

June 2002

D'APPOLONIA

REPORT OF THE

**EXTERNAL COMPLIANCE  
MONITORING GROUP (ECMG)**

**FIFTH SITE VISIT  
APRIL - MAY 2002**

*Chad Export Project*

*Cameroon Petroleum Environment Capacity  
Enhancement Project*

*Chad Petroleum Sector Management Capacity  
Building Project*

This report has been prepared by:

**D'Appolonia S.p.A. ECMG team members:**

Roberto Carpaneto - Project Manager, Pipeline Engineering, HSE specialist  
Paolo Lombardo - Project Coordinator, Environmental Engineering specialist  
Frédéric Giovannetti - Socio-Economic specialist  
Jean Le Bloas - Environmental specialist  
William Johnson - Earth Science specialist  
Jorge Ossanai – Public Health specialist

**SUBJECT: FIFTH VISIT OF THE D'APPOLONIA ECMG TEAM TO CHAD AND CAMEROON, APRIL 29 – MAY 13, 2002**

## **INTRODUCTION**

1. This report summarizes observations made during the fifth field visit (from April 29 to May 13, 2002) of the Environmental Management Plan (EMP)<sup>1</sup> External Compliance Monitoring Consultant for the Chad/Cameroon Oil Development and Transportation Project (referred to as the External Compliance Monitoring Group – ECMG)<sup>2</sup> related to both assignments of monitoring the Chad/Cameroon Oil Development and Transportation

---

<sup>1</sup> The list of acronyms is at the end of the text.

<sup>2</sup> Under contract by the International Finance Corporation (IFC), D'Appolonia S.p.A. (D'Appolonia) of Genoa, Italy, as the Environmental Management Plan (EMP) External Compliance Monitoring Consultant for the Chad/Cameroon Oil Development and Transportation Project (referred to as the External Compliance Monitoring Group – ECMG), is responsible for providing an independent assessment of the compliance of the development Consortium [Esso Exploration and Production Chad Inc. (EEPCI), Petronas Carigali (Chad EP) Inc., and Chevron Petroleum Chad Company Ltd.], the Tchad Oil Transportation Company S.A. (TOTCO) and the Cameroon Oil Transportation Company S.A. (COTCO) with obligations under the EMP and the relevant Environmental Commitments in the Finance Documents and the World Bank Project documents..

D'Appolonia is also responsible for monitoring performance on two World Bank Technical Assistance/Capacity Building (WBTA) projects. This monitoring is being conducted under a parallel agreement between the World Bank and D'Appolonia. Under this agreement D'Appolonia is monitoring the Petroleum Sector Management Capacity-Building Project for Chad and the Petroleum Environment Capacity Enhancement Project (CAPECE project) for Cameroon.

The Lender Group and the World Bank will use the information provided by D'Appolonia, as well as other available relevant information, to determine, subject to provision of the Finance Documents and the World Bank Project Documents, whether it finds the Consortium, TOTCO and COTCO are in compliance with the EMP and the relevant the Environmental Commitments. The World Bank, subject to provisions of the World Bank Project Documents, will similarly determine if the capacity building programs are being implemented in a timely manner and, in particular, if the specific EMP obligations of the respective Governments are being met. D'Appolonia's engagement as the ECMG does not affect the continuation of the current practices of the World Bank Group and the Lender Group for consultation with Non-Governmental Organizations (NGOs), both local and international, universities, governmental agencies and other resources.

Project and of monitoring the two World Bank Technical Assistance/Capacity Building (WBTA) projects for Chad and Cameroon.

2. The Chad/Cameroon Oil Development and Transportation Project (referred to as the Chad Export Project) has ongoing activities associated with the placement of pipeline and the development of major support infrastructure at the Pressure Reducing Station (PRS) and Pump Stations 2 (PS-2) and 3 (PS-3) in Cameroon, as well as the Oil Field Development Area (OFDA) in Chad. Production drilling has started in the OFDA. Much of the initial infrastructure development as related to transportation systems is nearing completion, especially in Cameroon. Both of the capacity-building projects are now operational. Therefore, this fifth visit focused on a review of pipeline placement operations with emphasis on land reclamation, production drilling procedures, activities associated with the completion of road and bridge construction, and those aspects of new and ongoing infrastructure development as having the greatest potential environmental and human impact. The trip also evaluated the status of the capacity-building projects and the ecological offsets in Cameroon. Specific activities conducted during this fifth mission have included<sup>3</sup>:
  - Visit Project and Oilfield Development work sites and associated infrastructure upgrades in Chad and Cameroon;
  - Review of ongoing exploration and production drilling activities;
  - Visit placement of pipeline along Spreads 1 and 2 in Cameroon;
  - Meet with representative NGOs in Cameroon (Chadian representative NGOs were not available for a direct meeting, but were able to provide information to the ECMG);
  - Meet with representatives of the Chad and Cameroon governments who have responsibility for the capacity-building projects;
  - Meet with Board representatives of the Foundation for Environment and Development in Cameroon (FEDEC) in Cameroon;
  - Meet with parties responsible for EMP compliance monitoring and review relevant monitoring records;
  - Conduct a closeout meeting with EEP/ITCO and COTCO management and EMP personnel, Chad and Cameroon Government officials, and a World Bank Group representative from Cameroon, focusing on key findings, correction of any factual inaccuracies and discussing possible corrective/upgrade actions.
3. The closeout meeting was conducted in Douala, Cameroon on May 13, 2002 and the information presented in that meeting has formed the basis for this report as related to the Chad Export Project. The information and opinions presented in this report are those of D'Appolonia and are independent of those of the development Consortium, TOTCO, COTCO, the Lender Group, the institutional stakeholders of Chad and Cameroon, and the World Bank Group.
4. Field activities with the greatest potential direct environmental impact at the time of this visit included the ongoing of pipeline construction and new infrastructure development, including construction activities for the pump stations (PS-2 and PS-3), the PRS, and the landfill at PS-3 in Cameroon, and particularly the construction activities and the beginning of the drilling activities in the OFDA in Chad. Except for the pending road

---

<sup>3</sup> See Appendix A for the detailed Daily Activity Summary

improvements in Chad, most of the initial infrastructure development identified during the previous ECMG visits is complete. Specific footprints corresponding to the extent of current construction activities are identified in Appendix B.

## **EMP OBSERVATIONS**

During the fifth visit, the ECMG did not identify any critical non-compliance situations such that damage was observed to a specifically protected sensitive resource or there was a reasonable expectation of impending damage.

A significant observation at this stage of the Project is that the EMP system is operational with positive performance in both Chad and Cameroon. The ECMG has observed a strong commitment of the Project EMP management and team to fulfill the requirements of the EMP. A second significant observation is that the Capacity Building projects are now operational in both Chad and Cameroon. The ECMG observed an encouraging commitment of both the governmental bodies in charge of monitoring the Project in Chad and Cameroon and the progress of the regional development initiatives in the Oil Field Development Area (OFDA). The ECMG anticipates that both Governments will begin to have increased involvement with the Project, specifically in the field.

The Project EMP management and the two Governments, however, will need to increase their focus on the issues that have the greatest potential for long-term impact, as the Project evolves. Such issues occur mainly in Chad, as once the pipeline has been installed in Cameroon, the potential for significant impacts is limited mainly to environmental issues related to permanent facilities and pipeline operations. The ECMG considers that there are specific points of concern that represent risk to the Project, as well as some areas where continued emphasis is needed from the Governments or Consortium, as follows:

- The delay in the development of the Regional Development Plan (RDP) in Chad;
- The in-migration in the OFDA, particularly with regard to the deteriorating sanitary conditions in Komé Atan;
- The monitoring of the community health especially in Chad;
- The monitoring of the water resources at all permanent facilities;
- The management of the exploitation of the natural resources needed for construction activities, especially at relatively remote locations from the main construction sites (e.g., the gravel extraction area at Bébédjia);
- The decision process for the possible future use of temporary facilities, primarily bridges, if different from the EMP;
- Full capture and assessment of Project safety-related incidents and data, and in general in the record of all the data that are performance indicators, throughout the Project in both countries.

As there have been significant delays in the preparation and implementation of the Regional Development Plan in Chad, the Consortium should work closely with the Government of Chad to mitigate against situations that could worsen over time.

The specific observations and the issues of concern are highlighted in the following sections. The ECMG will follow up on these issues critical or identified as potentially critical.

## **Socioeconomic Issues**

### **5. *Inflation (Chad and Cameroon) and Food Situation in the Oilfield Region (Chad)***

#### *Project Strategy:*

According to the EMP<sup>4</sup>, responsibilities of both the Consortium and the Government with respect to inflation monitoring, containment and mitigation are as follows:

- The monitoring of local inflationary pressures in villages near the construction camps is a responsibility of the Consortium.
- The development of “appropriate policies” to attenuate inflation is a responsibility of the Government.

#### *ECMG previous recommendations:*

As a result of the ECMG fourth mission, the Consortium was advised to establish commissaries for workers in Komé. These commissaries would be aimed at mitigating observed inflation of staples on local markets, where intervention would be beneficial to both the local population and workers.

#### *Observations:*

At the time of ECMG fifth visit to the OFDA, commissaries were not operational, but we understand that steps are being taken by Tchad Cameroun Constructors (TCC), the Contractor with the highest employment in Komé, to have commissaries operational in the near future and that a specialized firm to manage the commissaries is being recruited. Commissaries are needed as soon as practical because the period from April to October is the one with the highest potential for inflation.

In Chad, in the vicinity of OFDA, market intervention by *Office National des Céréales*<sup>5</sup> has helped reduce the risks of a grain shortage in Logone Oriental, the *Département* in which the Project is operating.

