhembo     | System Supervisor of Same Substation  |

#### タンザニア道路公社

#### **Tanzania National Road Agency (TANROADS - KILIMANJARO)**

|                            |                          |
|----------------------------|--------------------------|
| Eng. Japherson M. Nnko     | Head of Planning Unit    |
| Eng. Leonard M. E. Chimagu | Head of Engineering Unit |

#### 国家環境管理審議会

#### **National Environmental Management Council (NEMC – Dar es Salaam)**

|                          |                           |
|--------------------------|---------------------------|
| Mr. Kamugenyi Lutenganya | Environmental Consultancy |
|--------------------------|---------------------------|

#### **Ministry of Infrastructure Development**

|                            |                                            |
|----------------------------|--------------------------------------------|
| Ms. Fauster M. Ngowi       | Principal State Attorney (Head Legal Unit) |
| Mr. Sihaba S. Nkinga       | Director for Policy and Planning           |
| Mr. Aunyisa Boniface Meena | Senior Transport Economist                 |

#### **Ministry of Lands, Housing & Human Settlement (Dar es Salaam)**

|                         |                                                |
|-------------------------|------------------------------------------------|
| Dr. Selassie D. Mayunga | Assistant Director, Surveys & Mapping Division |
|-------------------------|------------------------------------------------|

#### **International Union for Conservation of Nature (IUCN – Dar es Salaam)**

|                        |                         |
|------------------------|-------------------------|
| Mr. Abdallah Said Shah | Head of Tanzania Office |
| Mr. Victor Kamagenge   | Program Officer         |

#### 自然資源・観光省

#### **Ministry of Natural Resources and Tourism**

|                      |                                                           |
|----------------------|-----------------------------------------------------------|
| Mr. Julius M. Mkumbo | Senior Forest Officer of Forestry and Beekeeping Division |
|----------------------|-----------------------------------------------------------|

|                                                       |                                                |
|-------------------------------------------------------|------------------------------------------------|
| Mr. Msami Mshana                                      | District Natural Resources Officer             |
| <b>Regional Commissioner Office</b>                   |                                                |
| Mr. Hassan M. Bendeyeko                               | Assistant of Regional Administrative Secretary |
| <b>Pangani Basin Water Office</b>                     |                                                |
| Mr. Phillip Patrick                                   | Assistant of Regional Administrative Secretary |
| モシ都市協議会<br><b>Moshi Municipal Council</b>             |                                                |
| Ms. Bernadette Kinabo                                 | Municipal Director                             |
| Mr. Mr. Neville D. Msaki                              | Acting Municipal Engineer                      |
| Mr. Mwasumbi A. E                                     | Town Planner                                   |
| モシ地方協議会<br><b>Moshi District Council</b>              |                                                |
| Ms. E. N. Mbarian                                     | Acting District Director                       |
| Mr. Mseo P. Hro                                       | Director of Human Resource                     |
| Eng. Joag S. LA. Luntrgnner                           | Director of Engineering                        |
| 世界銀行タンザニア事務所<br><b>The World Bank Tanzania Office</b> |                                                |
| Mr. Robert Schlotterer                                | Financial Analyst, Energy Team                 |
| 韓国輸出入銀行<br><b>Korea Eximbank</b>                      |                                                |
| Ms. Hye – Kyung Lee                                   | EDCF Tanzania Country Director                 |
| タンザニア鉄道会社<br><b>Tanzania Railways Limited</b>         |                                                |
| Mr. Surendra Singh Bisht                              | Addl Executive Director (Infrastructure)       |
| Mr. S. Musakileo                                      | Permanent Way Inspector                        |

その他(工場、学校、病院など)

**Others (Factories, Schools, Hospitals)**

|                                 |                                                     |
|---------------------------------|-----------------------------------------------------|
| Mr. Jaffari Ally                | Corporate Services Executive Manager of TPC Limited |
| Mr. David Calwell               | Senior Electrical Engineer of TPC Limited           |
| Mr. Nizam Codabux               | AFEO of TPC Limited                                 |
| Mr. Wilfred N. Swai             | Head of Engineering of KCMC Hospital                |
| Ms. Juliana R. Muro             | Senior Admin Officer                                |
| Mr. Nsairo Nkiwi                | Admin Officer of Wild Life College                  |
| Mr. Peris S. Ayo                | Head of PMU of Wild Life College                    |
| Ms. Ngina Maitru                | Housekeeper of Wild Life College                    |
| Mr. Mariin K. Magogwa           | Health Secretary of Kibongoto National TB Hospital  |
| Mr. Edward Kavishi              | Electrician of Kibongoto National TB Hospital       |
| Mr. Mandonde H. S.              | Electrical Engineer of Dekker Bruins                |
| Mr. Euzebio Mveyange            | Electrical Engineer of Dekker Bruins                |
| Mr. Onesmo Silaa                | Manager of Kiliwood Products LTD                    |
| Mr. Samuel                      | Operator of Kiliwood Products LTD                   |
| Ms. Eupheia Masita              | Manager of Woman's Saw Mill Company                 |
| Ms. Cesilia Mrema               | Accountant of Woman's Saw Mill Company              |
| Mr. Joseph Silialla             | Electrical Foreman of Kilimanjaro Plantation LTD.   |
| Mr. A. H. B. M. Nijenhuis M. Sc | Managing Director of Vasso Agroventures Ltd.        |

