Annexe 2

Résultat d'Analyse de la Qualité d'Eau dans le Forage

1. Qualité de l'eau brute

Paramètres	Unité	Valeur
pH		7.1
Conductivité	NTU	10.2
Résidus à l'évaporation	mg/l	14,350
Calcium	mg/l	688
Magnésium	mg/l	370
Sodium	mg/l	3,710
Ammoniac	mg/l	3.2
Ions sulfate	mg/l	1,850
Ions chlorure	mg/l	6,522
Ions nitrate	mg/l	3.5

Paramètres	Unité	Valeur
Fluor	mg/l	1.9
Fer	mg/l	0.8
Manganèse	mg/l	0.04
Cuivre	mg/l	0.1
Zinc	mg/l	<0.05
Chrome	mg/l	<0.0015
Argent	mg/l	0.04
Arsenic	µg/l	<3.5
Mercure	µg/l	<0.06
Plomb	mg/l	0.026

(Remarques : Analysé par la SONEDE, date de prélèvement des spécimens : 6 février 2010)

2. Critères de qualité de l'eau en Tunisie

Paramètres	Unité	Qualité de l'eau traîtée Critères de qualité de l'eau en Tunisie	Qualité de l'eau recherchée par épuration
pH		6.5-8.5	Comme à gauche
Conductivité	NTU	5	Comme à gauche
Résidus à l'évaporation	mg/ℓ	2,500	300
Calcium	mg/ℓ	300	Comme à gauche
Magnésium	mg/ℓ	150	Comme à gauche
Ions sulfate	mg/ℓ	600	Comme à gauche
Ions chlorure	mg/ℓ	600	Comme à gauche
Ions nitrate	mg/ℓ	45	Comme à gauche
Fluor	mg/ℓ	1.7	Comme à gauche
Manganèse	mg/ℓ	0.5	Comme à gauche
Cuivre	mg/ℓ	1	Comme à gauche
Zinc	mg/ℓ	5	Comme à gauche
Argent	mg/ℓ	0.02	Comme à gauche
Arsenic	µg/ℓ	50	Comme à gauche
Mercure	µg/ℓ	1	Comme à gauche
Plomb	mg/ℓ	0.05	Comme à gauche

3.

Annexe 3

Liste des éléments qui seront installés pour le Projet

Composants	Capacité	Charge du Don Japonais	Charge du Gouvernement Tunisien
Station de dessalement avec membrane osmose inverse et le Système photovoltaïque	* Environ 1.800m^3/jour	X	
Réservoir d'eau brute	500 m^3 : capacité de 4 heures de volume de flux	X	
Réservoir d'eau filtrée	150 m^3: capacité d'une heure de volume de flux+volume d'eau de lavage inverse des filtres	X	
Réservoir d'eau douce	170 m^3 : capacité de 2 heures de volume de flux	X	
Réservoir de drainage pour lavage inverse des filtres	50 m^3 : supérieur au volume d'un lavage inverse des filtres	X	
Installation de la pompe immergée avec ses accessoires	Capacité de la pompe : supérieur à 37l/s Hauteur de relevage : supérieur à 170m		X
Canalisation de transfert de l'usine de dessalement jusqu'au réservoir de distribution existant	Environ 6km D=315mm		X
Etang d'évaporation et canalisation de drainage	11.9ha 0.5km D=150mm	X	

*1,791m3/jour d'après le calcul

3.

16

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Annexe 4

Estimation du coût du Projet (Confidentiel)

1. Coût supporté par la partie japonaise Approximativement JPY 999,9million

Elément		Montant (Million(s) de Yens Japonais)	
Unise de dessalement	Travaux de la Station, Système photovoltaïque	571,2	919,2
	Travaux de Génie Civil des reservoirs et des bâtiments	89,1	
Travaux de Génie Civil (Réservoirs, conduites, scellement et fondations de la station de dessalement, étang d'évaporation)		258,9	
Frais de l'Agent d'Approvisionnement			27,5
Frais des services d'ingénieur conseil			53,2
Total			999,9

2. Coût supporté par la partie tunisienne Approximativement TND 2 396 milliers

Elément	Montant (Millier(s) de Dinars Tunisiens)
Acquisition des terrains pour la station de dessalement et l'étang d'évaporation	257
Clôture et porte pour le site de la station et de l'étang d'évaporation	329
Conduites de transmissions	1 460
Installation de la pompe pour le forage	140
Fourniture d'électricité	196
Frais de commissions bancaires	14
Total	2 339

・ Les coûts d'exploitation et de maintenance pour la partie tunisienne sont les suivants :

Les équipements à installer pour le Projet nécessitent une exploitation et une maintenance convenable et de pièces de rechange devront toujours être à disposition. De plus, dans les cas où des situations anormales ou des accidents se produisent, il sera nécessaire d'envoyer des ingénieurs et par conséquent d'assurer des dépenses de personnel. Pour ces raisons, la partie Tunisienne devra conserver un budget pour les dépenses d'exploitation et de maintenance suivantes (annuellement), afin d'assurer qu'aucun problème ne survienne durant l'exploitation et la maintenance des équipements, bien que la liste et les coûts de ceux-ci restent provisoires.

Eléments	Calcul du coût	Remarques
Electricité: - Pompe pour forage - Pompe pour eau brute - Pompe pour prétraitement - Pompe à haute pression - Pompe pour eau traitée	13 440*0,117+13 440*0,5/30* 365 jours/an =655 715 TND/an	Electricité nécessaire : 560 kWh*24 heures/jour = 13 440 kWh/jour Coût de l'électricité: Par unité : 0,5 TND/kW/m Coût additionnel : 0,117 TND/kWh
Principaux produits chimiques: - NaClO(2g/m^3) - NaHSO3(4g/m^3) - Anti-scala(4g/m^3)	280 TND/jour*365/an =102 200 TND/an	Calculé sur la base de la quantité consommée par m^3 et sur les prix au Japon

- NaOH(10g/m^3)		
Pièces de rechange : - Modules OI 108 pièces - Pièces de rechange pour conduites	140*1 300 TND/pièce/10 ans + 10 000 TND/an (pompe) = 28 200 TND/an	En supposant que le nombre de modules OI soit de 108 et que leur durée de vie est de 4 ans, 162 pièces re rechange seront nécessaires pour 10 ans. Parmi elles, 20% (soit 22 pièces) seront fournies dans le cadre du Projet.
Ingénieurs et techniciens : Ingénieurs en chef : Techniciens Autre : Personnel temporaire :	5 2*1 500 TND*12 mois = 36 000 TND/an 2*1 000 TND*12 mois = 24 000 TND/an 1*700 TND*12 mois = 8 400TND/an 1 500*6m=9 000 TND/an Total 77,400 TND/y	Gérant de la station (Chef) : 1 personne Ingénieur E&M : 1 personne Techniciens pour E&M des pompes et électricité : 1 personne pour chaque Autre : 1 personne
Frais d'imprévus	10% du montant du sous-total	Sous-total: 863 515 TND/an
Total:	949 866 TND/an	

3. Conditions de l'estimation des coûts

1) Date de l'estimation : Mars 2010

2) Taux de change : 1 US$ = 91,36 JPY
1 TND = 69,53 JPY

3) Durée d'approvisionnement : 17 mois

4) Autres : L'estimation ci-dessus a été réalisée conformément aux règles et directives correspondantes du Don du Japon.