In Cameroon, monitoring of inflation at Project site markets shows that the price of staples consumed by the local population has not increased more than in other places of the country. However, meals served at restaurants and rental prices have increased in Project sites.

#### *Recommendations:*

- 5.1 Expedite implementation of commissaries in Komé.
- 5.2 Use lessons learned from commissaries developed at other Project sites<sup>6</sup>.

---

<sup>4</sup> EMP, Chad and Cameroon portions, Volume 1, Socio-economic topic #1

<sup>5</sup> National Office of Grain, a Government agency aiming at ensuring national food security by importing, transferring from one region to another and storing grain.

<sup>6</sup> Sites where commissaries have been developed include Bam (David Terrassement, DT) and Bemboyo (Sogéa-Satom).

## 6. *In-migration*

### *Project Strategy:*

The EMP contains provisions in Volume 1 (both countries) under “Socioeconomic topic #1”. For Chad, more details are provided in Appendix H to Volume 4 (Regional Development Plan), which assesses the potential impact of migration to the project area and proposes mitigation measures.

The split of responsibilities between Governments and the Consortium is the following:

a) Mitigation measures associated with direct Project employment are the responsibility of the Consortium; the strategy to minimize in-migration of job-seekers is based upon appropriate employment practice, and includes the following:

- Local hiring of unskilled workers in the villages where work takes place;
- Prohibition of hiring at the gate; semi-skilled or skilled workers have to apply through the national employment agencies (Chad) or at the hiring offices opened by the contractors (Cameroon); preference is given to locals;
- Information campaigns<sup>7</sup> to publicize the kinds of jobs available and explain how hiring is done, to be organized together with the Government;
- Monitoring of in-migration to project sites (population growth, inflation, change in land values, demands on infrastructure).

b) Mitigating the impact of the spontaneous relocation of itinerants to the Project area in response to the perceived opportunity of finding employment is the responsibility of the Government:

- In Chad, implementation of the Regional Development Plan, which includes measures targeting the towns of Doba and Bébédjia in the agricultural, commercial, housing and public infrastructure sectors;
- In both countries, assist the sponsors and consult with local authorities as required.

### *ECMG previous recommendations:*

As a result of the ECMG fourth mission, the following actions were recommended for the Consortium and both Governments:

- Launch a radio information campaign in both countries to explain the employment needs and processes, and why it is not useful to seek employment at the camp gates;
- Initiate monitoring surveys for the areas with in-migration;
- Develop and implement mitigating measures;
- In Chad, make the implementation of the Rapid Intervention Measures in Doba and Bébédjia a priority.

---

<sup>7</sup> EMP, Chad portion, Volume 4, Appendix H, § 4.2

*Observations:**Komé area (OFDA), Chad*

Komé Atan, the spontaneous settlement opposite to the main gate of Komé Base, has continued to expand over the last quarter. The Consortium's socio-economic team counted a total population of 1,720 individuals in February 2002, while it was 330 in July 2001. The ECMG has observed that more houses have recently been constructed in the eastern side of the village. Sanitary conditions have deteriorated. Drainage is inadequately controlled. Solid waste is not collected and very few latrines are available. The water tap installed by TCC is not managed. Houses are located randomly, and no proper accesses are maintained, which poses fire risks and makes drainage very difficult. Vehicles, most of them from Project subcontractors', are parked in a disorderly manner, although parking space is available opposite to the Komé Base main gate. With the coming of the rainy season, the potential exists for a worsening of public health problems.

Another smaller spontaneous settlements has developed over the last few months at Komé 5 (population about 500), while a daytime market exists at the Miandoum gathering station. For the time being, these are different in character from Komé Atan, as they are still essentially markets with merchants residing there together with some job-seekers. The settlement at Komé 5 is located a few meters from a drilling pad.

A census carried out by TCC indicates that in-migration is insignificant in other villages within the OFDA (cantons Béro, Komé and Miandoum).

*Doba and Bébédjia, Chad*

According to a preliminary demographic survey carried out by the Consortium, the number of immigrants to Bébédjia was about 3,000 persons in 2001. Significant immigration has also taken place in Doba. Interviews carried out by the ECMG in both towns indicate that the sharp increase of the cost of lodging is a major concern. This affects non-local Project workers to a limited extent as they are usually given a housing allowance, but is detrimental to the part of the local population that needs housing, such as civil servants and students.

Although most Komé non-local workers have chosen to reside in Doba and Bébédjia, the Project has taken only limited action to mitigate the impact of this influx on these communities. To our knowledge, no loan policy has been established to enable workers to build their own houses, which would have eased the tension on the local housing market.

Some of the actions planned under the Rapid Intervention Measures have started, especially the support to sanitation improvement (solid waste collection and disposal) in both towns.

*Bemboyo, Cameroon*

The population has sharply decreased in the recent weeks following the completion of the road works and the resulting retrenchment of workers. Many houses are now empty. The main issues raised by the local population relate to the water, power and health care services, that Sogea-Satom was providing to the village. The Project is in the process of



developing of a long-term land use planning scheme, in consultation with the local authorities and population.

#### Bélabo, Cameroon

Willbros Spie Capag Joint Venture (WSJV) has demobilized its Bélabo camp. The Project has carried out a detailed demographic study which has the following main results:

- The population increased 23% between January 2001 and April 2002;
- The baseline population of 13,610 has increased a net of 3,070 (4,950 have immigrated while 1,880 have already left).

#### Doyo, Cameroon

Doyo is a small village located between Bélabo and Meïdougou where WSJV has developed a temporary work camp (Camp 2, formerly known as Mararaba Camp). According to demographic surveys carried out by the Project, the original population of 140 identified during the baseline study increased to 645 by the peak of Project activity in April 2002, excluding WSJV workers housed in the Camp (except for the unskilled labor recruited from local villages, all of the WSJV workers are housed in the Camp). The increase in population is caused by job-seekers and people engaged in various commercial activities, including a number of prostitutes. Housing and sanitation conditions are very poor. Fortunately, a drilled well with a hand pump had recently been installed by a Government project in the locality.

#### Lolodorf, Cameroon

The WSJV work camp has been operating near Lolodorf for about two months. According to the *Sous-Préfet* who met with the ECMG, no significant social adverse impact has been observed. The development of commercial activities, although for a brief period, is reported to have brought economic benefits to the local population.

#### Ndtoua, Cameroon

The WSJV work camp was demobilized after about three months of operation. The migrants have left and most activities that flourished during pipeline construction (bars, restaurants) are now closed. The village chief has indicated to the ECMG that the social impact of the massive presence of workers generally remained acceptable and his main concern is that the temporary facilities be reused for the benefit of the community.

#### *Recommendations:*

- 6.1 OFDA - Komé Atan: Implement (*Comité Technique National pour le Suivi et le Contrôle*, CTNSC with Consortium assistance) three complementary projects, on the following aspects:
  - Development of a Land Use Plan for Komé Atan,
  - Water Management,
  - Solid Waste Collection and Disposal.
- 6.2 OFDA: Develop (CTNSC with Consortium assistance) a Land Use Plan applicable to the OFDA as a whole;
- 6.3 OFDA: Consider immediate implementation of a development management scheme for the Komé 5 settlement, which may include its relocation, and should be focused on preventing uncontrolled development, especially due to its proximity to oil field operations;

- 6.4 OFDA: Give priority (CTNSC and *Fonds d'Actions Concertées d'Initiative Locale*, FACIL) to the three cantons of the OFDA (Béro, Komé, Miandoum) in accessing both FACIL instruments (community grants and small business loans);
- 6.5 All areas: Continue in-migration monitoring and process the information acquired in a consistent manner (Consortium);
- 6.6 See also recommendations listed under Employment (Section 7) and Workers' Accommodation (Section 8).

## 7. **Employment**

### *Project Strategy:*

The objectives of the employment policy and the commitments of the parties involved, including those of the two Governments, are presented in the EMP.<sup>8</sup> Employment objectives include “ensuring equitable distribution of employment opportunities, ..., giving a priority to communities that are most affected by the work at the Canton and village levels” and “minimizing impact of work force housing on surrounding communities.”

Contractors may not hire at the gate of their work sites. They are expected to hire unskilled workers in the villages where construction takes place and rely on village chiefs to help implement this process and to give priority to locals for skilled and semi-skilled jobs. All contractors have developed a Socio-Economic Plan and have a Socio-Economic Department to address these issues.

### *ECMG previous recommendations:*

As a result of the ECMG fourth mission, the following actions were recommended for the Consortium and both Governments:

- Strengthen the monitoring of hiring procedures;
- Keep explaining the hiring procedures to local administrative officials and request them not to interfere in the hiring process;
- Monitor village labor done mainly for the Project (fairness of payment, safety advice and equipment), and prohibit child labor.

### *Observations:*

Monitoring of hiring procedures has been strengthened. In Chad, several non-compliances have been identified and corrected. In Cameroon, some unrest occurred in Bemboyo (Dompla) in late January 2002 resulting from the perception of unfair hiring practices. Intervention by the Consortium and local administrative authorities has successfully reinstated the original hiring practices of the Contractors involved, resulting in an easing of local tensions.

In Chad, radio messages have been broadcasted in French, Ngambay and Arabic, from both national and local radio stations to enhance the Project hiring policies. No such action has been taken in Cameroon.

---

<sup>8</sup> EMP, both countries, Volume 1, Section 2, Socio-economic topic #3

However, at a gravel extraction area near Bébédjia (Chad) where the gravel is purchased by TCC through a sub-supplier called *Sablères du Logone*, village labor was still observed to occur in unsafe conditions.