**在タンザニア日本国大使館**

**Embassy of Japan in Tanzania**

|        |        |
|--------|--------|
| 中川 坦 氏 | 特命全権大使 |
| 関 行規 氏 | 二等書記官  |

**JICA タンザニア事務所**

**JICA Tanzania Office**

|          |                      |
|----------|----------------------|
| 勝田 幸秀 氏  | 所長                   |
| 長谷川 敏久 氏 | 次長                   |
| 丸尾 信 氏   | 所員                   |
| 山本 美奈子 氏 | 所員                   |
| 田内 智子 氏  | 企画調査員(インフラ案件形成促進・監理) |

**JICA 技術協力プロジェクト専門家(効率的な送配電システムのための能力開発プロジェクト)**  
**The Project for Capacity Development of Efficient Distribution and Transmission Systems**

長坂 二郎 氏

チーフアドバイザー

小田桐久夫 氏

研修機能強化／業務調整

## 資料－４ 討議議事録（M/D）

4. 討議議事録 (M/D)  
(第一次現地調査)

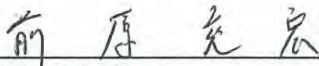
**Minutes of Discussions**  
**on 1<sup>st</sup> Preparatory Survey on the Project for**  
**Rehabilitation of Substation and Transmission Line in Kilimanjaro Region**  
**in the United Republic of Tanzania**

In response to the request from the Government of the United Republic of Tanzania (hereinafter referred to as “Tanzania”), the Japan International Cooperation Agency (hereinafter referred to as “JICA”), in consultation with the Government of Japan, decided to conduct a Preparatory Survey (hereinafter referred to as “the Survey”) on the Project for Rehabilitation of Substation and Transmission Line in Kilimanjaro Region (hereinafter referred to as “the Project”).

JICA sent to Tanzania the 1<sup>st</sup> Preparatory Survey Team (hereinafter referred to as “the Team”), headed by Mr. Mitsuhiro MAEHARA, Director for Electric Power Division, Industrial Development Department for International Cooperation, JICA. The Team is scheduled to stay in the country from April 14 to May 5, 2010.

The Team held discussions with the officials of Tanzanian authorities concerned (hereinafter referred to as “Tanzania side”). In the course of the discussions, both sides have confirmed the main items described in the sheets attached hereto.

Dar es Salaam, April 23, 2010



Mitsuhiro Maehara

Leader

1<sup>st</sup> Preparatory Survey Team

Japan International Cooperation Agency



Bashir J. Mrindoko

Commissioner for Energy and Petroleum Affairs

Ministry of Energy and Minerals

The United Republic of Tanzania

Witnessed by :



Willian G. Mhando

Acting Managing Director

Tanzania Electric Supply Company Ltd.

The United Republic of Tanzania



Ngosha Said Magonya

Commissioner for External Finance

Ministry of Finance and Economic Affairs

The United Republic of Tanzania



## ATTACHMENT

### 1. Objective of the Project

The objective of the Project is to rehabilitate the substations and transmission/distribution network in Kilimanjaro Region.

### 2. Project Site

The Project sites are located in Kilimanjaro Region as shown in Annex-1.

### 3. Responsible and Implementing Organization

- (1) The responsible ministry is Ministry of Energy and Minerals (MEM).
- (2) The implementing Organization is Tanzania Electric Supply Company Ltd (TANESCO).
- (3) The Organization Structure of MEM and TANESCO are shown in Annex-2 and Annex-3.

### 4. Items Requested by the Tanzania side

The Tanzania side requested to revise the component of Japan's Grant Aid Application which was submitted in July, 2008, and the Summary of the requests are described below. Also detailed contents of each request are described in Annex-4.

- (1) Construction of 33/11kV substations (KCMC, Gomberi)
- (2) Upgrading of existing 33/11kV substations (YMCA, Lawati, Machame)
- (3) Construction of 66/33kV substation (Makuyuni)
- (4) Installation of 66kV transmission line from Kiyungi to Makuyuni
- (5) Installation of 33kV transmission lines from Trade School to Gomberi
- (6) Installation of 33kV transmission lines from Makuyuni to existing lines
- (7) Installation of switching bay at Mkuu Rombo
- (8) Installation of 132/66kV transformer at Kiyungi substation
- (9) Installation of 132kV incoming/outgoing bays at Same substation

JICA will assess the appropriateness of the request for Japan's Grant Aid.

### 5. Japan's Grant Aid Scheme

- (1) The Tanzania side has understood Japan's Grant Aid Scheme explained by the Team as described in Annex-5.
- (2) The Tanzania side will take the necessary measures, as described in Annex-6, for smooth implementation of the Project as prerequisites for the Japan's Grant Aid to be implemented.

### 6. Schedule of the 1<sup>st</sup> Preparatory Survey

The Team will continue the Survey in Tanzania until May 5, 2010. Based on the results of the Survey, JICA will send the 2<sup>nd</sup> Preparatory Survey Team.

### 7. Other Relevant Issues

- (1) Status of the 1<sup>st</sup> Preparatory Survey

The Team explained that the purpose of the Survey is to collect necessary information and data

for evaluating the relevance, appropriateness and urgency of the Project, and identify the issues to be cleared for implementation of the Project.