Environmental Checklist: Annex-5 (1)
Document Provisoire

Category	Environmental Item	Main Check Items	Confirmation of Environmental Considerations
1 Permits and Explanation	(1) EIA and Environmental Permits	① Have EIA reports been officially completed? ② Have EIA reports been approved by authorities of the host country's government? ③ Have EIA reports been unconditionally approved? If conditions are imposed on the approval of EIA reports, are the conditions satisfied? ④ In addition to the above approvals, have other required environmental permits been obtained from the appropriate regulatory authorities of the host country's government?	EIA procedures are being carried out by the local consultant who was appointed by SONEDE from April, 2010. EIA will be completed in the end of July, 2010. EIA reports will be submitted to the competent authority (ANPE) immediately after completion and it will be approved by the end of Oct. 2010.
	(2) Explanation to the Public	① Are contents of the project and the potential impacts adequately explained to the public based on appropriate procedures, including information disclosure? Is understanding obtained from the public? ② Are proper responses made to comments from the public and regulatory authorities?	1) Explanation to the public will be realized through web site of ANPE. 2) SONEDE will respond to comments.
2 Mitigation Measures	(1) Air Quality	① Is there a possibility that chlorine from chlorine storage facilities and chlorine injection facilities will cause air pollution? Do chlorine concentrations within the working environments comply with the country's occupational health and safety standards?	Leakage of chlorine might occur only in accidental case. Chlorine for disinfection will be strictly controlled under the relevant state regulations in conformity with health and safety standards. ANPE is managing air quality matters under the reguration stipulated by INORPI.
	(2) Water Quality	① Do pollutants, such as SS, BOD, COD contained in effluents discharged by the facility operations comply with the country's effluent standards?	Brine and sludge will be dried in the evaporation pit and no pollutant will be discharged.
	(3) Wastes	① Are wastes, such as sludge generated by the facility operations properly treated and disposed of in accordance with the country's standards?	Brine and sludge will be dried and land filled in the evaporation pit. The emission of pollutant from the pit will not be expected. Other wastes generated by the operation of the plant will be properly treated by the official organization. Other wastes should be gathered by the public company of waste treatment, then treated with proper measures at the designated treatment site.
	(4) Noise and Vibration	① Do noise and vibrations generated from the facilities, such as pumping stations comply with the country's standards?	Certain level of noise and vibration might be generated. It shall be controlled in accordance with the standards. ANPE is managing noise and vibration matters under the reguration stipulated by INORPI.
	(5) Subsidence	① In the case of extraction of a large volume of groundwater, is there a possibility that the extraction of groundwater will cause subsidence?	There might be a risk of ground subsidence in the future caused by continuous pumping of groundwater. The water level of groundwater shall be carefully monitored.
3 Natural Environment	(1) Protected Areas	① Is the project site located in protected areas designated by the country's laws or international treaties and conventions? Is there a possibility that the project will affect the protected areas?	The project site is located close to the lagoon which is used for fishery industry licensed by the state. Although there is Ramsar Convention area and Public Coastal Area near the project site, the project site is out of the protected area. The evaporation pit will be constructed by the project and located at 800 m from the coast. There is particularly no emission from the said pit and no adverse effect will be expected.

Environmental Checklist: Annex-5 (2)
Document Provisoire

Category	Environmental Item	Main Check Items	Confirmation of Environmental Considerations
3 Natural Environment	(2) Ecosystem	① Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g., coral reefs, mangroves, or tidal flats)? ② Does the project site encompass the protected habitats of endangered species designated by the country's laws or international treaties and conventions? ③ If significant ecological impacts are anticipated, are adequate protection measures taken to reduce the impacts on the ecosystem? ④ Is there a possibility that the amount of water (e.g., surface water, groundwater) used by the project will adversely affect aquatic environments, such as rivers? Are adequate measures taken to reduce the impacts on aquatic environments, such as aquatic organisms?	1), 2) There is no valuable habitant in the project site though lagoon is 800m distance from the project site. 4) The project will pump up considerable volume of groundwater from the borehole as source of the plant. The volume of the water pumped from the borehole is approved by competent authority for water resources (DGRE) after pumping test.
4 Social Environment	(1) Resettlement	① Is involuntary resettlement caused by project implementation? If involuntary resettlement is caused, are efforts made to minimize the impacts caused by the resettlement? ② Is adequate explanation on relocation and compensation given to affected persons prior to resettlement? ③ Is the resettlement plan, including proper compensation, restoration of livelihoods and living standards developed based on socioeconomic studies on resettlement? ④ Does the resettlement plan pay particular attention to vulnerable groups or persons, including women, children, the elderly, people below the poverty line, ethnic minorities, and indigenous peoples? ⑤ Are agreements with the affected persons obtained prior to resettlement? ⑥ Is the organizational framework established to properly implement resettlement? Are the capacity and budget secured to implement the plan?	The project site and its surrounding area have no inhabitant originally.
	(2) Living and Livelihood	① Is there a possibility that the project will adversely affect the living conditions of inhabitants? Are adequate measures considered to reduce the impacts, if necessary? ② Is there a possibility that the amount of water used (e.g., surface water, groundwater) by the project will adversely affect the existing water uses and water area uses?	1) The project site and its surrounding area have no inhabitant. 2) Considerable volume of groundwater will be pumped up as water resources for the proposed plant. However, there is no existing well or borehole which might be influenced by pumping for the proposed plant.
	(3) Heritage	① Is there a possibility that the project will damage the local archeological, historical, cultural, and religious heritage sites? Are adequate measures considered to protect these sites in accordance with the country's laws?	No archeological, historical, cultural and religious heritage exists at proposed construction sites.
	(4) Landscape	① Is there a possibility that the project will adversely affect the local landscape? Are necessary measures taken?	The evaporation pit will be constructed as a part of the project and its heaped bank might slightly and partially change the original landscape of the project site.
4 Social Environment	(5) Ethnic Minorities and Indigenous Peoples	① Does the project comply with the country's laws for rights of ethnic minorities and indigenous peoples? ② Are considerations given to reduce the impacts on culture and lifestyle of ethnic minorities and indigenous peoples?	The project site and its surrounding area have no inhabitant.

Environmental Checklist: Annex-5 (3)
Document Provisoire

Category	Environmental Item	Main Check Items	Confirmation of Environmental Considerations
5 Others	(1) Impacts during Construction	① Are adequate measures considered to reduce impacts during construction (e.g., noise, vibrations, turbid water, dust, exhaust gases, and wastes)? ② If construction activities adversely affect the natural environment (ecosystem), are adequate measures considered to reduce impacts? ③ If construction activities adversely affect the social environment, are adequate measures considered to reduce impacts? ④ If necessary, is health and safety education (e.g., traffic safety, public health) provided for project personnel, including workers?	Appropriate implementation plan and strict supervision shall be well considered as a part of EIA procedure to avoid adverse impacts caused by the project during the construction period.
	(2) Monitoring	① Does the proponent develop and implement monitoring program for the environmental items that are considered to have potential impacts? ② Are the items, methods and frequencies included in the monitoring program judged to be appropriate? ③ Does the proponent establish an adequate monitoring framework (organization, personnel, equipment, and adequate budget to sustain the monitoring framework)? ④ Are any regulatory requirements pertaining to the monitoring report system identified, such as the format and frequency of reports from the proponent to the regulatory authorities?	1), 2) Monitoring of adverse impacts caused by construction work, change of aquifer and quality of brine will be carried out as the monitoring program for the project. The details of items and measures for monitoring program agreed by SONEDE and JICA are described in the attached Monitoring form. The monitoring program should also be reconsidered during EIA procedure. 3), 4) SONEDE will organize the monitoring and it shall be supervised by the competent authority (ANPE).
6 Note	Note on Using Environmental Checklist	① If necessary, the impacts to transboundary or global issues should be confirmed (e.g., the project includes factors that may cause problems, such as transboundary waste treatment, acid rain, destruction of the ozone layer, or global warming).	

1) Regarding the term "Country's Standards" mentioned in the above table, in the event that environmental standards in the country where the project is located diverge significantly from international standards, appropriate environmental considerations are made, if necessary.
In cases where local environmental regulations are yet to be established in some areas, considerations should be made based on comparisons with appropriate standards of other countries (including Japan' experience).
2) Environmental checklist provides general environmental items to be checked. It may be necessary to add or delete an item taking into account the characteristics of the project and the particular circumstances of the country and locality in which it is located.