*Recommendations:*

- 7.1 Continue the improved monitoring of employment procedures (Consortium);
- 7.2 In cases where village labor is done for the Project outside of normal employment procedures, monitor effectiveness and fairness of payment and prohibit child labor. Ensure safe procedures and proper PPE are utilized. (Consortium).

## 8. ***Workers' Accommodation***

*Project Strategy:*

The EMP<sup>9</sup> provides that “National Project workers whose residence is more than a one-hour drive from a Project Work Site:

- may be housed in nearby communities,
- be transported to and from the Work Site,
- be provided with a lunch on workdays,
- be provided a housing allowance, OR
- be housed in single status Project work camps, and
- be provided three meals per day.”

Job Specification Coordination Procedure (JSCP) 29 “Socio-Economic Interactions”<sup>10</sup> states under section 5.19 that “In cases where Contractor’s camp moves during a work season, Contractor shall house non-Local labor at its camp(s) and have the option of housing Local labor. In cases that Contractor’s camp does not move during the work season, Contractor may choose to house workers in its camp(s) or shall work with the community, local entrepreneurs and the Project to ensure that adequate housing and facilities are available in the local community to accommodate workers without displacing or adversely affecting the existing population or environment, or overloading existing infrastructure.”

*ECMG previous recommendations:*

During the ECMG fourth mission, significant adverse effects were observed in Doba, Bébédjia, and Komé Atan resulting from, among other reasons, deficiencies in the implementation of the above-mentioned policies. Accordingly, the Consortium was advised to:

- Review the implementation of all Contractors’ housing policies and enforce compliance, especially with respect to TCC, the main employer in Komé;
- Provide basic accommodations to Doba Logistics drivers waiting in Komé base.

*Observations:*

Some action has been taken by TCC in Bébédjia at the Mayor’s request to create access to newly developed lots. This is expected to allow new houses to be constructed by the workers for their own needs. However, this development does not seem large enough, and, more generally, little progress appears to have been achieved: interviews conducted

---

<sup>9</sup> EMP, Chad Section, Volume 1, Socio-Economic Topic #5 (Housing).

<sup>10</sup> JSCP: Job Specification Coordination Procedure; EMP, Cameroon and Chad, Volume 2.

by the ECMG in Doba and Bébédjia indicate that the issues and concerns remain the same as were previously observed:

- Shortage of houses and rooms for rent in both towns,
- High increase in rental rates, with adverse affects on both workers and those in the community who do not own their houses (for instance, civil servants and students/pupils).

Although the ECMG understands that basic sanitary facilities and accommodations will be available to Doba Logistics drivers when the final bonded storage area comes into operation at Komé 5, no progress has been made at the current parking location at Komé Base, which is still being used due to the delay in starting the operation of the facility at Komé 5. If no measures are taken, the same issue will arise when the Gadjibian storage yard starts operation as no facility is currently available there for Doba Logistics drivers.

*Recommendations:*

- 8.1 Enforce EMP requirements in Komé that workers' housing should not impact the local communities. Potential actions to minimize adverse impact include:
  - Loans to workers (refer to experience gained in Cameroon – Sogea-Satom Bemboyo), such that they can quickly build a simple house; an approximate amount for such loans could be about 50,000 CFA Francs with a reimbursement within three to six months; 50,000 CFA Francs represent an approximate construction cost for a single-room hut;
  - Development of lots in both towns of Doba and Bébédjia (leveling, construction of latrines);
  - Development of lots in the OFDA, for example in Komé Atan once the Land Use Planning study is available.
- 8.2 Provide adequate accommodation and sanitary facilities to Doba Logistics drivers.

## 9. *Temporary Facilities*

*Project Strategy:*

The EMP<sup>11</sup> provides that “as the infrastructure, logistics and pipeline contractors move from areas where construction has been completed, the support facilities will be decommissioned if no further use is warranted.” Temporary bridges built in Cameroon for the pipeline construction must be removed when works are complete, in accordance with the Induced Access Management Plan<sup>12</sup> and/or because their design as temporary structures does not, in principle, allow for long term reliability.

*Observations:*

In Cameroon, COTCO and the *Comité Permanent de Pilotage et de Suivi du Pipeline* (CPSP) have worked together to address this matter. The following process has been initiated:

- COTCO has prepared a list and description of their temporary facilities for CPSP consideration and further decision;
- CPSP has consulted via the field monitors and directly with local authorities and the populations for some of the concerned facilities;

---

<sup>11</sup> EMP, Supporting documents, Volume 1, Section 8

<sup>12</sup> EMP, Cameroon portion, Volume 1, Appendix D

- The information gained during these consultations is in the process of being fed back to COTCO, together with proposals for final use.

For the bridges, ECMG understands that COTCO plans to dismantle these structures consistent with the EMP, particularly in environmentally sensitive areas (e.g., the Lom River), where any benefit to local villages must be weighed against issue of induced access. Local authorities and the local population want to keep the bridges in place. In the case of the bridge over the Lokoundjé River at Bikoué near Lolodorf, the village chiefs interviewed by ECMG and the *Sous-Préfet* of Lolodorf are insistent that a solution be found to keep the bridge in place, as it is an obvious benefit to several villages.

For the camps and storage yards, the issues of final ownership of the structures<sup>13</sup> and of long-term maintenance remain to be clearly addressed by the Government of Cameroon. Should a transfer to a governmental body be considered, neither COTCO nor the EPC contractors can have a long-term liability over these structures that were deemed to be temporary.

In Chad, this matter has not yet been addressed, but some facilities will also have to be decommissioned soon (Bam, Mbéré and Kagopal camps).

*Recommendations:*

- 9.1 If the Cameroon Government wants to assume control of temporary facilities that are not reclaimed to their original condition, include an assessment of technical aspects and environmental and social impacts associated with both potential removal and maintenance (CPSP);
- 9.2 Clarify long-term liabilities of all concerned parties, including COTCO, EPC contractors, the Government of Cameroon and local entities that may take responsibility for transferred facilities (Consortium and CPSP);
- 9.3 Review proposed changes in compliance with the EMP Change Management Process; in particular, include Lenders' consultation should any changes be contemplated regarding the destination of any of the temporary bridges that could represent a major change to the initial provisions (Consortium).

## 10. *Regional/Community Compensation*

*Project Strategy:*

This element of the compensation package is intended mainly to offset community losses such as natural resources and various inconveniences.

*Observations:*

*Cameroon:*

The first phase of the process is complete. All villages have been visited at least twice by a facilitator who helped the community formulate projects either from within a "catalogue" or other projects that the villages were free to elaborate and cost themselves. Out of 241 concerned villages, 20 have postponed their decision. Most of the villages

---

<sup>13</sup> The land for these facilities has been acquired by the Government of Cameroon (private property of the State). It needs to be clear who will be the owner of structures, either the Government or a local entity.

which postponed their decisions had requested rural electrification, but eligible regional compensation amounts were not sufficient and COTCO has redirected these projects to the *Agence Nationale d'Electrification Rurale*<sup>14</sup> for potential additional funding. All projects are now under technical and cost review at COTCO before the final endorsement of projects by relevant Cameroon Government departments can take place through CPSP. Contracting procedures for construction and/or procurement will then be launched.

*Chad:*

GTZ<sup>15</sup> is in the process of mobilizing its personnel and other resources to begin the compensation process.

*Recommendations:*

10.1 In Chad, ensure consistency between actions undertaken by the Regional Compensation component of the Project and those carried out by FACIL and avoid overlaps (Consortium and CTNSC/FACIL).

## 11. *Individual Compensation*

*Project Strategy:*

Detailed procedures have been developed in both Chad and Cameroon to identify stakeholders and provide them with an appropriate compensation for their losses associated with the Project. This compensation is paid in-kind and/or with cash. The Project has also developed a grievance management processes consistent with applicable legal procedures.

*ECMG previous recommendations:*

As a result of the ECMG fourth mission, the following actions were recommended:

- Cameroon: Follow-up on disputes filed with the National Compensation Commission;
- Cameroon: Solve quality problems encountered with in-kind compensation articles;
- Chad: Expedite delivery of in-kind compensation in Chad.

*Observations:*

Pending disputes in Cameroon are a sensitive issue to NGOs. The number of disputes appears to be recently increasing due to numerous claims associated with temporary occupation and damaged crops resulting from the pipeline construction. These disputes are allocated to COTCO for treatment as there is no Cameroonian Government involvement in this type of compensation. Although mechanisms are in place to process grievances and disputes, it is still necessary to insist that Contractors strive to reduce additional land use and damages to crops, which will result in fewer claims.

The "Social Closure" process recommended by the ECMG has been prepared by the Consortium in Cameroon and is expected to provide an adequate framework for obtaining closure on pending individual compensation issues.

---

<sup>14</sup> National Agency for Rural Electrification.

<sup>15</sup> GTZ: Gesellschaft für Technische Zusammenarbeit (the technical cooperation organization of the Government of the Federal Republic of Germany).

In Cameroon, the Consortium is prepared to recall defective bicycles previously distributed and replace them. New bicycles will be procured from a Spanish firm.

In Chad, the delivery of in-kind compensation was delayed as certain items (ploughs and carts) were unavailable on the local market. These problems are being solved and the Consortium has resumed deliveries.

*Recommendations:*

- 11.1 Minimize additional land requirements (especially associated with the Spread 1 pipeline construction) and expedite treatment of pending compensation disputes (Consortium).

12. ***Social Closure***

*Project Strategy:*

The Project is developing a procedure to reach social closure on a village-by-village basis, including compensation at individual and community levels, local employment, rehabilitation of works areas, and pending disputes.