(2) Coordination among relevant donors and agencies

The Team requested the Tanzania side to ensure coordination among relevant donors and agencies for smooth implementation of the Project.

(3) Environmental and Social Considerations

- a) The Team requested the Tanzania side to ensure access to the site and undertake expropriation if necessary in order to secure the project site.
- b) The Team requested the Tanzania side to conduct the required environmental works, and obtain approval on environmental clearance for implementation of the Project
- c) The Tanzania side agreed to comply with the JICA Guidelines for Environmental and Social Considerations (hereinafter referred to as "JICA Guidelines") as well as Tanzanian laws and regulations, and requested to prepare Environmental Checklist and Monitoring Form which are designated by JICA Guidelines for an outline design.
- d) The Tanzania side agreed to make necessary arrangements with governmental organizations concerned in order to secure funding for and execution of the above environmental matters in a schedule as required for smooth execution of the Project.

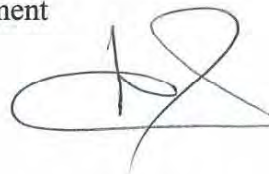
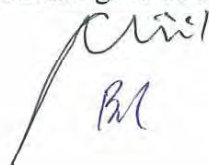
(4) Counterpart Personnel

The Team requested the Tanzania side that necessary number of counterpart personnel shall be assigned to the Team and necessary arrangements with related organizations be made during the Survey in Tanzania.

The Team requested the Tanzania side that the answers to the questionnaire which the Team already submitted to the Tanzania side shall be given to the Team by April 30, 2010.

(End)

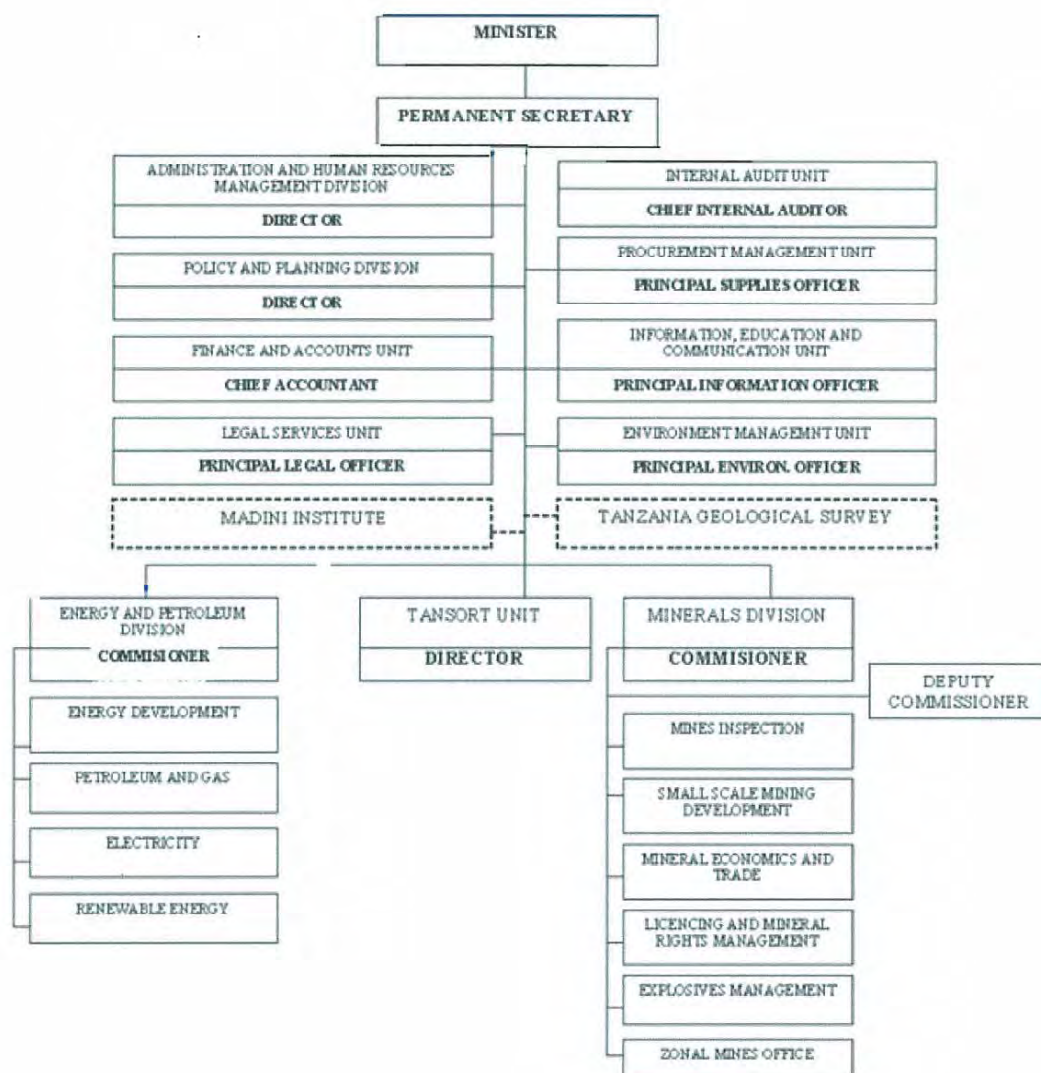
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|---------|------------------------------------------------------------------------|
| Annex-1 | Project site                                                           |
| Annex-2 | Organization Structure of Ministry of Energy and Minerals              |
| Annex-3 | Organization Structure of TANESCO (Head office and Kilimanjaro office) |
| Annex-4 | Detailed contents of each request                                      |
| Annex-5 | Japan's Grant Aid Scheme                                               |
| Annex-6 | Major Undertakings to be taken by Each Government                      |