Liste de contrôle environnemental: Annexe-5（I）

Catégorie	Rubrique environnementale	Rubriques de contrôle principales	Confirmation des considérations environnementales
1 Permis et explications	(1) EIE et permis environnementaux	(1) Des rapports EIE ont-ils été officiellement achevés? (2) Des rapports EIE ont-ils été approuvés par les autorités du gouvernement du pays bénéficiaire ? (3) Des rapports EIE ont-ils été approuvés sans conditions? Si des conditions ont été imposées pour l'approbation des rapports EIE, sont-elles satisfaites? (4) En plus des approbations ci-dessus, d'autres permis environnementaux requis ont-ils été obtenus des autorités de contrôle appropriées du gouvernement du pays bénéficiaire ?	Les procédures EIE sont exécutées par le consultant local qui a été engagé par la SONEDE à partir d'avril 2010. Elles seront achevées à la fin juillet 2010. Les rapports EIE seront soumis à l'autorité compétente (ANPE) immédiatement après leur achèvement et seront approuvés pour la fin octobre 2010.
	(2) Explications au public	(1) Le contenu du projet et les impacts potentiels ont-ils été adéquatement expliqués au public sur la base des procédures appropriées, y compris la divulgation des informations? La compréhension du public a-t-elle été obtenue? (2) Des réponses correctes ont-elles été données aux commentaires du public et des autorités de contrôle?	1) Les explications au public seront données via le site Web de l'ANPE. 2) La SONEDE répondra aux commentaires.
2 Mesures d'atténuation	(1) Qualité de l'air	(1) Est-il possible que du chlore des installations de stockage de chlore et des installations d'injection de chlore polluent l'air? Les concentrations de chlore dans les environnements de travail sont-elles conformes à l'hygiène du travail et aux normes de sécurité du pays?	Des fuites de chlore peuvent survenir seulement en cas d'accident. Le chlore de désinfection sera strictement contrôlé sous les règles nationales pertinentes, conformément aux normes de santé et de sécurité.
	(2) Qualité de l'eau	(1) Les polluants, tels que SS, DBO, DCO, inclus dans les effluents rejetés par les activités des installations sont-ils conformes aux normes des effluents du pays?	Le concentrat et les boues doivent être séchés dans un étang d'évaporation et aucun polluant ne doit être rejeté.
	(3) Déchets	(1) Les déchets, tels que les boues produites au cours du fonctionnement des installations, sont-elles correctement traitées et rejetées conformément aux normes du pays concerné?	Le concentrat et les boues doivent être déchargés et séchés dans un étang d'évaporation. L'émission de polluants de l'étang n'est pas prévue. Les autres déchets produits par le fonctionnement de l'ouvrage seront correctement traités par l'organisation officielle.
	(4) Bruit et vibration	(1) Le bruit et les vibrations produits par les installations, telles que les stations de pompage, sont-ils conformes aux normes du pays?	Un certain niveau de bruit et de vibrations peut être produit. Il sera contrôlé conformément aux normes.
	(5) Affaissement	(1) En cas d'extraction de grandes quantités d'eau souterraine, est-il possible que cette extraction provoque l'affaissement du sol?	Un risque d'affaissement du sol est possible dans l'avenir causé par le pompage continu de l'eau souterraine. Le niveau de l'eau souterraine sera attentivement surveillé.
3 Environnement naturel	(1) Zones protégées	(1) Le site du projet se trouve-t-il dans une zone protégée désignée par les lois du pays ou des traités et conventions internationales? Est-il possible que le projet affecte les zones protégées?	Le site du projet se trouve à proximité d'une lagune utilisée pour l'industrie de la pêche sous licence de l'Etat. La réalisation d'un plan de protection environnementale couvrant la lagune et ses environs est envisagée dans le futur d'après les commentaires de l'Agence nationale de protection de l'environnement (ANPE). Bien que ledit plan de protection ne soit pas concrétisé, le projet proposé est prévu attentivement pour éviter tout impact défavorable sur la lagune et ses environs. Par exemple, l'étang d'évaporation qui sera construit dans le projet sera situé à environ 250 m de la côte. Mais aucune émission dudit étang et aucun effet défavorable ne sont prévus.

Liste de contrôle environnemental: Annexe-5（2）

Catégorie	Rubrique environnementale	Rubriques de contrôle principales	Confirmation des considérations environnementales
3 Environnement naturel	(2) Ecosystème	(1) Le site du projet inclut-il des forêts vierges, des forêts tropicales humides, des habitats précieux sur le plan écologique (par ex. récifs de coraux, palétuviers ou estrans)? (2) Le site du projet inclut-il des habitats protégés d'espèces en voie d'extinction désignées par les lois nationales ou les traités ou conventions internationales? (3) Si des impacts écologiques significatifs sont attendus, des mesures de protection adéquates sont-elles prises pour réduire l'impact sur l'écosystème? (4) Est-il possible que le volume d'eau (par ex. eau de surface, eau souterraine) utilisé pour le projet affecte défavorablement les environnements aquatiques, tels que les rivières? Des mesures adéquates sont-elles prises pour réduire les impacts sur les environnements aquatiques, tels que les organismes aquatiques'	1), 2) La zone incluant la lagune n'est pas encore officiellement désignée en tant que zone protégée. Mais, un nouveau plan de protection est en préparation. 3) Des impacts écologiques significatifs ne sont pas prévus. 4) Des volumes d'eau considérables seront puisés du forage comme source de l'ouvrage dans le cadre du projet. Le volume d'eau pompé du forage a été approuvé par l'autorité compétente pour les ressources en eau (DGRE) après les essais de pompage.
4 Environnement social	(1) Relocalisation	(1) L'exécution du projet provoquera-t-il une relocalisation involontaire? Si oui, des efforts sont-ils faits pour réduire les impacts causés par la relocalisation? (2) Des explications convenables sur la relocalisation et des indemnisations sont-elles données aux personnes affectées avant la relocalisation? (3) Le plan de relocalisation inclut-il une indemnisation correcte, le rétablissement des moyens d'existence et du niveau de vie développés sur la base d'études socioéconomiques sur la relocalisation? (4) Le plan de relocalisation attache-t-il une attention particulière aux groupes ou personnes vulnérables, y compris femmes, enfants, personnes âgées, personnes au-dessous du seuil de pauvreté, minorités ethniques ou personnes indigènes? (5) Des accords ont-ils été conclus avec les personnes affectées avant la relocalisation? (6) Le cadre organisationel est-il établi pour exécuter correctement la relocalisation? Les capacités et le budget sont-ils assurés pour exécuter le plan?	Le site du projet et ses environs sont à l'origine inhabités.
	(2) Conditions de vie et niveau de vie	(1) Est-il possible que le projet affecte défavorablement les conditions de vie d'habitants? Des mesures adéquates sont-elles considérées pour réduire les impacts si nécessaire? (2) Est-il possible que le volume d'eau utilisé (par ex. eau de surface, eau souterraine) par le projet affecte défavorablement les utilisations d'eau actuelles et les utilisations d'eau dans la zone concernée?	1) Le site du projet et ses environs sont inhabités. 2) Un volume d'eau souterraine considérable sera pompé en tant que ressource en eau de l'ouvrage proposé. Mais aucun puits ou forage n'est susceptible d'être influencé par l'ouvrage proposé.
	(3) Patrimoine	(1) Est-il possible que le projet endommage des sites de patrimoine archéologique, historique, culturel ou religieux locaux? Des mesures adéquates sont-elles considérées pour protéger ces sites conformément aux lois nationales?	Aucun patrimoine archéologique, historique, culturel ou religieux n'existe sur les sites de construction proposés.
	(4) Paysage	(1) Est-il possible que le projet affecte défavorablement le paysage local? Des mesures nécessaires sont-elles prises?	L'étang d'évaporation sera construit en tant que partie du projet et sa digue peut légèrement et partiellement modifier le paysage d'origine du site du projet.
4 Environnement social	(5) Minorités ethniques et indigènes	(1) Le projet est-il conforme aux lois nationales sur les droits des minorités ethniques et indigènes? (2) Des considérations sont-elles assurées pour réduire les impacts sur la culture et le mode de vie des minorités ethniques et indigènes?	Le site du projet et ses environs sont inhabités.

Liste de contrôle environnemental: Annexe-5 (3)

Catégorie	Rubrique environnementale	Rubriques de contrôle principales	Confirmation des considérations environnementales
5 Autres	(1) Impacts pendant la construction	(1) Des mesures adéquates sont-elles considérées pour réduire les impacts pendant la construction (par ex. bruit, vibrations, eau turbide, poussière, gaz d'échappement et déchets)? (2) Si les activités de construction affectent défavorablement l'environnement naturel (écosystème), des mesures adéquates sont-elles considérées pour réduire les impacts? (3) Si les activités de construction affectent défavorablement l'environnement social, des mesures adéquates sont-elles considérées pour réduire les impacts? (4) Si nécessaire, des instructions pour la santé et la sécurité (par ex. sécurité de la circulation, santé publique) sont-elles assurées au personnel du projet, ouvriers y compris?	Un plan d'exécution adéquat et une supervision stricte seront considérés dans le cadre de la procédure EIE pour éviter les impacts défavorables du projet pendant la période de construction.
	(2) Suivi	(1) Le promoteur, prend-il en compte les rubriques environnementales qui pourraient avoir des impacts potentiels au cours de développement et d'exécution du programme de suivi ? (2) Les rubriques, méthodes et fréquences incluses dans le programme de suivi sont-elles jugées correctes? (3) Le promoteur a-t-il établi un cadre de suivi adéquat (organisation, personnel, é quipement, et budget adéquat pour soutenir le cadre de suivi)? (4) Existe-t-il des exigences réglementaires s'appliquant au système de rapport de suivi identifié, par ex. le format et la fréquence des rapports du promoteur aux autorités de contrôle?	1), 2) Le suivi des impacts défavorables causés par les travaux de construction, les modifications de l'aquifère et de la qualité du concentrat sera exécuté en tant que programme de suivi du projet. Les détails des rubriques et mesures pour le programme de suivi accepté par la SONEDE et la JICA sont indiqués dans la formule de Suivi jointe. 3), 4) La SONEDE organisera le suivi qui sera supervisé par l'autorité compétente (ANPE).
6 Note	Note sur l'utilisation de la Liste de contrôle environnementale	(1) Si nécessaire, les impacts sur les questions transfrontalières ou mondiales seront confirmés (par ex. le projet inclut des facteurs qui peuvent causer des problè mes, tels que le traitement des déchets transfrontaliers, les pluies acides, la destruction de la couche d'ozone, ou le réchauffement de la planète).	