*Observations:*

A detailed process has now been developed in Cameroon. The ECMG is of the opinion that this process is a comprehensive attempt to address relevant issues. The proposed process involves the Government and an independent observer.

*Recommendations:*

- 12.1 Develop a similar process for Chad (Consortium).

13. ***Indigenous Peoples Plan and Other Actions Aimed at Indigenous People***

*Project Strategy:*

An Indigenous People Plan (IPP) is to be implemented through FEDEC<sup>16</sup> to provide assistance to Bagyeli/Bakola (Pygmy) communities in the Project area.

*Observations:*

FEDEC has recruited a Community Development Facilitator who has been in place since early May 2002. The first action to be planned is the assistance to Bagyeli/Bakola Pygmies for the issuance of identity documents. COTCO is committed to support the salary of this individual for three years. In the meantime, a Regional Compensation-type Program for the Bagyeli/Bakola settlements in the Lolodorf-Kribi corridor has been added. This Program will use the priorities identified in the extensive consultations that have been held with the settlements to provide this population with an in-kind compensation for the temporary loss of forestry products and the inconveniences during construction activities. An information campaign has also been organized for Bagyeli/Bakola Pygmies to enhance awareness of the risks associated with the pipeline construction.

---

<sup>16</sup> EMP, Cameroon portion, Volume 4.

One interview held by ECMG with a Pygmy household near Kribi indicates that land tenure remains a priority issue, as was mentioned before by ECMG.

In Northern Cameroon, another specific awareness campaign has targeted Peul Mbororo herders with a similar objective.

*Recommendations:*

- 13.1 Ensure consistency of the actions undertaken by FEDEC under the IPP and by COTCO under the Regional Compensation Program (FEDEC and Consortium).
- 13.2 Develop a detailed action plan, including actions to deal with the land tenure issue (FEDEC) – Refer to ECMG first mission report.

14. ***Archaeology and Cultural Properties***

*Project Strategy:*

The Project focuses worker awareness on cultural property issues and archaeologists have conducted surveys in advance of current activities. A guideline entitled *Handbook on Archaeological Sites in the Chad Development Project Area* has been developed for use by the Project's EMP staff.

The Compensation Plan (Volume 3 of the EMP – Cameroon Portion) describes the types of modern sacred tribal sites expected to be encountered by the Project and the type of compensation for these sites. The Job Specification Coordination Procedure (JSCP), Section 29, Subsection 5.11, states that if sites of archaeological value are discovered during construction, the Contractors shall leave the archaeological findings undisturbed and shall immediately report the event to TOCTO/COTCO, who will instruct the Contractors as to how to proceed.

*Observations:*

Based on interviews with field archaeologists, ECMG understands that procedures are in place for the archaeologists to survey the properties before and after they are cleared for construction activities. The actual trenching associated with the pipeline construction is also being monitored. The archaeologists report that they have made several significant findings: in particular, a new rock shelter and an early Iron Age village have been uncovered in Cameroon. Archaeologists will communicate their results in an Esso-sponsored public forum in Chad at the end of May.

According to the EMP, the two Governments should facilitate relations with the Ministries in charge of protection and preservation of cultural properties, in order to make the research done under the Project valuable and recognized at national, international and academic level.



## **Health**

### 15. ***First Aid and Medical Evacuation***

#### *Project Strategy:*

The EMP requires that an individual capable of providing basic first aid, such as CPR and control of external bleeding, be available at each geographically isolated work unit. In addition, Contractors must provide prompt transportation for the injured person to an infirmary/trauma area. According to General Project Specification (GPS) 010, title 8, Table 3, all project staff is to receive a basic course in first aid and one worker at each work crew is to receive training in advanced first aid. According to JSCP-23, item 5.2.10, at least 10% of the Contractor's workforce should be trained in first response level first aid and each work area should have, at a minimum, one first aid trained worker. Medical evacuation alternatives are location-specific and should be defined in each Contractor's Health, Medical and Sanitation Plan. Drills are to be conducted to train managers on evacuation procedures.

#### *Observations:*

- In most of the visited work sites the presence of workers trained in first aid was found to be consistent with the EMP requirements.
- Workers at PS-2, PS-3, and PRS work at short distances from their respective clinics. Therefore, they may easily reach good quality response in case of accidents. The proportion of workers trained in first aid is adequate. In these locations the first aid responder bags in the ambulances and clinics are fully equipped and supplied with gloves, gauzes and other essential materials. Easily visible identification such as marks on hard hats and arm bands were not always present at work sites, however. SOS indicated that a distribution of identification markers was about to be made to the first aid helpers at PS-2.
- The WSJV health and safety system is capable of providing adequate first aid and advanced care for accident victims. A trained nurse with an ambulance fully supplied with a responder bag, oxygen bottle, and stretcher is stationed at the most critical working areas along each Spread and is responsible for covering reasonable distances between work crews. Adequate numbers of first aid trained workers were present at the sites visited along Spreads 1 and 2.
- The ECMG received a copy of training materials prepared by SOS for basic and advanced first aid courses. These materials contain first aid procedures for life threatening conditions. The procedures are adequate when practiced by suitably trained persons.
- On the Project road, 10 km south of M'Baïbokoum a Doba Logistics convoy with more than 20 buses was found to be inadequately prepared to respond to a medical emergency. The lead escort car did not have an adequately trained first aid responder. The tail escort car had a better trained helper, but his training was still inadequate to respond to a medical emergency. The first aid box did not contain the latex gloves needed and the amount of gauze was insufficient to safely handle wounds with moderate bleeding.
- Although cellular and radio communication is still often difficult, the Project recognizes that doctors or nurses should be provided with an improved communication system (e.g., dedicated radio channel). The ECMG understands that that actions will be taken on this matter as soon as practical.

*Recommendations:*

- 15.1 Provide all workers trained for advanced first aid with identifying arm bands and identification signs in their hard hats to make them easily identifiable from a distance at work sites.
- 15.2 Ensure that Contractors provide adequately trained first aid responders at each geographically isolated work unit including convoys.
- 15.3 Review the content of first aid boxes with convoys and at work sites to verify that they are adequate for the types of risks and distances from fixed health services. The content of the boxes needs to be consistent with the procedures defined during the first aid training courses. Make sure to include disposable latex gloves as Personal Protective Equipment (PPE) for the first aid helpers, as well as latex rubber bands or tubes and rods to be used as tourniquets for stopping bleeding. Escort cars should be equipped with stretchers to properly handle, place in a resting position, and transport injured persons to the closest health service.
- 15.4 Improve communication systems for doctors and nurses in remote sites as soon as practical.

16. ***General Medical Care****Project Strategy:*

The EMP requires that contractors have a Health Care Provider (HCP) with competence in the field of preventive medicine, the ability to properly handle trauma and emergency cases and experience in working in remote areas. The Contractors have been required to prepare Health Plans based on the guidelines provided by the EMP. The EMP also states that it may be necessary to update the Health Plans to the actual requirements of workers as the project advances. Health clinics at work sites and at the main camps are required to be able to provide good primary care, maintain and operate a sick bay, and to ensure referral to previously certified hospitals or clinics outside the camps. Laboratory and X-ray equipment are important elements for following the procedures established in the medical protocols and should be installed at the clinics or made easily available from other health institutions in its vicinity.

*Observations:*

- Doctors, nurses, and professional support staff have generally good knowledge of the technical and management documents and procedures. In addition doctors are in charge of several tasks, but different approaches were observed among Contractors. For example, the chief doctor at PS-2 and PS-3 provides medical care and participates in the preparation of Job Safety Analyses (JSAs), conducts tool box talks, and is responsible for drinking water quality, kitchen, laundry, and vector control. The doctor at the WSJV clinic at Meidougou does not participate in the JSA process.
- As observed during the ECMG fourth mission, the SOS-operated Clinics (at WSJV camps, PS-2, PS-3, TCC Komé main camp, and Pride-Schlumberger Camp) had Health Plans and adequate medical protocols and other required documents available to the health staff. However, ECMG observed that the camp populations at fixed installation construction sites have outgrown the initial projections upon which their Health Plans were based.

Clinic location	Initial estimate	Current users
Driller's camp	290	1,150
PS-2	100	800
PS-3	150	650

- As indicated in the ECMG fourth report, the routine use of clinical laboratory tests and portable X-ray exams are part of the Contractor's Health Plan medical protocols. However, significant delays are experienced in this matter. The following table summarizes the current status for camps at the fixed installation construction sites.

Clinic location	Laboratory	X-Ray service
Driller's camp	Not planned	Not planned
TCC Komé	Operational	Not received yet
PS-2	Not installed	Not installed
PS-3	No technician	Not installed

The ECMG understands that the initial Health Plan for the Drillers' Camp prepared by Pride relies on the TCC Komé clinic for its radiological and laboratory needs. However, since December 2002, the TCC clinic has discontinued this laboratory support because of the growing number of their users.

- As discussed in Section 8, minimal sanitary facilities for truck drivers at Komé are still not available.

*Recommendations:*

- 16.1 Update Health Plans in some camps to account for their actual populations, such as the Driller's Camp, PS-2, and PS-3.
- 16.2 Staff and equip these clinics according to the upgraded plans.
- 16.3 Encourage the participation of all staff medical doctors in the JSA preparation process.