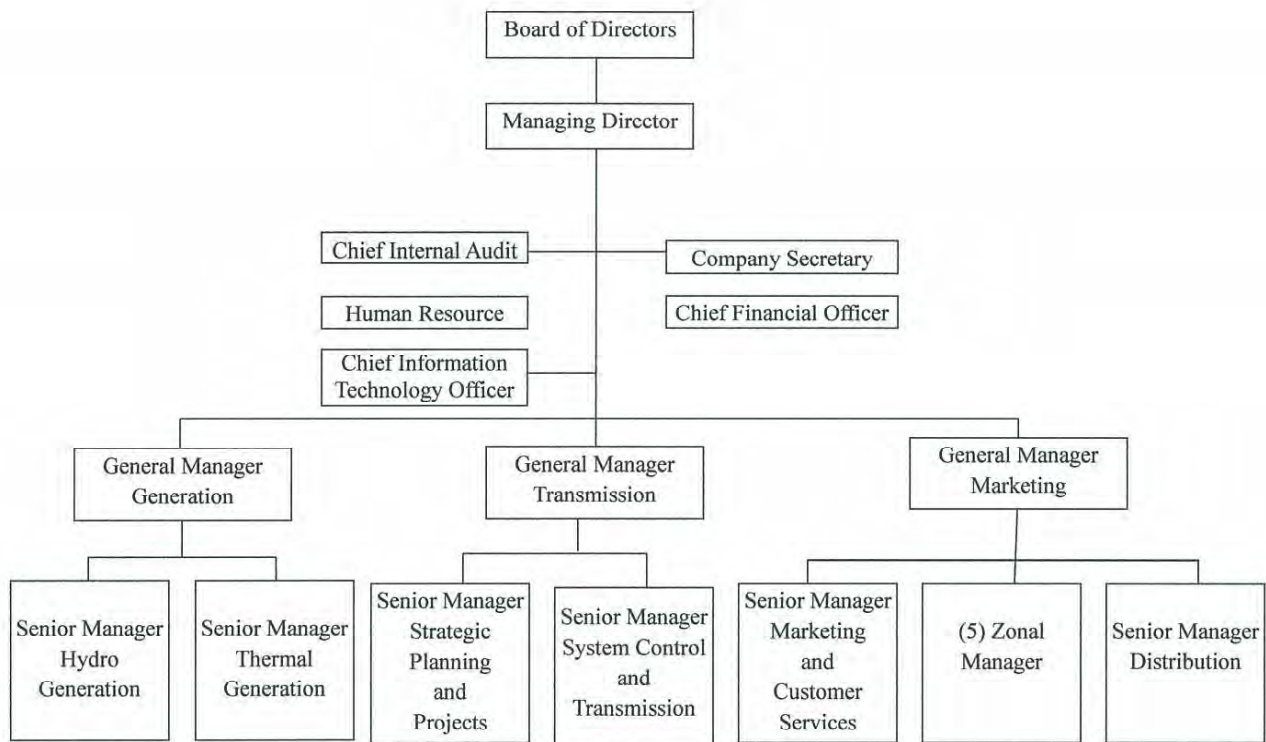




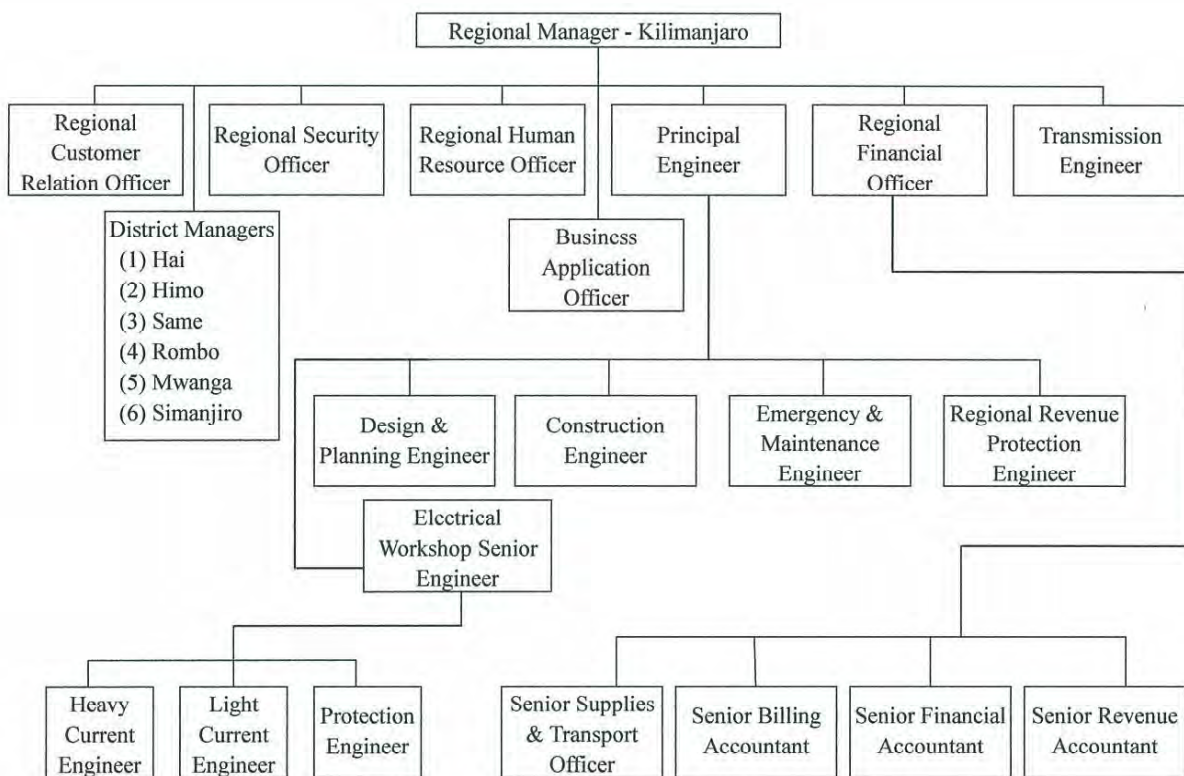




ORGANIZATION STRUCTURE OF MINISTRY OF ENERGY AND MINERALS



ORGANIZATION STRUCTURE OF TANESCO HEAD OFFICE



ORGANIZATION STRUCTURE OF TANESCO KILIMANJARO OFFICE

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*[Signature]*

*[Signature]*

### Items Requested by Tanzanian Side

#### A. 33/11kV, 15MVA Transformer Substation at YMCA

- a) 33kV Incoming switchgear panel with VCB (1 No.)
- b) 33/11kV, 15MVA Transformer with On-load Tap-changer (1 No.)
- c) 11kV switchgear panel (6 Nos.)
  - Transformer secondary (1 No.)
  - Line feeder (3 Nos.)
  - Station supply transformer (1 No.)
  - LV supply and control (1 No.)
- d) 33kV Cable and end treatment material (1 Lot)
- e) 11kV Cable and end treatment material (1 Lot)
- f) Miscellaneous (1 Lot)
- g) Civil and Installation work (1 Lot)

#### B. 33/11kV, 10MVA Transformer Substation at Lawati

- a) 33kV Incoming switchgear panel with VCB (1 No.)
- b) 33/11kV, 10MVA Transformer with On-load Tap-changer (1 No.)
- c) 11kV switchgear panel (6 Nos.)
  - Transformer secondary (1 No.)
  - Line feeder (3 Nos.)
  - Station supply transformer (1 No.)
  - LV supply and control (1 No.)
- d) 33kV Cable and end treatment material (1 Lot)
- e) 11kV Cable and end treatment material (1 Lot)
- f) Miscellaneous (1 Lot)
- g) Civil and Installation work (1 Lot)

#### C. 33/11kV, 10MVA Transformer Substation at Machame

- a) 33kV Incoming switchgear panel with VCB (1 No.)
- b) 33/11kV, 10MVA Transformer with On-load Tap-changer (1 No.)
- c) 11kV switchgear panel (6 Nos.)
  - Transformer secondary (1 No.)
  - Line feeder (3 Nos.)
  - Station supply transformer (1 No.)
  - LV supply and control (1 No.)
- d) 33kV Cable and end treatment material (1 Lot)
- e) 11kV Cable and end treatment material (1 Lot)
- f) Miscellaneous (1 Lot)