1) En ce qui concerne le terme "Normes nationales" utilisé dans le tableau ci-dessus, si les normes environnementales dans le pays où se situe le projet divergent considérablement des normes international des considérations environnementales adéquates seront assurées, si nécessaires.
Dans le cas où des règles environnementales locales doivent encore être établies dans certaines zones, des considérations seront assurées sur la base de comparaisons avec les normes adéquates d'autres p (l'expérience du Japon y compris).
2) Cette Liste de contrôle environnemental présente les rubriques environnementales générales à contrôler
L'ajout ou suppression d'une rubrique prenant en compte les caractéristiques du projet et les circonstances particulières du pays et de la localité où il a lieu peut être nécessaire

Annexe 6

FORMULAIRE DE CONTRÔLE

Si les rapports environnementaux indiquent une nécessitée de contrôle par la SONEDE, la SONEDE prendra en charge la surveillance des éléments nécessaires qui auront été décidés par les rapports environnementaux. La JICA prendra en charge la surveillance à partir de rapports réguliers incluant les données mesurées soumises par l'initiateur du projet.

Lorsque les plans de contrôle, y compris les éléments, fréquences et méthodes de contrôle, seront décidés, la phase du projet et son cycle de vie (par exemple la phase de construction, ou d'exploitation, ou de développement) doivent être pris en considération.

【Phase de Construction】

1. Mesures d'atténuation

- Qualité de l'air (Emission de gaz / Qualité de l'air ambiant)

Elément	Unité	Valeur moyenne mesurée	Valeur maximale mesurée	Standards du pays	Standards du Contrat	Standards internatio-naux de référence	Remarques (Point de mesure, Fréquence, Méthode, etc.)
Poussière	Les circonstances influencées par le projet doivent être dûment inspectées sur le site.						Sur la route publique la plus proche du site, tous les mois

- Bruit / Vibration

Elément	Unité	Valeur moyenne mesurée	Valeur maximale mesurée	Standards du pays	Standards du Contrat	Standards internatio-naux de référence	Remarques (Point de mesure, Fréquence, Méthode, etc.)
Niveau de bruit	Les circonstances influencées par le projet doivent être dûment inspectées sur le site.						Sur la route publique la plus proche du site, tous les mois
Niveau de vibration	Les circonstances influencées par le projet doivent être dûment inspectées sur le site.						Sur la route publique la plus proche du site, tous les mois

【Phase d'exploitation】

1. Environnement naturel

- Aquifère pour la source de l'eau

Elément de contrôle	Résultats de la surveillance durant la période du rapport	Remarques (Point de mesure, Fréquence, Méthode, etc.)
Niveau d'eau dynamique		A mesurer par capteur, automatiquement et continûment dans le forage
Niveau d'eau statique		A mesurer par capteur, automatiquement et continûment dans le forage

Conductivité électrique		A mesurer par capteur, automatiquement et continûment à l'arrivée de l'eau brute
Salinité		Mesure à effectuer sur un échantillon de l'arrivée d'eau brute tous les trois mois, ou si une valeur de conductivité électrique anormale est détectée
Température		A mesurer par capteur, automatiquement et continûment à l'entrée de la tour de refroidissement

- Qualité de l'eau (Saumure)

Elément	Unité	Valeur moyenne mesurée	Valeur maximale mesurée	Standards du pays	Standards du Contrat	Standards internatio-naux de référence	Remarques (Point de mesure, Fréquence, Méthode, etc.)
pH							Mesure à effectuer sur un échantillon de saumure tous les trois mois
Salinité	mg/lit.						Mesure à effectuer sur un échantillon de saumure tous les trois mois

*** Les standards du Contrat ne sont pas fournis pour la saumure à traiter dans l'étang d'évaporation**

- Ecosystème

Elément de contrôle	Résultats de la surveillance durant la période du rapport
Effets/actions négatives sur des espèces protégées ou de valeur	

3.

MINUTES OF DISCUSSIONS
ON
THE PREPARATORY SURVEY
ON
THE PROGRAMME GRANT AID FOR ENVIRONMENT AND CLIMATE CHANGE (WATER TECHNOLOGY)
IN THE REPUBLIC OF TUNISIA

(EXPLANATION ON DRAFT FINAL REPORT)

In December 2009 and from January to April 2010, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Preparatory Survey Team on the Programme Grant Aid for Environment and Climate Change (Water Technology) (hereinafter referred to as "the Project") in the Republic of Tunisia (hereinafter referred to as "Tunisia"), and through discussions, field survey and technical examination of the results of the survey in Japan, JICA prepared a Draft Final Report of the Survey.

In order to explain and to consult with the concerned officials of the Government of Tunisia on the component of the Draft Final Report, JICA sent Tunisia the Preparatory Survey Team for Draft Final Report Explanation (hereinafter referred to as "the Team"), which is headed by Mr. Yodo Kakuzen, Senior Representative of JICA Tunisia Office, from June 17th to 25th, 2010.

As a result of discussion, both sides confirmed the main items described on the attached sheets.

Tunis, June 24, 2010

Mr. Yodo Kakuzen
Leader,
the Preparatory Survey Team
Japan International Cooperation Agency (JICA)

Mr. Lotfi Trifa
Directeur Général
Direction Générale de la Coopération Bilatérale,
Ministère du Développement et de la Coopération Internationale (MDCI)

Mr. Mohamed Ali Khouaja
Président Directeur Général
Societe Nationale d'Exploitation et de Distribution des Eaux (SONEDE)

ATTACHMENT

1. Components of the Draft Final Report of Preparatory Survey

Societe Nationale d'Exploitation et de Distribution des Eaux (hereinafter referre d to as "SONEDE") agreed and accepted in principle the components of the D raft Final Report explained by the Team. The final re port will be submitted to SONEDE by the end of August 2010.

2. Program Grant Aid for Environment and Climate Change of the Government of Japan

The Tunisian sid e understood c omponents of t he Mi nutes of D iscussion (h ereinafter r eferred t o as " the previous M/D") signed by both sides on December, 2009, and would take the necessary measures confirmed on the previous M/D in December 2009 for smooth implementation of the Project following procedures of the Program Grant Aid for Environment and Climate Change of the Government of Japan as shown in Annex-1.

3. Confirmation of progress made for the previous M/D

(1) Result of pumping test and water capacity examination of the developing forage

Both s ides c onfirmed tha t ca pacity of des alination pl ant in ter ms of treat ed wat er st ipulated i n the specification will be 1791m3/day according to the result of pumping test and that raw water quality meet the guideline for the desalination plant though cooling tower is nec essary due to the high temperature of the r aw water. The result of water quality examination is shown as Annex-2.

4. Items to be installed in the project

The Team explained that the items to be installed in the project as shown in Annex-3 based on the result of the Preparatory Survey. After discussion, both side confirmed the major equipment for desalination plant such as high press ure pum p, reverse osm osis (RO) modules s hould be products of Ja pan, an d pr oducts of t hird country ar e acceptable for PV modules f or p hotovoltaic (PV), if JICA, t he Gov ernment of Ja pan a nd t he designated authority judge that the products and services from the third country out of Japan and Tunisia are necessary.

5. Procurement Process of the Project

Both sides reconfirmed that procurement process would be supervised by the Procurement Agent (hereinafter referred to as "the Agent") with necessary consultation by the Consultative Committee (hereinafter referred to as "the Committee"). And both sides also reconfirmed roles of the Agent as follows;

(1) The Agent renders the services stipulated in the provisions of the G/A as well as the E/N for the Project;

(2) The Agent will undertake the procurement procedure necessary for the Program according to the provisions of the G/A and E/N and any other concerned guidelines

(3) JICA will provide the draft Final Report and Final Report to the Agent; and

(4) The Agent will commence the procurement according to the contents of the Final Report of the Preparatory Survey.

The Team explained that if tender price exceeds the amount agreed on G/A and E/N, quantity or/ and items of the equipment would be reduced until the cost for the Project comes down to the amount agreed on G/A and E/N.

The Tunisian side agreed that if there is a remaining amount of the cost for the Project after tenders, additional items of equipment would be procured and that the remaining budget should enhance the capacity of the photovoltaic system.

The Tunisian side also understood that decision in addition or reduction of the equipment to be procured would be made through necessary consultation among members of the Committee.

6. Project Cost

The Tunisian side agreed that the cost for the Project should not exceed the upper limit of amount agreed on in E/N. Both sides also confirmed that the cost for the Project contains procurement cost of equipment, the cost for transportation up to the site for the Project, installation cost, the Agent fee and of equipment.

7. Confidentiality of the Project

(1) Detailed specifications of the Facilities

Both sides confirmed that all the information related to the Project including detailed drawings and specifications of the facilities and equipment and other technical information shall not be released to any outside parties (i.e. outside of JICA, Tunisian side and the Agent) before conclusion of all the contract(s) for the Project.