17. ***Preventive Medicine***

*Project Strategy:*

The EMP emphasizes the prevention, early diagnosis and treatment of communicable diseases, especially, those transmitted by food, water, and air, vectors, and person to person. The EMP especially stresses the risk of sexually transmitted diseases and AIDS and emphasizes health education and easy availability of condoms. The EMP strategy is to minimize the transmission to and from the community, as well as between workers and from the camp and working environment. Vector control measures include the elimination of breeding sites for mosquitoes, flies, and rodents. Prevention includes health education and immunization programs. Doors and windows of living quarters, kitchens, and offices are to be screened to avoid the presence of insects. Living quarters need to minimize the probability of airborne diseases. Health orientation is to be offered to all employees when they join the work force. This consists of general health education, personal hygiene and the prevention of communicable diseases prevalent in the area.

*Observations:*

- All of the clinics visited have posted AIDS warning posters at working places and nearby villages, provide information on Sexually Transmitted Diseases (STD) and AIDS, and offer information on these diseases and risks in the initial induction to employees. Their medical staffs also participate in the toolbox meetings, offering advice and warning on the risks of STD/HIV and provide free distribution of condoms. The ECMG found that condoms were readily available at all clinics and other easily accessible places.
- Weekly and monthly health reports show malaria and fever as the primary causes of medical consultation. Periodic spraying of insecticides is reported to be done at all camps and clinic doctors control the frequency of spraying. Insect repellent and insecticides are available to Project and Contractors' staff. The policy of wearing long sleeve shirts is being enforced.
- Several malaria cases have been observed in the workers' population. Five expatriates involved in Project activities have recently died as a result of malaria or as a result of likely complications from malaria (i.e., pneumonia). Awareness training has been intensified throughout the Project work areas with increased emphasis on protocols for chemoprophylaxis and for the immediate treatment of the disease.
- Risk of other vector borne diseases is apparently higher in some geographic areas. Oncocerciasis is present in some spots at Project area, for example, in the Bélabo and M'Béré river areas. Tsetse flies have been found at Bipindi and in Lolodorf. At these locations, traps specific to tsetse flies are now installed around the camps. None of the captured flies have been found to be infected as of yet. Despite the Project awareness and prevention campaigns, some living quarters (i.e., at the WSJV camp in Meidoukou) were observed not to have screens or double doors or other means to keep insects out of the buildings.
- Kitchen waste was found to be inadequately segregated and disposed of at the dedicated site within the Lolodorf camp, generating a breeding site for flies and other insects.
- During the fourth mission, the ECMG observed that food handling was not safe in some kitchens, particularly because of potential cross contamination between raw meat and cooked food, presence of flies, and/or poor design. At TCC Komé camp, the management has seriously taken the task of reducing microbiological contamination of food during its processing. A food safety specialist has been hired by TCC through SOS to carry out daily kitchen inspections and conduct a gradual and planned program for correcting problem using an adequate epidemiological approach. However, there are still examples of unsafe conditions at camps. For example, at Lolodorf camp insect screens or double doors at the kitchen are not present and flies were found inside the food processing area. Also, the screened storage buildings had open doors and punctured insect screens at PS-2 and PS-3 camps.
- Workers' housing within the Komé Base, Komé 5, and PS-2 camps includes significant differences in the density of occupancy. Although no direct violations of the EMP were observed during the visit and the non-compliance observed at the TCC main camp in Komé Base was addressed by the Contractor, full occupancy of some of the dormitories could still represent significantly higher risks of outbreaks of respiratory and oral-fecal diseases.

*Recommendations:*

- 17.1 Ensure that screens are correctly installed at kitchens, areas where garbage is stored, and at living quarters where applicable. Automatic closing spring mechanisms are to be installed in all screened or double doors at kitchen and garbage storage buildings to avoid food contamination and infection.
  - 17.2 Review and improve, as needed, the layout of some of the kitchens to avoid cross contamination between raw meat and cooked food. This may require providing additional space in some kitchen, such as at TCC Komé and the WSJV camp in Meidougou. Dedicated hand wash basins for food handlers should be installed inside all kitchens.
  - 17.3 Install hand wash basins for users outside the restaurant areas, close to the entrance.
  - 17.4 Review all relevant procedures and ensure frequent monitoring and supervision of the entire food handling operation from raw materials storage to processing, storage, transportation and distribution of finished food. Place food refuse and garbage in cans in areas protected by insect nets.
  - 17.5 Carry out frequent retraining of all food handlers, focused on the most critical areas, such as adequate food storage and handling of raw meat and finished food.
  - 17.6 Ensure installation of double or screen doors at the living quarters at all the camps, including the WSJV Meidougou Camp, or take other measures to avoid mosquitoes and other insects from entering the rooms.
  - 17.7 Review the layout of workers' housing in the camps (especially camps at fixed installation construction sites) to make sure that living conditions do not represent a significant, incremental health hazards.
  - 17.8 Review the domestic waste handling, segregating and disposal procedures and areas at camps, focusing at minimizing the risk of generating breeding site for flies and other insects.
18. ***Drinking Water Quality Control***

*Project Strategy:*

Potable water is to be supplied to all showers and sinks located in kitchens, bathrooms, and offices. Initial and periodic drinking water quality control needs to meet World Health Organization (WHO) standards. The EMP establishes the standards and specifications based on the American Water Works Association, AWWA, which are to be used in the periodic control of drinking water.

*Observations:*

- As already observed during the fourth mission, the drinking water quality is being analyzed regularly at camps, but this testing, especially the microbiological analysis, did not appear to be standardized. Water distribution at work sites was found to be generally safe. The ECMG understands that a Project initiative is being taken in both Chad and Cameroon to standardize drinking water sample collection and analytical procedures, but at the camps visited during the fifth mission (TCC Komé, PS-2, PS-3, Lolodorf), and at the PRS the technicians responsible for water testing reported that they have not yet received any communication on water quality standardization.
- At TCC camp at Komé records of the test results were not kept after distributing copies through e-mail.

- PS-3 and PRS do not yet have a water quality control laboratory. The Contractors are sending water samples to Douala for analysis.
- Water at the Komé TCC camp has a lower pH than WHO standards required by the EMP.

*Recommendations:*

- 18.1 Ensure that written standards for drinking water sampling, analysis, interpretation, corrective measures, and record keeping are available on site to all Contractors, and distribute test results to all persons involved in drinking water quality control. Methodology for testing should include procedures for collecting and shipping samples to other laboratories when testing requirements exceed the capability of the on-site laboratory.
- 18.2 An effort should be made to maintain drinking water pH between 6.5 and 8.5 at all the camps to ensure efficient chlorination and sufficient free active chlorine to protect treated water from recontamination.

19. ***Community Health***

*Project Strategy:*

To minimize the transmission of communicable diseases within surrounding communities, three different strategies have been established by the Project:

- The EMP strategy is to protect communities from acquiring diseases or increasing their exposure for accidents through health education activities and awareness programs. The EMP emphasizes the prevention of sexually transmitted diseases (STDs), especially AIDS. The strategy for protecting communities is to avoid workers from transmitting diseases, especially HIV, by means of initial orientation and periodic educational activities and by making condoms readily available to all workers. Prevention also focuses on vector-borne disease control, as well as water and food borne illnesses at the camp and work sites.
- The World Bank Technical Assistance projects for Chad and Cameroon are also intended to strengthen both governments' capacity to monitor the impact of the Project, including community health. CPSP in Cameroon and CTNSC in Chad are high level government multi-sectoral bodies created to monitor Project impact, including health.
- Additionally, the Consortium has a commitment to develop a Community Health Outreach Program (CHOP) being implemented through alliances with NGOs to carry out some limited preventive health activities. CHOP activities are coordinated with CPSP and CTNSC activities.

*Observations:*

- As discussed above (Section 17), all camps had posters on Health Education for Sexually Transmitted Diseases and all had an adequate supply of condoms available to their workers. However, clinic statistics show some cases of STDs among workers. Apparently, there are higher risk worker groups which show recurrent exposure through unprotected sexual activities.
- CHOP in both countries has started controlled distribution of impregnated mosquito nets for specific communities under experimental programs.

- As anticipated above (Section 6), the sanitary situation at the Komé Atan settlement is deteriorating and this is a significant concern in terms of community and workers health. TCC has installed a drinking water source for the local community, but the faucet is leaking and stagnant water ponds have developed where mosquito larvae can be observed. Many flies are present around the piles of garbage sitting next to food vendors and community houses, just across the road from Komé Base main entrance. Feces were also observed to be widespread in the field next to the areas with commercial activities and the transport waiting zone in front of the Base. This situation favors the outbreak of food and vector borne diseases to the community and to the camp population.
- Sogea-Satom has completed construction activities in Dompta and consequently its clinic is in the process of closing. Sogea-Satom has been in communication with the Cameroon Ministry of Health to offer facilities such that the Government can continue to offer services. Although the Ministry of Health is interested in this offer, no concrete steps have yet been taken and ECMG's understanding is that a problem to be overcome is that there is no government budget available for hiring personnel and purchasing supplies needed to run the clinic during this calendar year.
- The ECMG visited a private clinic in Doba which is integrated to the public health system and run by a Protestant religious group, the Doba District Hospital, the St. Joseph Hospital in Bébédjia, and the Lolodorf District Hospital. It was possible to collect some raw data from their laboratories on HIV test of blood donors performed from January 1<sup>st</sup> to December 31<sup>st</sup> 2001. Between 8 to 12.2% of blood donor samples were reported positive for HIV. These data seem to indicate the prevalence of HIV reactors among voluntary blood donor populations prior to the Project.
- The World Bank Technical Assistance health components in both countries have just begun their activities and government health programs associated with the Project are not yet operational in the field.
- On May 7 the Ministry of Public Health of Cameroon posted two requests for proposal in local newspapers through the National Committee for Fighting AIDS. The first request is for the realization of a nationwide seroepidemiological study with emphasis on high risk behavior population of the Oil Pipeline Project areas; the second contains the Terms of Reference for the recruitment of a Cameroonian doctor to evaluate the conditions of the functional organization of AIDS treatment affiliated centers and private hospitals network.