- g) Civil and Installation work (1 Lot)

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**D. 33/11kV, 10MVA Transformer Substation at KCMC**

- a) 33kV incoming switchgear panel with VCB (3 Nos.)
- b) 33/11kV, 10MVA Transformer with On-load Tap-changer (1 No.)
- c) 11kV switchgear panel (6 Nos.)
  - Transformer secondary (1 No.)
  - Line feeder (3 Nos.)
  - Station supply transformer (1 No.)
  - LV supply and control (1 No.)
- d) 33kV Cable and end treatment material (1 Lot)
- e) 11kV Cable and end treatment material (1 Lot)
- f) Miscellaneous (1 Lot)
- g) Civil and Installation work (1 Lot)

**E. 33kV Outgoing bay at Trade School substation**

- a) 33kV Outgoing switchgear panel with VCB (1 No.)
- b) 33kV Cable and end treatment material (1 Lot)
- c) Civil and Installation work (1 Lot)

**F. Installation of 33kV transmission lines from Trade School to Gomberi**

- a) 33kV transmission line from Trade School to KCMC (3.7km)
- b) 33kV transmission line from KCMC to Gomberi (4.9km)

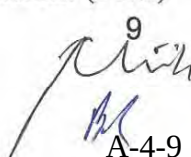
**G. 33/11kV, 10MVA Transformer Substation at Gomberi**

- a) 33kV Incoming switchgear panel with VCB (1 No.)
- b) 33/11kV, 10MVA Transformer with On-load Tap-changer (1 No.)
- c) 11kV switchgear panel (6 Nos.)
  - Transformer secondary (1 No.)
  - Line feeder (3 Nos.)
  - Station supply transformer (1 No.)
  - LV supply and control (1 No.)
- d) 33kV Cable and end treatment material (1Lot)
- e) 11kV Cable and end treatment material (1Lot)
- f) Miscellaneous (1Lot)
- g) Civil and Installation work (1Lot)

**H. 66/33kV, 20MVA Transformer Substation at Makuyuni**

- a) 66kV Incoming line bay with GCB, etc. (1 Lot)
- b) 66kV Transformer bay (2 Lots)
- c) 66/33kV, 10MVA Transformer with On-load Tap-changer (2 Nos.)
- d) 33kV switchgear panel (7 Nos.)
  - Transformer secondary (2 Nos.)
  - Line feeder (4 Nos.)
  - Station supply transformer (1 No.)