(2) Confidentiality of the Cost Estimation

The Team explained the cost estimation of the Project as described in Annex-4. Both sides agreed that the cost for the Project Estimation should never be duplicated or released to any outside parties (i.e. outside of JICA, Tunisian side and the Agent) before tender for the Project. The Tunisian side understood that the cost for the Project Estimation attached as Annex-4 is not final and is subject to change by the result of examination through final edition of the Preparatory Study.

8. The Consultative Committee

The Tunisian side understood that the Directeur Centrale des Etudes (DCET), SONEDE will chair the Committee in order to facilitate consultation and procurement process. The Terms of Reference of the Committee was settled in Annex-VIII of the previous M/D in December 2009.

The members of the Committee are as follows:

(1) Directeur Centrale des Etudes (DCET), SONEDE (Chair)

(2) Directeur Territorial du Dessalement et de l'Environment (DTDE), SONEDE (Member)

(3) Directeur a la Direction Generale de l'Infrastructure, Ministere de Developpement et de Cooperation Internationale (MDCI), (Member)

(4) Sous Directeur a la Direction de Cooperation Internationale, Ministere de l'Agriculture des Ressources Hydrauliques et de la Peche (MARHP) (Member)

(5) Representative(s) of JICA Tunisia Office (Member)

< Observer >

Representative(s) of Embassy of Japan in Tunisia

The first meeting of the Committee shall be held immediately after the approval of JICA for the Agent Agreement between the Agent and SONEDE. Further meetings shall be held upon request of either the Tunisian side or the Japanese side. The Procurement Agent may advise both sides on the necessity to call a meeting of the Committee.

9. Other Relevant Issues

9.1. Undertakings required by the Tunisian side

The Tunisian side confirmed to take necessary measures described as follows in addition to major undertaking described in Annex-VI of previous M/D in December 2009, to expedite the smooth implementation of the Project.

(1) Acquisition of the Land

The Tunisian side agreed that acquisition of the land for the desalination plant and evaporation pit will be completed by the end of October, 2010.

(2) Fence and Gate of Plant Site and Evaporation Pit

The Tunisian side agreed that installation work of fence and gate of plant site and evaporation pit will be completed by May 2012 (May 2012)

(3) Transmission Piping from the Desalination Plant to the Main Reservoir

The Tunisian side agreed that cost for transmission piping from the desalination plant to the main reservoir will be allocated in the budget of SONEDE and its installation will be completed by the completion of the execution of the project (February 2012)

(4) Installation of the Pump for Forage of Desalination Plant

The Tunisian side agreed that installation of the pump for forage of desalination plant will be completed before two months of the completion of the execution of the project (December 2011).

(5) Supply of Electricity to the Desalination Plant

The Tunisian side agreed that supply of electricity to the desalination plant will be available before two months of the completion of the execution of the project (December, 2011)

(6) System of radio transmission

The Tunisian side take the charge of the cost for the radio transmission system between the commanding panel of the project in Ben Guerdane and the center panel of Medenine.

9.2. The change of the proposed site of the evaporation pit

The Tunisian side will take necessary measures for the new evaporation pit site before the middle of July 2010. The topographic results should be provided to JICA Tunis Office for the basic study of the said evaporation pit by Japanese side.

9.3. Environmental Impact Assessment

(1) Environmental Checklist

The environmental and social considerations including major impacts and mitigation measures for the Project are summarized in the Environmental Checklist agreed in the Report shown in the ANNEX 5. This document will be translated in French and correspond to SONEDE for the approval. The approved document will be attached in the Final Report.

(2) Monitoring for Environmental and Social considerations

Monitoring for Environmental and Social considerations will be conducted by SONEDE in accordance with the Monitoring Plan for the Project agreed in the Report. The results will be provided to JICA by filling in the Monitoring Form attached as Annex-6, as part of progress reports during the construction phase.

(3) Completion of EIA

Both side confirmed that Tunisian side is responsible for taking any measures to obtain the approval of EIA from ANPE by the end of October 2010.

9.4. Ownership and Operation and Maintenance (O&M) Responsibilities of the system

The Tunisian side has reconfirmed that the SONEDE is the owner of the system and responsible for securing necessary budget and personnel for Operation and Maintenance (O&M) of desalination plant and photovoltaic installed under the Project. The Tunisian side confirmed that the system installed under the Program shall be operated and maintained by SONEDE.

9.5. Visibility of the Project

The Team explained that the visibility of the Project should be ensured as a token of cooperation from the Japanese people. Tunisian side explained the following measures to enhance publicity of the Project:

(1) Mass media source

(2) Brochures

(3) Commemoration panel

<List of Annex>

Annex-1 Program Grant Aid for Environment and Climate Change of the Government of Japan

Annex-2 Result of Water Quality Examination of forage

Annex-3 List of Installed Items in the project

Annex-4 Project Cost Estimation (Confidential)

Annex-5 EIA check list

Annex-6 Monitoring form

Annex – 1

Program Grant Aid for Environment and Climate Change of the Government of Japan (Provisional)

The Grant Aid provides a recipient country (hereafter referred to as "the Recipient") with non-reimbursable funds 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 relevant laws and regulations of Japan. The Grant Aid is not supplied through the donation of materials as such.

Based on "Cool Earth Partnership" initiative of the Government of Japan, the Program Grant Aid for Environment and Climate Change (hereafter referred to as "GAEC") aims to mitigate effects of global warming by reducing GHGs emission (mitigation; e.g. improvement of energy efficiency) and to take adaptive measures (adaptation; e.g. measures against disasters related to climate change, including disaster prevention such as enhancing disaster risk management).GAEC may contain multiple components that can be combined to effectively meet these needs.

1. Procedures for GAEC

GAEC is executed through the following procedures.

Preparatory Survey 1	Preparatory Survey for project identification conducted by Japan International Cooperation Agency (JICA)
Application	Request made by a recipient country
Appraisal & Approval	Appraisal by the Government of Japan and Approval by the Cabinet
Determination of Implementation	The Notes exchanged between the Government of Japan and the Recipient Country
Grant Agreement (hereinafter referred to as the "G/A")	Agreement concluded between JICA and the Recipient
Preparatory Survey 2	Preparatory Survey for design conducted by JICA
Implementation Procurem	ent through the Procurement Agency by the Recipient

Firstly, if the candidate project for a GAEC is identified by the Recipient and the Government of Japan, the Government of Japan (the Ministry of Foreign Affairs) examines it whether it is eligible for GAEC. When the request is deemed appropriate, JICA, in consultation with the Government of Japan, conducts the Preparatory Survey (hereafter referred to as "the Survey") on the candidate project as Phase 1 of the Survey with Japanese consulting firms.

Secondly, the Recipient submits the official request to the Government of Japan, while the appropriateness,

necessity and the basic components of the Program are examined in the course of Phase 1 of the Survey,

Thirdly, the Government of Japan appraises the Program to see whether it is suitable for Japan's GAEC, based on the Survey report prepared by JICA, and the results are then submitted to the Cabinet for approval.

Fourthly, the Program, once approved by the Cabinet, becomes official with the Exchange of Notes (E/N) signed by the Governments of Japan and the Recipient.

Fifthly, JICA engages Grant Agreement (G/A) with the Recipient and executes the Grant by making payments of the amount agreed in the E/N and strictly monitors that the funds of the Grant are properly and effectively used.

Procurement Management Agent is designated to conduct the procurement services of products and services (including fund management, preparing tenders, contracts) for GAEC on behalf of the Recipient. The Agent is an impartial and specialized organization that will render services according to the Agent Agreement with the Recipient. The Agent is recommended to the Recipient by the Government of Japan and agreed between the two Governments in the Agreed Minutes ("A/M").

2. Preparatory Survey

1) Contents of the Survey

The purpose of the Preparatory Survey (hereafter referred to as "the Survey"), conducted by JICA on a requested project (hereafter referred to as "the Project"), is to provide the basic document necessary for the appraisal of the Project by the Government of Japan. The contents of the Survey are as follows:

- Confirmation of background, objectives, and benefits of the Project and institutional capacity of agencies and communities concerned of the Recipient necessary for project implementation.
- Evaluation of relevance of the Project to be implemented under the Grant Aid Scheme for Environment and Climate Change from a technical, social, and economic point of view.
- Confirmation of items agreed upon by both parties concerning the basic concept of the Project.
- Preparation of the design of the Project and reference document for tender.
- Preliminary Estimation of cost for the Project.

The contents of the original request will be modified, as found necessary, in the design of the Project according to the guidelines of Japan's Grant Aid scheme.

The Government of Japan requests the Government of the Recipient to take whatever measures necessary to ensure its responsibility in implementing the Project. Such measures must be guaranteed even if they may fall outside the jurisdiction of the implementing organization of the Recipient. This has been confirmed by all relevant organizations of the Recipient through the Minutes of Discussions.