*Recommendations:*

- 19.1 Immediately fix the leaking faucet at Komé Atan and periodically remove the garbage to avoid vector borne disease outbreaks to the camp population. More comprehensive recommendations on this issue, as well as relevant responsibilities, are delineated in the socioeconomic chapter of this report.
- 19.2 Extend health education activities, especially those related to AIDS/HIV awareness to bars and night activity centers at communities and guest houses used by Project workers (Consortium).
- 19.3 Develop special educational activities for workers who acquire STD to discourage unprotected sexual activities that bring risks to the worker and to public health (Consortium).
- 19.4 The Ministry of Public Health in Cameroon should take a high-level decision to commission, as soon as possible, a permanent public health center to serve the Dompta community and to officially negotiate with Sogea-Satom officers for

eventual equipment and medicine donations. The Ministry should also undertake special administrative measures to initiate operating the new clinic without waiting for a new fiscal year to allocate budget for this purpose.

- 19.5 The Project would benefit from the services of a senior epidemiologist to carry out a retrospective analysis of available medical records and to process the health data collected throughout the Project work areas to correctly place in perspective any potential impact of the Project on local community health, especially with respect to STD/HIV incidence rates.
- 19.6 World Bank Technical Assistance health sector activities need to focus on monitoring community health, keeping a high priority on HIV/AIDS surveillance. The Project is an excellent opportunity for the Ministries of Health of both countries to strengthen their Epidemiological Surveillance Systems starting at Project areas and monitoring other similar populations outside the Project areas for control purposes.
- 19.7 Collect registered data in Chad on HIV tests of blood samples carried out before transfusions in hospitals and clinics. Data collection should be done at the laboratory level to minimize errors from data processing at district and delegation offices. HIV tests for blood donors and pregnant women are simple and reliable to indirectly assess HIV prevalence in communities close to the Project and follow up its prevalence trends. Government health monitors should select some diseases to trace epidemiological patterns.



## **Safety**

### 20. ***Operational and Worker Safety – Construction Phase***

#### *Project Strategy:*

The Project places considerable emphasis on the issue of safety. A sustainable Safety Management System is in place including dedicated safety personnel and safety procedures. Construction activities are evaluated through a Job Safety Analysis (JSA) process and results are intended to be shared by Project employees at different levels according to different responsibilities. Operations are evaluated, not just from the standpoint of worker safety, but also environmental protection, third party safety and protection of goods. Specifically with respect to worker safety, the Project is committed to provide a safe working environment with appropriate Personal Protective Equipment (PPE) at all levels, including Contractors and their subcontractors.

#### *Observations:*

ECMG's observations from this trip are essentially similar to the last trip. Numerous JSAs have been developed since the beginning of construction activities, but ECMG has still observed some field procedures that do not follow an integrated "fail safe" approach.

Some progress has been made in translating JSAs for workers who are not fluent in English or French, primarily for the Latin American workers that speak Spanish. Nevertheless, the process of translation is not complete and some communications difficulties were still observed in the field.

Significant differences in operations are reflected in the safety statistics between the two pipeline spreads operating in Cameroon<sup>17</sup>:

	Spread 1	Spread 2
No. of incidents	91%	9%
Total Recordable Incidence Rate (TRIR)	87%	13%
Lost Time Incidence Rate (LTIR)	100%	--

The unavoidable conclusion from these data is that management and workers with Spread 1 does not have the same safety conscience as those with Spread 2.

Although the use of PPE is widespread and generally appropriate, the ECMG still has noted example where the PPE is not appropriate to the task at hand and substantial improvements in working conditions are still needed at the Bébédjia gravel extraction area.

#### *Recommendations:*

- 20.1 Continue to review JSAs to adopt "fail safe" approaches in defining operational sequences.
- 20.2 Continue to translate the JSAs into languages spoken by the workers.
- 20.3 In reviewing work procedures and safety ethics of the different work forces, place emphasis on the activities of Spread 1.

---

<sup>17</sup> First Quarter 2002, percentage of total

- 20.4 Safety supervisors in the field need to ensure that appropriate PPE are used for the different operations.
- 20.5 Strengthen the monitoring of prompt and adequate use of PPE among Contractors and especially their subcontractors; review specifically the operations at the Bébédjia gravel extraction area.

## 21. **Road Safety**

### *Project Strategy:*

The Project is placing a considerable emphasis on the issue of road safety. Significant progress regarding safety has been made along the roads upgraded by the Project (flagmen, community awareness programs, use of physical reduction measures, speed control, etc.). As highlighted in previous ECMG reports, in both Cameroon and Chad, road design is consistent with respective government standards and the design details have been approved by the respective governments. In Cameroon, COTCO has developed a Road Safety Action Plan that is tied to a Phase I Community Awareness Program. A similar program has been developed by David Terrassement (DT) in Chad. Specific procedures are being developed for the special heavy load convoys to carry equipment from N'Djaména to Komé to be completed by the end of June.

### *Observations:*

As a general observation, the ECMG notes that the infrastructure, awareness programs, and safety procedures associated with the Project along the roads either constructed or repaired by the Project have been generally well implemented. Safety issues have occurred where Project traffic has been forced to use non-Project roads and at this point it is necessary to highlight some poor driving practices.

Along the upgraded Project road sections in both Cameroon and Chad, safety awareness programs have been implemented and high road safety standards have been achieved. In Cameroon, the surfacing of roads through villages with double bitumen surface treatment (DBST) has substantially reduced the problem of traffic-induced dust, which also improves safety. Although road construction has not been completed in Chad, the safety measures being followed for convoys along roads defined as "passable" by the Project are well implemented and are proving successful. An exception to this observation was noted in the Komé area where piles of topsoil and poor surface drainage prevented villagers from using the walkways intended to avoid the need for them to walk along the main roads.

As the permanent M'Béré bridge is now in place, convoys no longer use the "northern route" that extends for 900 km over public roads. Any impact of the use of this temporary route has not been documented and a safety awareness program was never implemented. The ECMG understands that the upcoming transportation of the heavy loads along the public roads from N'Djaména to Komé will have the full attention of the Chad Pipeline Management Team (CPMT) and EMP staffs.

An observation of the ECMG since the first mission has been that the driving practices of many of the expatriates in both Chad and Cameroon are not consistent with the safety standards of the Project. The ECMG has noticed on numerous occasions examples of speeding and driving without safety belts and in most cases the individuals associated

with these practices are the expatriates. The unfortunate fatality of a Frenchman in Chad who was apparently speeding without wearing a safety belt is a red flag that the axiom of "leading by example" has not been fully adopted by the expatriate workers.

*Recommendations:*

- 21.1 Implement a safety awareness program and develop specific EMP procedures along the route for the hauling of heavy loads from N'Djaména to Komé.
- 21.2 Improve pedestrian safety in the Komé area by removing construction-related obstacles from village walkways and plan construction such that pedestrian traffic is considered.
- 21.3 Develop improved monitoring of motor vehicle operation and enforce tough sanctions, especially with the expatriate workers.

22. ***Access Control***

*Project Strategy:*

The Project is placing a considerable emphasis on the issue of induced access control. Safety and security measures have been adopted to avoid and/or minimize the interference of Project activities with third parties.

*Observations:*

Improvements have been noted in isolating the camps, yard facilities and workplaces from third party intrusion. A few villagers were noted to be walking near the pipeline construction operation, although it is recognized that a complete exclusion of locals from these areas is a goal not practical to achieve.

*Recommendations:*

- 22.1 Continue to fence temporary Project footprints (e.g. camps, bases, yards).
- 22.2 Continue to provide security personnel (access control) at workplaces (Spread 1 and Spread 2) along the pipeline route, when and where construction activities are executed, to monitor induced access, avoid unauthorized intrusion and minimize the risk for third parties.

23. ***Diesel Fuel Safety and Management***

*Project Strategy:*

The management of the supply of diesel fuel for Project is the responsibility of EEPCI/TOTCO/COTCO.

*Observations:*

ECMG's observations are slightly progressing from those noted in previous visits. The fuel supply contract with Mobil is still being finalized. A specific Fuel Safety and Management Plan has been developed and forwarded to contractors. The lack of a contract with Mobil has inhibited full enforcement of the Plan as yet.

*Recommendations:*

23.1 Implement the Fuel Safety and Management Plan, consistent with the recommendation presented in the previous ECMG reports.

**24. Fire Safety***Project Strategy:*

The Project places considerable emphasis on the issue of fire safety. Internationally recognized rules and recommendations are adopted to minimize the risk of fire at workplaces during the construction activities.

*Observations:*

During the site visit the ECMG noted that significant improvements have been made with respect to fire preparedness since the last mission. In particular, the ECMG noted that fire fighting equipment (e.g. extinguishers, water hoses) are well located and managed to a much better degree than noted in the past. The risk to work areas from bush fires has been addressed where necessary (e.g. TCC – PS-2 yard facilities).

*Recommendations:*

24.1 Safety advisors and monitors need to maintain fire safety awareness and closely monitor the implementation of fire safety measures, in particular to take care that the buffer zones that have been established to minimize the risk from bush fires do not become overgrown.

**25. Safety Management System and Organization***Project Strategy:*

A dedicated Safety Management System is in place, including dedicated safety personnel and safety procedures (e.g. working procedures, JSAs, safety statistics, etc.). Specific safety responsibilities and duties are defined according to Project organization systems developed by EEPCI/TOTCO/COCTO, Contractors and subcontractors.