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- e) 66kV Control and protection panel (3 Nos.)
- f) 33kV Control and protection panel (6 Nos.)
- g) DC Supply Equipment (1 Set)
- h) 66kV Conductor (1 Lot)
- i) 33kV Cable and end treatment material (1 Lot)
- j) Miscellaneous (1 Lot)
- k) Civil, Building and Installation work (1 Lot)

**I. 66kV Outgoing bay at Kiyungi**

- a) 66kV transmission line with GCB (1 Lot)
- b) 66kV Control panel (1 No.)
- c) Civil and Installation work (Expansion, 1 Lot)

**J. Installation of New 66kV transmission line from Kiyungi to Makuyuni (34km)**

**K. 132kV Incoming/Outgoing bays at Same**

- a) 132kV line bay with GCB, DS, etc. (2 Lots)
- b) 132kV Transformer bay (1 Lot)

**L. Installation of 33kV transmission lines from Makuyuni to the existing lines (49km)**

- a) 33kV transmission line from Makuyuni to Rombo-Mkuu
- b) 33kV transmission line from Makuyuni to Kilema
- c) 33kV transmission line from Makuyuni to Marangu
- d) 33kV transmission line from Makuyuni to Himo town

**M. Installation of switching bay at Mkuu Rombo**

- a) 33kV Incoming switchgear (1 No.)
- b) 33kV Outgoing switchgear (2 Nos.)
- c) 33kV Cable and end treatment material (1 Lot)
- d) Miscellaneous (1 Lot)
- e) Civil and Installation work (1 Lot)

**N. Installation of 132/66kV, 20MVA transformer at Kiyungi substation**

- a) 132/66kV, 20MVA transformer with On-load tap changer (1 No.)
- b) 132kV switch gear (1 Lot)
- c) 66kV switch gear (1 Lot)
- d) 132kV Control and Protection panel (1 No.)
- e) 66kV Control and Protection panel (1 No.)
- f) Miscellaneous (1 Lot)
- g) Civil and Installation work (1 Lot)

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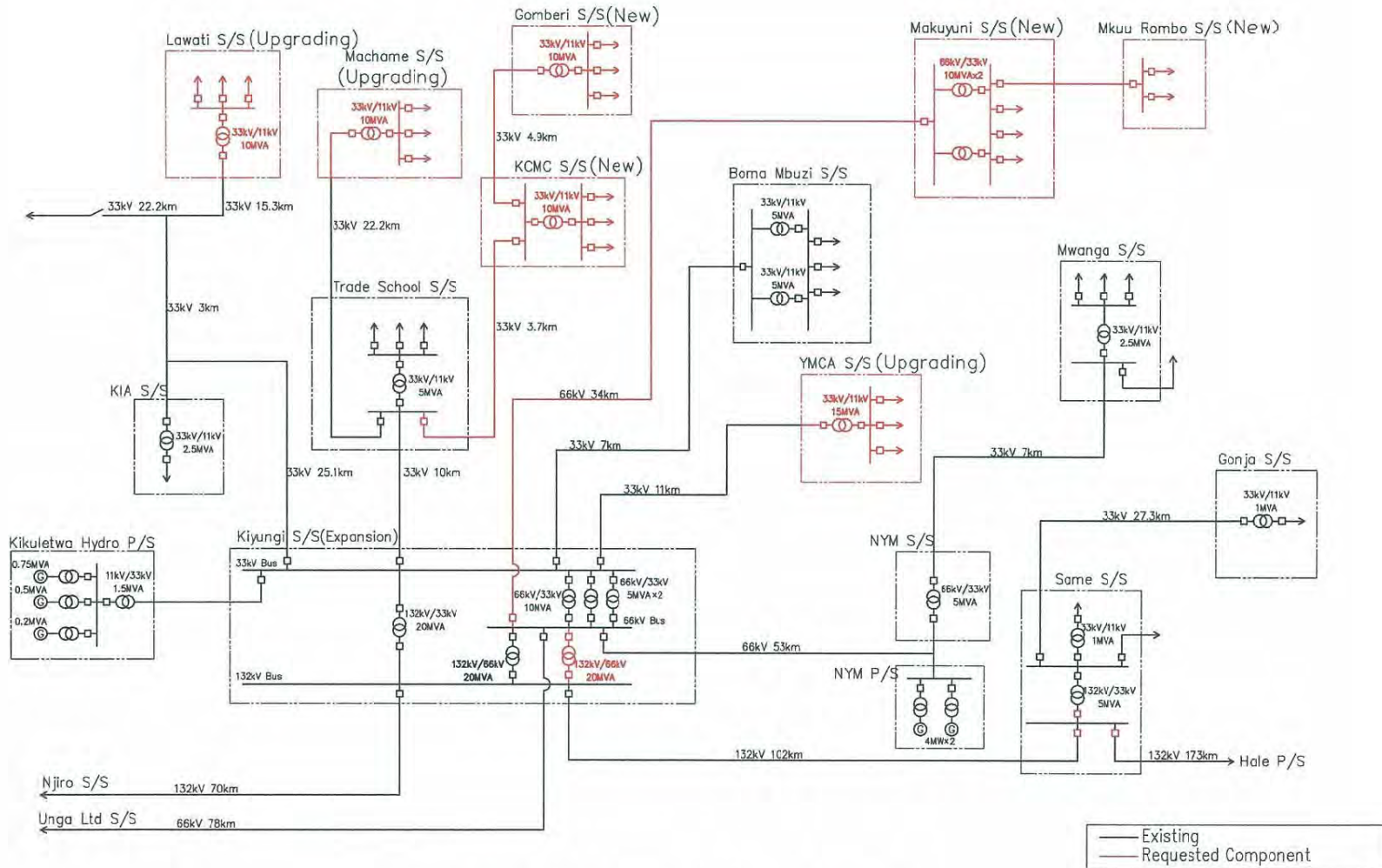
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Transmission and Distribution System in Kilimanjaro