2) Selection of consulting firms

For the smooth implementation of the Survey, JICA will conduct the Survey with registered consulting firms in Japan. JICA selects the firms based on proposals submitted by firms with interest in implementing the Survey. The firms selected will carry out the Preparatory Survey and prepare a report, based on the terms of reference set by JICA.

3. Implementation of GAEC after the E/N

1) Exchange of Notes (E/N)

The content of GAEC will be determined in accordance with the Notes exchanged by the two Governments concerned, in which items including, objectives of the project, period of execution, conditions and amount of the Grant Aid are confirmed.

2) Details of Procedures

Details of procedures on procurement and services under GAEC will be agreed between the authorities of the two governments concerned at the time of the signing of the G/A.

Essential points to be agreed are outlined as follows:

a) JICA will supervise the implementation of the Project.

b) Products and services will be procured and provided in accordance with JICA's "Procurement Guidelines for the Program Grant Aid for Environment and Climate Change."

c) The Recipient will conclude a contract with the Agent.

d) The Agent is the representative acting in the name of the Recipient concerning all transfers of funds to the Agent.

3) Focal points of "Procurement Guidelines for the Program Grant Aid for Environment and Climate Change"

a) The Agent

The Agent is the organization, which provides procurement of products and services on behalf of the Recipient according to the Agent Agreement with the Recipient. The Agent is recommended to the Recipient by the Government of Japan and agreed between the two Governments in the A/M.

b) Agent Agreement

The Recipient will conclude the Agent Agreement, in principle, within two months after the signing of the G/A, in accordance with the A/M. The scope of the Agent's services will be clearly specified in the Agent Agreement.

c) Approval of the Agent Agreement

The Agent Agreement is prepared as two identical documents and the copy of the Agent Agreement will be submitted to JICA by the Recipient through the Agent. JICA confirms whether the Agent Agreement is concluded in conformity with the E/N, A/M, and G/A and the Procurement Guidelines for the Program Grant Aid for Environment and Climate Change then approves the Agent Agreement.

The Agent Agreement concluded between the Recipient and the Agent will become effective after the approval by JICA in a written form.

d) Payment Methods

The Agent Agreement will stipulate that "Regarding all transfers of the fund to the Agent, the Recipient will designate the Agent to act on behalf of the Recipient and issue a Blanket Disbursement Authorization ("the BDA")to conduct the transfer of the fund (hereinafter referred to as "the Advances") to the Procurement Account from the Recipient Account.

The Agent Agreement will clearly state that the payment to the Agent will be made in Japanese yen from the Advances and that the final payment to the Agent will be made when the total remaining amount become less than three percent (3%) of the Grant and its accrued interests.

e) Products and Services Eligible for Procurement

Products and services to be procured will be selected from those defined in the G/A.

f) Selection of Firm and Consultant

The firm and consultant who would contract with the Agent shall be Japanese Nationals.

The consultants that will be employed to do detail design and supervise the work for the Project, however will be in principle, Japanese nationals recommended by JICA for the purpose of maintaining technical consistency with the Study.

g) Method of Procurement

When conducting the procurement, sufficient attention will be paid to transparency in selecting the firms and for this purpose, competitive tendering will be employed in principle.

h) Tender Documents

The tender documents should contain all information necessary to enable tenderers to prepare valid offers for the products and services to be procured by GAEC.

The rights and obligations of the Recipient, the Agent and the firms supplying products and services should be stipulated in the tender documents to be prepared by the Agent. Aside from this, the tender documents will be prepared in consultation with the Recipient.

i) Pre-qualification Examination of Tenderers

The Agent may conduct a pre-qualification examination of tenderers in advance of the tender so that the invitation to the tender can be extended only to eligible firms. The pre-qualification examination should be performed only with respect to whether the prospective tenderers have the capability of concluding the contracts.

For this, the following points should be taken into consideration:

(1) Experience and past performance in contracts of similar kind

(2) Financial credibility (including assets such as real estate)

(3) Existence of offices and other items to be specified in the tender documents.

(4) Their potentialities to use necessary personnel and facilities.

j) T ender Evaluation

The tender evaluation should be implemented on the basis of the conditions specified in the tender documents.

Those t enderers w hich su bstantially c onform to t he technical spe cifications a nd other st ipulations of t he tender documents will be judged in principle on the basis of the submitted price, and the tenderer who offers the lowest price will be designated as the successful tenderer.

The A gent w ill su bmit a detailed e valuation re port of tenders to JICA for its i nformation, wh ile t he notification of the results to the tenderers will not be premised on the confirmation by JICA.

k) A dditional procurement

If there is any remaining balance after the competitive and/or selective tendering and/or direct negotiation for a contract, and if the R ecipient would like to pro cure additional items, the Age nt is allowed to c onduct this additional procurement, following the points mentioned below:

(1) Procurement of same products and services

When t he products a nd ser vices t o be a dditionally procured are identical w ith t he initial te nder an d a competitive tendering is judged not efficient, additional procurement can b e conducted by a ne gotiated contract with the successful tenderer of the initial tender.

(2) O ther procurements

When products and services other than those mentioned above in (1) are to be procured, the procurement should be conducted through competitive tendering. In this case, the products and services for additional procurement will be selected from among those in accordance with the G/A.

l) Conclusion of the Contracts

In order to procure products and services in accordance with the guideline, the Agent will conclude contracts with firms selected by tendering or other methods.

m) Terms of Payment

The c ontract will c learly st ate the terms of pay ment. The Ag ent wi ll m ake paym ent from the "advances," against the submission of the necessary documents from the firm on the basis of the conditions specified in the c ontract. When t he ser vices are the obj ect of pr ocurement, the Agent m ay pay certa in p ortion of t he contract am ount i n a dvance t o t he firm s on t he conditions t hat s uch firm s sub mit th e a dvance p ayment guarantee worth the amount of the advance payment to the Agent.

4) Undertakings required by the Government of the Recipient Country

In the implementation of the Grant Aid Project, the Recipient is required to undertake necessary measures as the following:

a) To secure land necessary for the sites of the Project and to clear, level and reclaim the land prior to commencement of the Project.

b) To provide facilities for distributing electricity, water supply and drainage and other incidental facilities in and around the sites, if necessary.

c) To ensure all the expense and prompt execution for unloading, customs clearing at the port of disembarkation and domestic transportation of products purchased under the Grant Aid,

d) To ensure that customs duty, internal taxes and other fiscal levies that may be imposed in the Recipient with respect to the purchase of the Components and the A gent's services will be exempted by the Government of the Recipient.

e) To accord all the concerned parties, whose services may be required in connection with supply of the products and services under the contracts, such facilities as may be necessary for their entry into the Recipient and stay therein for the performance of their work.

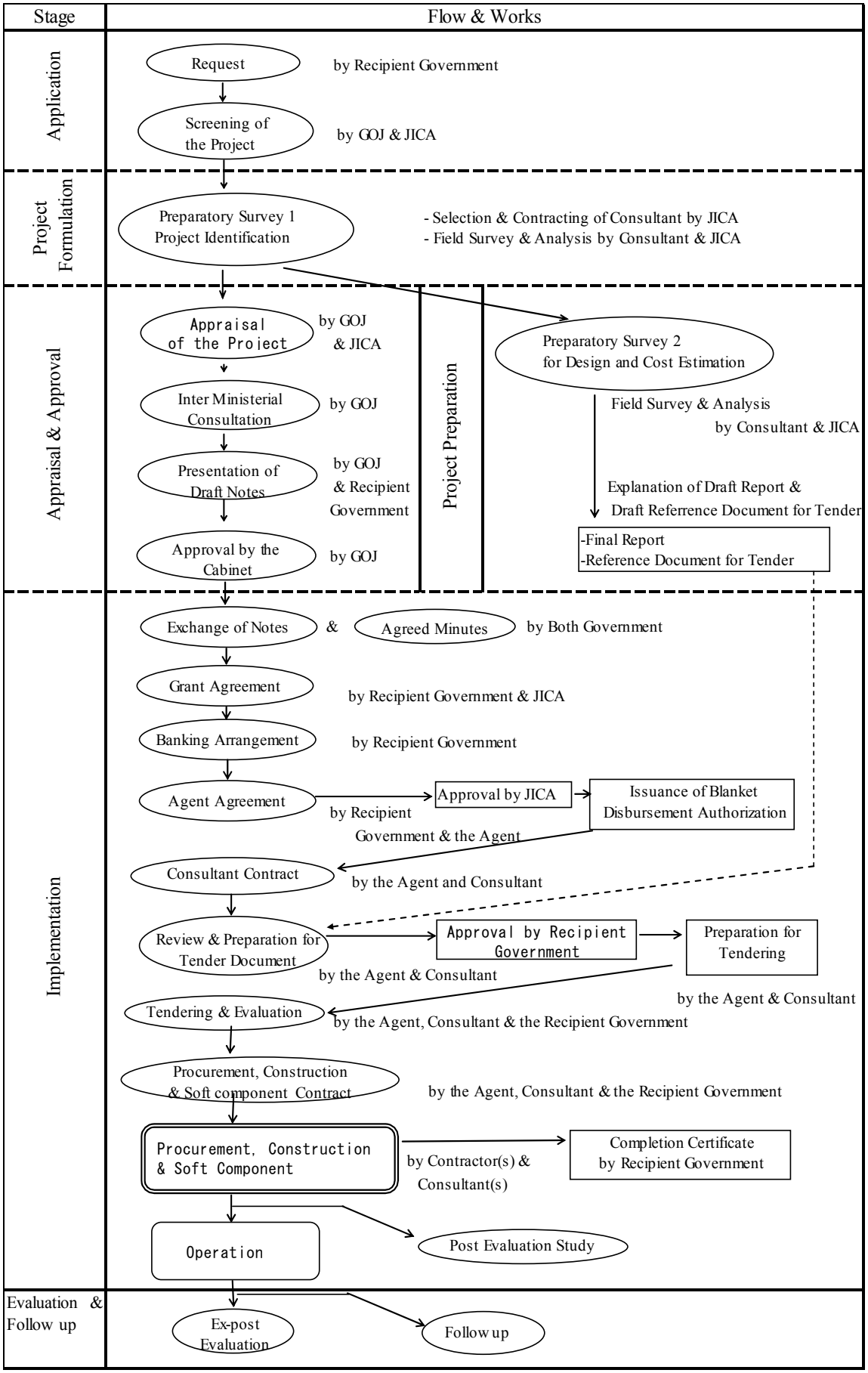
5) "Proper use of funds"