*Observations:*

Some improvements in the safety management systems have been observed, especially with respect to the availability of safety statistics and safety feedback to the personnel responsible for safety in the field. The challenge is now to interpret the available information in a manner such that improvements can be defined for problem areas (see discussion on the differences between Spreads 1 and 2 in Cameroon in Section 20).

During the visit the ECMG has reviewed raw data used for safety statistics. ECMG's perception is that the Project's use of OSHA guidelines for external reporting tends to narrow evaluation criteria for processing safety data. This approach has led to exclude events which have been considered controversial, but which could have been included in the statistics using a broader approach. The ECMG considers more beneficial for the credibility of the Project to adopt less narrow criteria for safety statistics, including incidents which may be questionable to be included.

*Recommendations:*

- 25.1 Review the practices for assigning different incidents to be incorporated as safety statistics, to make sure that the statistics are fully consistent of Project performances. Ensure capture and full learnings from Project-related incidents that are not reportable under OSHA Guidelines.

## **Biophysical Environment and Environmental Management**

### 26. ***Water Resource Protection***

#### *Project Strategy:*

The EMP contains requirements for groundwater resource protection that include for the installation of monitoring wells around the waste management facilities, as well as the monitoring of community water wells to be assured that Project water supply wells do not adversely affect local water quantity or quality. The EMP also has a requirement for limiting withdrawals of surface water to no more than 10% of a surface water body's flow or volume. If Project water consumption has been found to adversely impact a community water supply, the impacted inhabitants are entitled to receive an alternative water supply.

The Project has developed a Water Monitoring Program which has eight components that include:

- 1 Surveying of local surface water and groundwater usage practices prior to the commencement of Project-related surface water and/or groundwater withdrawals;
- 2 Monitoring of local surface water and groundwater resources while Project-related construction phase water withdrawals are occurring;
- 3 Monitoring of water obtained from Project-installed groundwater source wells/boreholes;
- 4 Regional groundwater monitoring program in the OFDA;
- 5 Monitoring of local groundwater and surface water resources in the immediate vicinities of the Project's permanent facilities in the Republic of Cameroon;
- 6 Groundwater monitoring at the Project's engineered solid waste landfill sites;
- 7 Monitoring of liquid effluents discharged directly to onshore surface water bodies;
- 8 Monitoring of liquid effluents discharged directly from the Floating Storage and Offloading (FSO) Vessel.

#### *Observations:*

Progress has been made in terms of implementing the water monitoring program for the Project, and specifically for the eight components:

- 1 The identification and mapping of village water sources (groundwater wells, permanent and seasonal surface water withdrawal points) within 1 km of Project water sources (surface and ground water) are consistently conducted;
- 2 Water level measurements and quality testing of selected village wells within 1 km of Project water withdrawals are being conducted. The Project Water Monitoring Program indicates that selected community wells will be *monitored on a quarterly basis to determine water levels and quality while Project-related construction phase water withdrawals are occurring*. As pointed out in the ECMG fourth report, the quarterly monitoring of water levels might not establish a sufficient baseline from which to be able to determine if any shortages are due to the Project or natural seasonal variations, although this may be a sufficient program for the monitoring of water quality. The Project addressed this point and water level measurements are now being made on a monthly, rather than quarterly, basis in the OFDA, where water withdrawals are more significant than along the pipeline route and other permanent facility construction areas;

- 3 Monitoring of water obtained from Project-installed groundwater source wells/boreholes is conducted consistent with the monitoring program (see also Section 18);
- 4 Regarding the regional groundwater monitoring program in the OFDA, directed mainly at monitoring water quality, the Project is planning to install several dedicated monitoring wells beginning in 2002;
- 5 This component includes monitoring of local existing, strategically-located community/individual groundwater wells and strategically-located surface water locations in the immediate vicinities (up to 1 km) of the Project's permanent facilities (PS-2, PS-3 and PRS) in Cameroon;
- 6 Groundwater monitoring wells at the Project's engineered solid waste landfill sites (OFDA and Bélabo) have been installed and samples are periodically collected by the Project to obtain background data prior to operations;
- 7 Monitoring of liquid effluents discharged directly to onshore surface water bodies is performed by the Project as per the monitoring program, including water discharge from hydrotesting which was reported within the applicable limits;
- 8 The Project plans to detail the component No. 8 for the monitoring of liquid effluents discharged directly from the FSO vessel at least six months prior to first oil.

ECMG observed that record-keeping of water usage is improved in the OFDA and reported extraction rates from groundwater resources since the last ECMG visit has not reached 90% of the maximum estimated in the EMP for the construction phase.

Based on preliminary evaluation, no impact on local community wells within the OFDA due to groundwater withdrawals has been reported by the Project, that has assigned a senior specialist to this task. However, as data gathering is still in the initial stage, it is premature to reach a firm determination as to whether the Project is or is not impacting water resources, particularly at the OFDA.

The extraction of water from the surface water regime appears to be conducted consistent with Project EMP requirements, including the monitoring of turbidity. Turbidity measurements are also made where construction activities take place next to rivers. Additional significant incidents related to the impact of village water supplies with turbid water have reportedly not occurred since the last visit and the EMP monitors interviewed at the river crossings visited were able to present evidence of water quality testing. This included the discharge (onto land near river) from the hydrotesting being conducted at the Lom River crossing in Cameroon, where a good control system was in place to mitigate soil erosion, stream/river bottom scour and the suspension of sediments.

*Recommendations:*

- 26.1 Rather than delineate users within an one kilometer radius of a Project well as per the monitoring program, identify and focus monitoring on existing and potential "hot spots" in terms of water resource protection, water use and discharge, taking into consideration hydrogeologic and hydraulic watersheds. For example, although the community water supply (a spring) at Ebaka I is farther than one kilometer from PS-3 location at Bélabo, it may be in a downgradient position and potential public concerns could be alleviated if this source were included in the monitoring program (Component No. 5). Consider the installation of dedicated

- monitoring wells at selected locations in the vicinity of the two Pumping Stations and the Pressure Reducing Station in Cameroon, amending Component No. 5.
- 26.2 Design the monitoring well program under Component No. 4 such that the regional characteristics of groundwater flow will be well defined. Begin the installation of the monitoring wells at the OFDA as soon as practical; in particular, a phased approach could be used to make sure that data in the most critical areas are obtained in a timely manner during the construction phase. Consider installing nested wells at different levels within the unconfined and semi-confined aquifers near pumping wells to quantify the influence of water withdrawals on different aquifer systems with pumping tests.
- 26.3 Continue the data collection and develop predictive models of the areas of greatest groundwater usage to assess the significance of groundwater extraction and to provide quantitative evidence that impacts are not significant, especially at the OFDA.

## 27. ***Waste Management***

### *Project Strategy:*

Waste management as defined in the EMP includes a comprehensive list of activities: education and training; recycling; transport, treatment, storage, disposal, and monitoring of non-hazardous and hazardous waste; groundwater monitoring at engineered solid waste landfills; sewage collection, treatment and effluent monitoring. The Project plans to construct two engineered solid waste landfills to dispose of hazardous waste and non-hazardous waste, and a hazardous waste incinerator in Komé. A second third-party incinerator has been identified in Douala. Innocuous solid wastes are disposed of in dedicated pits at properly designated locations, which are surveyed by the Project.

Engineering, Procurement and Construction (EPC) Contractors involved in construction tasks have developed their Waste Management Plans consistently with EMP requirements. Contractor Plans have been approved by Project EMP management. EPC Contractors need to provide domestic waste water collection and treatment systems for the work camps. They have to manage, segregate, and dispose of their innocuous wastes, and deliver their non-recyclable hazardous wastes to the Project facilities for temporary storage and/or disposal, which are located in the OFDA in Chad, as well as at the pump station locations in Cameroon.

### *Observations:*

#### Solid and Hazardous Waste Storage, Treatment and Disposal Facilities

Management of non-hazardous waste has generally improved throughout the camps. The new incinerator at the Komé Base TCC Camp is finally operational, although the outdoor burn area has yet to be restored and good housekeeping practices around the incinerator, and more generally at the waste storage areas, have yet to be established. An expatriate specialist has been hired by TCC to supervise the incinerator operations and train local workers. Although waste handling procedures are generally adequate, at some locations additional care is still needed to sanitize the manual segregation of domestic waste and food refuse streams (e.g., at WSJV Lolodorf camp, as discussed in Section 17 above).

Hazardous waste/material temporary storage capacity is being enhanced at TCC Komé, PS-2 and PS-3, where specific storage facilities are under construction. Significant



amounts of hazardous waste are expected to be transferred from Project construction sites to the newly installed temporary storage facilities and permanent disposal facilities during the construction phase.

The Project engineered landfill at PS-3 in Bélabo, Cameroon, is still under construction although earthworks are nearly complete. ECMG understands that its final layout and function is currently being re-evaluated by the Project. The existing monitoring wells at the site have been rehabilitated.

A third-party hazardous waste incinerator operated by BOCOM in Douala has been installed and is being tested prior to planned upgrades that will take place. The Project is monitoring and advising BOCOM. Spent oil in Cameroon is being sent to BOCAM for processing prior to sale to a nearby cement kiln for use as fuel. Mobil Oil Cameroon is taking steps to move the used oil from Chad to Cameroon for disposal. The hazardous waste incinerator at Komé is scheduled for installation in the late third quarter or early fourth quarter of this year and this should be able to handle the used oil in Chad at that time.