## JAPAN'S GRANT AID

The Government of Japan (hereinafter referred to as “the GOJ”) is implementing the organizational reforms to improve the quality of ODA operations, and as a part of this realignment, a new JICA law was entered into effect on October 1, 2008. Based on the law and the decision of the Government of Japan (hereinafter referred to as “the GOJ”), JICA has become the executing agency of the Grant Aid for General Projects, for Fisheries and for Cultural Cooperation, etc.

The Grant Aid is non-reimbursable fund to a recipient country to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with the relevant laws and regulations of Japan. The Grant Aid is not supplied through the donation of materials as such.

### 1. Grant Aid Procedures

The Japanese Grant Aid is conducted as follows-

- Preparatory Survey (hereinafter referred to as “the Survey”)
  - The Survey conducted by JICA
- Appraisal & Approval
  - Appraisal by The GOJ and JICA, and Approval by the Japanese Cabinet
- Determination of Implementation
  - The Notes exchanged between the GOJ and a recipient country
- Grant Agreement (hereinafter referred to as “the G/A”)
  - Agreement concluded between JICA and a recipient country
- Implementation
  - Implementation of the Project on the basis of the G/A

### 2. Preparatory Survey

#### (1) Contents of the Survey

The aim of the Survey is to provide a basic document necessary for the appraisal of the Project by JICA and the GOJ. The contents of the Survey are as follows:

- Confirmation of the background, objectives, and benefits of the Project and also institutional capacity of agencies concerned of the recipient country necessary for the implementation of the Project.
- Evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from a technical, financial, social and economic point of view.
- Confirmation of items agreed on by both parties concerning the basic concept of the Project.
- Preparation of a basic design of the Project.
- Estimation of costs of the Project.

The contents of the original request by the recipient country are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the Project is confirmed considering the guidelines of the Japan's Grant Aid scheme.

JICA requests the Government of the recipient country to take whatever measures are necessary to ensure its self-reliance in the implementation of the Project. Such measures must be guaranteed

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even though they may fall outside of the jurisdiction of the organization in the recipient country actually implementing the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

## (2) Selection of Consultants

For smooth implementation of the Survey, JICA uses (a) registered consulting firm(s). JICA selects (a) firm(s) based on proposals submitted by interested firms.

## (3) Result of the Survey

The Report on the Survey is reviewed by JICA, and after the appropriateness of the Project is confirmed, JICA recommends the GOJ to appraise the implementation of the Project.

# 3. Japan's Grant Aid Scheme

## (1) The E/N and the G/A

After the Project is approved by the Cabinet of Japan, the Exchange of Notes(hereinafter referred to as "the E/N") will be signed between the GOJ and the Government of the recipient country to make a plea for assistance, which is followed by the conclusion of the G/A between JICA and the Government of the recipient country to define the necessary articles to implement the Project, such as payment conditions, responsibilities of the Government of the recipient country, and procurement conditions.

## (2) Selection of Consultants

The consultant firm(s) used for the Survey will be recommended by JICA to the recipient country to also work on the Project's implementation after the E/N and the G/A, in order to maintain technical consistency.

## (3) Eligible source country

Under the Japanese Grant Aid, in principle, Japanese products and services including transport or those of the recipient country are to be purchased. When JICA and the Government of the recipient country or its designated authority deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country. However, the prime contractors, namely, constructing and procurement firms, and the prime consulting firm are limited to "Japanese nationals".

## (4) Necessity of "Verification"

The Government of the recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by JICA. This "Verification" is deemed necessary to secure accountability to Japanese taxpayers.

## (5) Major undertakings to be taken by the Government of the Recipient Country

In the implementation of the Grant Aid Project, the recipient country is required to undertake such necessary measures as Annex-7.

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(6) "Proper Use"

The Government of the recipient country is required to maintain and use the facilities constructed and the equipment purchased under the Grant Aid properly and effectively and to assign staff necessary for this operation and maintenance as well as to bear all the expenses other than those covered by the Grant Aid.