The Recipient is required to operate and maintain the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign personnel necessary for this operation and maintenance as well as to bear all the expenses other than those covered by the Grant Aid.

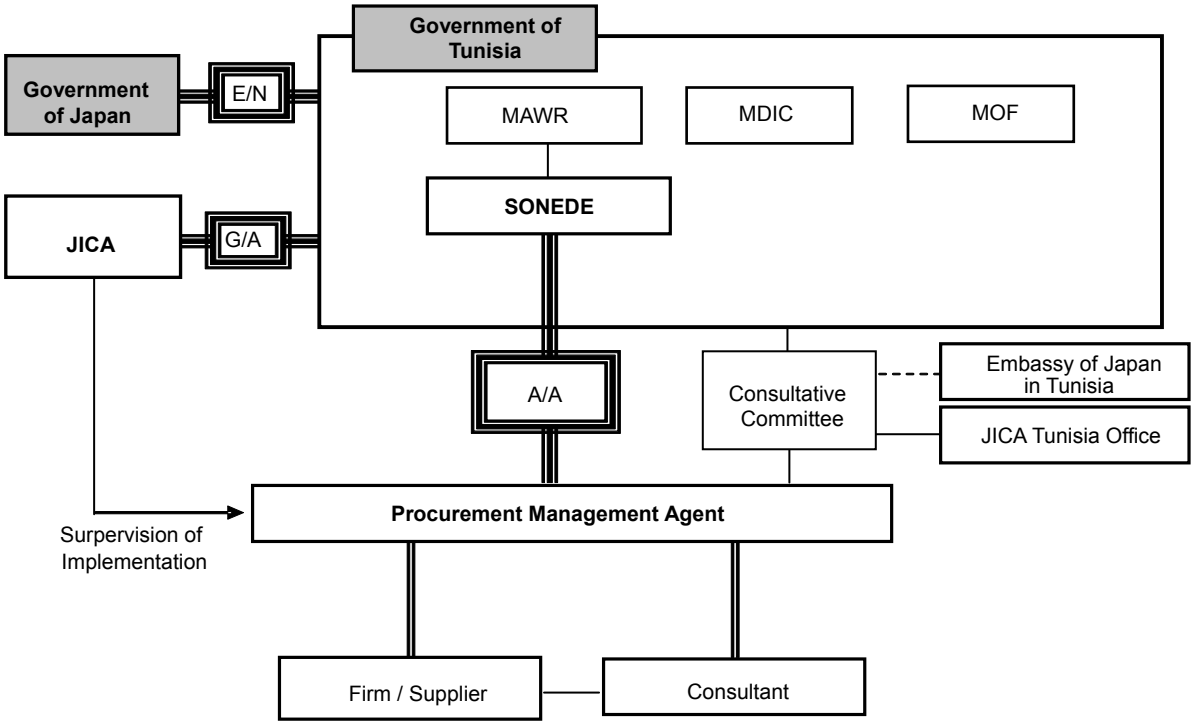
6) "Export and Re-export" of products

The products purchased under the Grant will not be exported or re-exported from the Recipient.

General Flow of Program Grant Aid for Environment and Climate Change



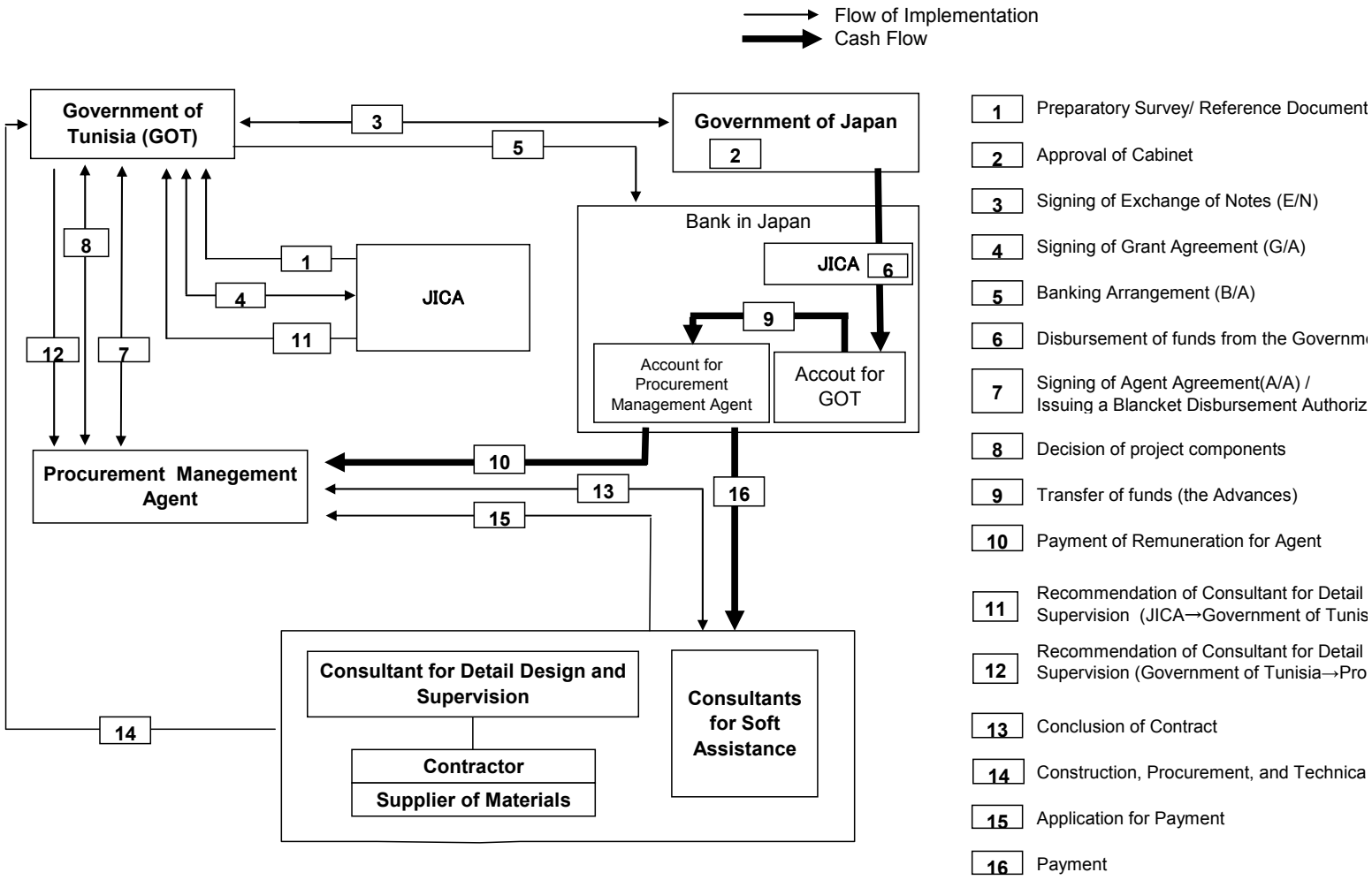
Project Implementation System



LEGEND :

═══	:Official Agreement
═══	:Contract(Procurement Management Agent ― Firms & Consultants)
———	:Report ・Supervision ・Cordination
E/N	:Exchange of Notes
G/A	:Grant Agreement
A/A	:Agent Agreement
MAWR	:Ministry of Agriculture and Water Resources
MDIC	:Ministry of Development and International Cooperation
MOF	:Ministry of Finance
SONEDE	:Societe Nationale d'Exploitation er de Distribution des Eaux
JICA	:Japan International Cooperation Agency
JICS	:Japan International Cooperation System

Flow of Funds for Project Implementation



Annex –2

Result of Water Quality Examination of Forage

１．原水水質

項目	単位	値
pH	7.	1
濁度	NTU 10	.2
蒸発残留物	mg/l 14	,350
カルシウム	mg/l 68	8
マグネシウム	mg/l 37	0
ナトリウム	mg/l 3,	710
アンモニア	mg/l 3.	2
硫酸イオン	mg/l 1,	850
塩素イオン	mg/l 6,	522
硝酸イオン	mg/l 3.	5

項目	単位	値
フッ素	mg/l 1.	9
鉄	mg/l 0.	8
マンガン	mg/l 0.	04
銅	mg/l 0.	1
亜鉛	mg/l <0.	05
クロム	mg/l <0	.0015
銀	mg/l 0.	04
ヒ素	μg/l	<3.5
水銀	μg/l	<0.06
鉛	mg/l 0.	026

分析者：SONEDE、試料採取日：2010 年 2 月 6 日

２.「チュ」国水質基準

項目	単位	処理水水質 「チュ」国水質基準	処理目標水質
pH		6.5-8.5	同左
濁度	NTU 5		同左
蒸発残留物 mg	/ℓ	2,500 3	00
カルシウム mg	/ℓ	300	同左
マグネシウム mg	/ℓ	150	同左
硫酸イオン mg	/ℓ	600	同左
塩素イオン mg	/ℓ	600	同左
硝酸イオン mg	/ℓ	45	同左
フッ素 mg	/ℓ	1.7	同左
マンガン mg	/ℓ	0.5	同左
銅 mg	/ℓ	1	同左
亜鉛 mg	/ℓ	5	同左
銀 mg	/ℓ	0.02	同左
ヒ素	μg/ℓ	50	同左
水銀	μg/ℓ	1	同左
鉛 mg	/ℓ	0.05	同左

Annex – 3

List of Items to be Installed in the Project

Composition	Capacity	Born by Japan's Grant Aid	Born by the Tunisian Government
Desalination plant with Reserve osmosis membrane	*about 1,800m^3/day X		
Raw water tank	500m^3 : capacity with 4 hours flow water volume	X	
Filtered water tank	150m^3 : Capacity with 1 hour flow water volume + volume of waste water of back wash reserve filtration	X	
Treated water tank	170m^3 : Capacity with 2 hours flow water volume	X	
Waste water tank of back wash reserve filtration	50m^3 : More than the volume of one time of the volume of back wash reserve filtration	X	
Installation of the pump for forage and affiliated accessories	Pumping capacity : more than 37l/sec Lift-height : more than 170m	X	
Transmission piping	About 6km D=315mm		X
Evaporation pit and piping of discharge water	11.9ha 0.5km D=150mm	X	

*1,791m3/day, according to the calculation

Annex – 4

Project Cost Estimation (Confidential)

1. Cost to be borne by the Japanese side Approxi mately JPY 999.9 million

Item	Amount (Million Japanese Yen)	
Desalination Plant	571.2	919.2
Photovoltaic 89.1		
Civil works (Tanks, piping, Sealing and foundation of desalination plant, Evaporation pit)	258.9	
Procurement Agent Fee		27.5
Consulting Services Fee		53.2
Total		999.9

2. Cost to be borne by Tunisian side approxim ately TND 2 ,396 thousand

Item	Amount (Thousand Tunisian Dinar)
Acquisition of land for plant site and evaporation pit	257
Fence and Gate of Plant site and evaporation pit	329
Transmission piping	1,460
Installation of the pump for forage	140
Supply of electricity	196
Bank Commission fee	14
Total	2,339

・Operation and Maintenance Cost on the Tunisian side are as follows:

The equipments to be installed in the Program need pro per operation and maintenance and will be necessary to a lways keep re placement parts in hand . Moreover, in cases of abnorm al situations or breakdowns occur, it will be necessary to dispatch engineers and thereby incur personnel expenses. Therefore, t he T unisian si de w ill need to keep the bu dget f or the f ollowing op eration a nd maintenance expenses (annual) to ensure that no problems arise in the operation and maintenance of equipments though the listed number and amount of them are still provisional.

Items	Calculation of the Cost	Remarks
Electricity: - pump for forage - pump for raw water - pump for pretreatment - high pressure pump - pump for treated water	13,440*0.117+13,440*0.5/30*365d/y =655,715TND/y	Necessary electricity: 560kWh*24hrs/d=13,440kWh/d Electricity cost: Unit cost: 0.5TND/ kW/m Additional cost: 0.117TND/kWh

Main Chemicals: - NaClO(2g/m^3) - NaHSO3(4g/m^3) - Anti-scala(4g/m^3) - NaOH(10g/m^3)	280TND/d*365/y =102,200TND/y	Calculated based on the consumed amount per m3and the prices in Japan
Spare parts: - RO modules 108p - Spare parts for pumps	140*1,300TND/p/10y＋ 10,000TND/y(pump)=28,200TND/y	Assumed as the installed number of RO modules as 108 and the life as 4 years, 162 spare modules will be necessary for 10 years. Out of them, 20% as 22 pieces of them will be procured by the Programme.
Engineers and Technicians Chief, Engineers Technicians Others Temporally staff	5 :2*1,500TND*12 m = 36,000TND/y :2*1,000TND*12 m =24,000TND/y :1*700TND*12 m =8,400TND/y :1,500*6m＝9,000TND/y Total 77,400TND/y	Manager of the plant (Chief): 1 person Engineer for O&M: 1 person Technicians for pump O&M and electricity: 1person each Other: 1person
Contingency cost	10% of subtotal amount	Sub total: 863,515TND/y
Total:	949,866TND/y	

3. Conditions of the cost estimation

1) Date of estimation: March 2010
2) Foreign exchange rate: 1US$ = 91.36JPY
   1TN D = 69.53JPY
3) Duration of procurement: 17 months
4) Others: The above est imation w as carri ed out in a ccordance w ith re levant r ules and the guideline of Japan's Grant Aid.

Annex – 6

MONITORING FORM

If environmental reviews indicate the need of monitoring by JBIC, JBIC undertakes monitoring for necessary items that are decided by environmental reviews. JBIC undertakes monitoring based on regular reports including measured data submitted by the project proponent. When necessary, the project proponent should refer to the following monitoring form for submitting reports.

When monitoring plans including monitoring items, frequencies and methods are decided, project phase or project life cycle (such as construction phase and operation phase or development, operation and mine closure) should be considered.

【Construction Stage】

1. Mitigation Measures

- Air Quality（Emission Gas / Ambient Air Quality）

Item	Unit	Measured Value（Mean）	Measured Value（Max.）	Country's Standards	Standards for Contract	Referred International Standards	Remarks (Measurement Point, Frequency, Method, etc.)
Dust	Circumstances influenced by the project shall be duly inspected in the site.						On the nearest public road to the site, every month

- Noise / Vibration

Item	Unit	Measured Value（Mean）	Measured Value（Max.）	Country's Standards	Standards for Contract	Referred International Standards	Remarks (Measurement Point, Frequency, Method, etc.)
Noise level	Circumstances influenced by the project shall be duly inspected in the site.						On the nearest public road to the site, every month
Vibration level	Circumstances influenced by the project shall be duly inspected in the site.						On the nearest public road to the site, every month

【Operation Stage】

1. Natural Environment

- Aquifer for water source

Monitoring Item	Monitoring Results during Report Period	Remarks (Measurement Point, Frequency, Method, etc.)
Dynamic Water Level		To measure by sensor automatically and continuously in the borehole

Static Water Level		To measure by sensor automatically and continuously in the borehole
Electrical Conductivity		To measure by sensor automatically and continuously at raw water inlet
Salinity		To measure a sample from raw water inlet every three months or in case when an abnormal EC value is detected
Temperature		To measure by sensor automatically and continuously at inlet of cooling tower

- Water Quality（Brine）

Item Unit		Measured Value（Mean）	Measured Value（Max.）	Country's Standards	Standards for Contract*	Referred International Standards	Remarks (Measurement Point, Frequency, Method, etc.)
pH							To measure a sample form brine outlet every three months
Salinity	mg/lit.						To measure a sample from brine outlet every three months

*** Standards for contract are not provided for the brine to be treated in an evaporation pit.**

- Ecosystem

Monitoring Item	**Monitoring Results during Report Period**
Negative effects/Actions to Valuable species	