(7) "Export and Re-export"

The products purchased under the Grant Aid should not be exported or re-exported from the recipient country.

(8) Banking Arrangements (B/A)

- a) The Government of the recipient country or its designated authority should open an account in the name of the Government of the recipient country in a bank in Japan (hereinafter referred to as "the Bank"). JICA will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the Verified Contracts.
- b) The payments will be made when payment requests are presented by the Bank to JICA under an Authorization to Pay (A/P) issued by the Government of the recipient country or its designated authority.

(9) Authorization to Pay (A/P)

The Government of the recipient country should bear an advising commission of an Authorization to Pay and payment commissions to the Bank.

(10) Social and Environmental Considerations

A recipient country must ensure the social and environmental considerations for the Project and must follow the environmental regulation of the recipient country and JICA socio-environmental guideline.

(End)

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## Major Undertakings to be taken by Each Government

| No. | Items                                                                                                                                                                                                                                                        | To be covered by Grant Aid | To be covered by Recipient Side |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
| 1   | to secure [a lot] / [lots] of land necessary for the implementation of the Project and to clear the [site] / [sites];                                                                                                                                        |                            | ●                               |
| 2   | To construct the following facilities                                                                                                                                                                                                                        |                            |                                 |
|     | 1) The building                                                                                                                                                                                                                                              | ●                          |                                 |
|     | 2) The gates and fences in and around the site                                                                                                                                                                                                               |                            | ●                               |
|     | 3) The parking lot                                                                                                                                                                                                                                           | ●                          |                                 |
|     | 4) The road within the site                                                                                                                                                                                                                                  | ●                          |                                 |
|     | 5) The road outside the site (including Access road)                                                                                                                                                                                                         |                            | ●                               |
| 3   | To provide facilities for distribution of electricity, water supply and drainage and other incidental facilities necessary for the implementation of the Project outside the [site] / [sites]                                                                |                            |                                 |
|     | 1) Electricity                                                                                                                                                                                                                                               |                            |                                 |
|     | a. The distributing power line to the site                                                                                                                                                                                                                   |                            | ●                               |
|     | b. The drop wiring and internal wiring within the site                                                                                                                                                                                                       | ●                          |                                 |
|     | c. The main circuit breaker and transformer                                                                                                                                                                                                                  | ●                          |                                 |
|     | 2) Water Supply                                                                                                                                                                                                                                              |                            |                                 |
|     | a. The city water distribution main to the site                                                                                                                                                                                                              |                            | ●                               |
|     | b. The supply system within the site (receiving and elevated tanks)                                                                                                                                                                                          | ●                          |                                 |
|     | 3) Drainage                                                                                                                                                                                                                                                  |                            |                                 |
|     | a. The city drainage main (for storm sewer and others to the site)                                                                                                                                                                                           |                            | ●                               |
|     | b. The drainage system (for toilet sewer, common waste, storm drainage and others) within the site                                                                                                                                                           | ●                          |                                 |
|     | 4) Gas Supply                                                                                                                                                                                                                                                |                            |                                 |
|     | a. The city gas main to the site                                                                                                                                                                                                                             |                            | ●                               |
|     | b. The gas supply system within the site                                                                                                                                                                                                                     | ●                          |                                 |
|     | 5) Telephone System                                                                                                                                                                                                                                          |                            |                                 |
|     | a. The telephone trunk line to the main distribution frame/panel (MDF) of the building                                                                                                                                                                       |                            | ●                               |
|     | b. The MDF and the extension after the frame/panel                                                                                                                                                                                                           | ●                          |                                 |
|     | 6) Furniture and Equipment                                                                                                                                                                                                                                   |                            |                                 |
|     | a. General furniture                                                                                                                                                                                                                                         |                            | ●                               |
|     | b. Project equipment                                                                                                                                                                                                                                         | ●                          |                                 |
| 4   | To ensure prompt unloading and customs clearance of the products at ports of disembarkation in the recipient country and to assist internal transportation of the products                                                                                   |                            |                                 |
|     | 1) Marine (Air) transportation of the Products from Japan to the recipient country                                                                                                                                                                           | ●                          |                                 |
|     | 2) Tax exemption and custom clearance of the Products at the port of disembarkation                                                                                                                                                                          |                            | ●                               |
|     | 3) Internal transportation from the port of disembarkation to the project site                                                                                                                                                                               | ●                          |                                 |
| 5   | To ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the purchase of the products and the services [ be exempted] / [be borne by the Authority without using the Grant]       |                            | ●                               |
| 6   | To accord Japanese nationals whose services may be required in connection with the supply of the products and the services such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work |                            | ●                               |
| 7   | To ensure that [the Facilities and the products] / [the Facilities] / [the products] be maintained and used properly and effectively for the implementation of the Project                                                                                   |                            | ●                               |
| 8   | To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project                                                                                                                                             |                            | ●                               |
| 9   | To bear the following commissions paid to the Japanese bank for banking services based upon the B/A                                                                                                                                                          |                            |                                 |
|     | 1) Advising commission of A/P                                                                                                                                                                                                                                |                            | ●                               |
|     | 2) Payment commission                                                                                                                                                                                                                                        |                            | ●                               |
| 10  | To give due environmental and social consideration in the implementation of the Project.                                                                                                                                                                     |                            | ●                               |