The testing of incinerator ash is taking place in Chad and Cameroon and this has allowed for much of the stockpiled ash to be disposed as innocuous waste. When exceedances of limits have been found, the ash is stored in drums waiting for final disposal at the engineered landfills. Improvements were noted in the management of the innocuous waste dumps throughout the camps, although in some cases it was observed that soil cover is inadequate (e.g., Lolodorf).

A program to develop bioremediation procedures for treating fuel-contaminated soils is continuing to be developed. As noted during the last ECMG mission, the ongoing efforts still need to be standardized in terms of objectives, evaluation of results, reporting and operating procedures, and their effectiveness assessed. ECMG understands that the Project is developing a standardized procedure for handling and treating this waste stream.

#### Wastewater Management

The improvements in the wastewater treatment program highlighted during the ECMG fourth mission and including relocation of treatment units at more suitable and safe locations, expansion of leach fields and improved surface spraying, have been completed and operations are significantly improved. Monitoring of the camp effluent is now being routinely conducted and documented by the Contractors.

During the construction phase, however, other wastewater discharges are generated, including *inter alia* water discharges from pipeline hydrotesting, storm water discharges collected from potentially polluted surfaces and treated through oil/water separators (OWSs), construction plants (e.g., batch plants at permanent facility construction areas). The Project generally discharges to land surfaces, and not routinely to water bodies.

Hydrotesting of the installed pipe has taken place along both Spreads and, as noted in the previous section, the water discharges are reported to be within acceptable limits.

Camp's hydrocarbon storage tanks and filling stations are equipped with oil/water separators (OWSs). The ECMG inspected some of them and their treatment capacity appeared to be questionable, specifically at the new Komé Base filling station and the TCC fuel storage area at Bélabo. These OWSs may be undersized for the amount of influent they can be expected to receive.

#### Management of Drilling Fluids

The reserve pit muds and ponded waters are being tested to assess their characteristics. ECMG understands that these results will be used by the Project to demonstrate and document the innocuous characteristics of such fluids, to define formal closure procedures, and to re-evaluate the need of measures, such as impervious liners, at the pits.

#### *Recommendations:*

- 27.1 Start construction of the permanent waste treatment and disposal facilities in the OFDA as soon as practical.
- 27.2 Finalize the procedures to standardize the treatment options for the hydrocarbon contaminated soils, including their objectives and assessment of treatment results, and ensure that suitable training and PPE are provided to the workers, before new tests are conducted.
- 27.3 Improve the housekeeping at waste handling and storage areas at the main camps, and specifically at the TCC Komé Base Camp.
- 27.4 Ensure that the handling of waste when undergoing manual segregation is conducted in a sanitary manner throughout all the camps. For example, the workers separating the waste at Lolodorf could benefit from improving segregation at the source; more frequent spraying to reduce flies and other insects; or being able to conduct the segregation in a properly screened area.
- 27.5 Ensure that all the innocuous waste dumps are properly and daily covered with soil.
- 27.6 Ensure that, through the implementation of the Change Management Process, the EMP provisions are applied at the third-party incinerator in Douala (e.g., incinerator operating plan, training) or wherever third-parties are involved with waste disposal.
- 27.7 Ensure that hazardous waste is properly stored and transported from the Project sites to newly installed temporary storage facilities.
- 27.8 Review the design of OWSs at permanent and long-term facilities to verify that they are properly sized and are functioning properly. At permanent and long-term facilities, consider placing operations under a roof to reduce the quantity of influent, such as at the new Komé filling station. Ensure frequent inspections of OWSs and implement periodic monitoring of effluents.
- 27.9 Ensure monitoring of water discharges, that may reach surface water bodies, at construction areas for permanent facilities, including *inter alia* batch plants.
- 27.10 Finalize and implement a reserve pit closure procedure as soon as practical, to minimize lag time between drilling and restoration phases and to avoid any impact on resources (land and water).

## 28. ***Oil Spill Prevention and Response***

### *Project Strategy:*

The EMP contains requirements for responding to fuel spills and mitigating the environmental impact of such spills. A General Oil Spill Response Plan (GOSRP) has been developed by the Project. Spill Response Plans have also been implemented by each EPC contractor. The GOSRP serves as a framework for Area-Specific Oil Spill Response Plans (ASOSRPs) required for each defined project area and response sub-organization to be located in Chad and Cameroon.

Project sites, fuel tank trucks and convoys need to be equipped with kits for responding to spills of hydrocarbons, acids, caustics, and other types of dangerous/hazardous/toxic substances.

### *Observations:*

The ECMG was informed that the area specific spill plans in draft form are nearly complete. Tier 2 response kits are available and deployed in both Chad and Cameroon.

Spill response kits were found not to be always available or complete, specifically at one convoy and a fuel truck.

### *Recommendations:*

- 28.1 The Project EMP team and the two Governments, specifically CTNSC (Chad) and CPSP (Cameroon), should coordinate to ensure an effective integration of the area-specific spill response plans within the National Oil Spill Response Plans which are in the final stage of the tendering preparation phase.
- 28.2 Ensure that the area-specific spill response plans include detailed maps reporting the location of potential receptors and access roads for spill response crews.
- 28.3 Ensure that the escort vehicles in the convoys and the fuel trucks deployed along the ROW have proper spill kits available.

## 29. ***Land Resource Protection***

### *Project Strategy:*

The Project is implementing design features that preferentially utilize lands already impacted by human activities, as far as the location of Project infrastructure and oil production facilities are concerned. Project requirements have been generated to limit soil-related impacts, including requirements to limit the land easement widths, use of additional land for construction camps and staging, and land clearing, to control and mitigate erosion, and to reclaim lands disturbed by the Project construction along the pipeline right-of-way (ROW) and at temporary facilities.

### *Observations:*

Observations relevant to decommissioning and closure of temporary facilities are discussed in Section 9 above. The issue relevant to additional land along the two Spreads, raised during the ECMG fourth mission, is still pending, even if actions are being taken by the Project to monitor the incremental land requests and crop damages.

The percentage of incremental land required by WSJV along Spread 1 is still significantly higher than the percentage along Spread 2.

In Chad, a land farming site to treat hydrocarbon-impacted soils was operated by DT close to Bam. At the time of the visit, this land treatment was the only one located outside Project facilities. The site is located at a borrow pit nearly reclaimed. ECMG found that data supporting site closure and soil remediation were not available or were unknown by Project staff. Also at Komé Base the former filling station was closed and a decommissioning plan needs to be implemented.

At the Bébédjia gravel pit, the area of extraction has been significantly expanded since the ECMG fourth visit, following an old branch of the Logone River and reaching the current high water limit. Based on visual observations conducted during the fifth mission, parcels have been fully exploited by *Sablières du Logone*, a TCC subcontractor, and are not reclaimed yet. As discussed in the ECMG fourth report, the area including the extraction site is a flood plain characterized by very surficial ground water, oxbow ponds and streams with relatively high natural and landscape values.

Erosion control measures (e.g., diversion ditches, rip-rap, gabions, etc.) are in place along the upgraded road sections in Cameroon and are under construction in Chad. Erosion control measures are being installed at permanent facilities and have been upgraded at temporary facilities where needed (e.g., Bam camp).

The significant erosion issues, faced by the Project during construction due to morphology, natural soil characteristics, and precipitation pattern, are generally well managed along the ROW. Intensive use of silt fences, sediment barriers and other control measures, particularly at wetland crossings, has been observed, as well as consistent maintenance of stream flow. Maintenance crews have been assigned to work along the pipeline construction segments in order to maintain the erosion control measures and to remove trapped fine materials during the construction phase. Restoration of sensitive points, such as river crossings, is under way at several locations.

Restoration of road borrow pits in Cameroon appears to be properly addressed and formal closure is under way. The Project has accepted with reservations a few sites from Sogea Satom where erosion may be significant during rainy seasons. ECMG understands that these sites will be monitored during the coming rainy season and additional reclamation may be required as needed. The Project borrow pits in Chad, both along the upgraded road and at the OFDA, are still to be closed, although a few of them are under reclamation.

Only a very limited portion of the ROW (0.6%) is considered restored by the Project. ECMG visited some sections of ROW which are considered roughly restored by the Project and observed that the two Spreads employ different restoration procedures. ECMG understands that final restoration will be consistent with the surrounding environment and former land use.

*Recommendations:*

- 29.1 Borrow pit restoration in Chad should limit standing water and maximize drainage as much as possible.

- 29.2 Ensure that the same systematic approach, which is being used along the upgraded road sections, is implemented for all borrow pits exploited throughout the Project construction sites, including the ones related to access roads, ROW, permanent and temporary facilities.
- 29.3 Ensure that physical barriers are put in place along the easement at induced access areas as soon as practical. As active restoration is required at river and road crossings at these areas, planting of seedlings should be considered, also taking advantage of the tree nurseries installed by WSJV.
- 29.4 Investigate (i.e., surface and subsurface soil) and clean up the former fuel station site in Komé Base, as needed.
- 29.5 Assess the conditions of the DT land farming site and provide documentation for site closure.
- 29.6 Ensure that TCC fully restore the exploited parcels at the Bébédjia gravel extraction area, according to a restoration plan that should be developed as soon as practical. Because of the relatively high natural value of flood plain where the gravel is extracted, and the relatively long term operations required to extract the material needed for the construction phase, existing or potential site alternatives should be carefully assessed by TCC and considered by the Project, to limit impacts on natural resources and landscape at the site.

### 30. *Infrastructure Development*

#### *Project Strategy:*

The Project is completing significant infrastructure development to support the construction of the Operation Center in Komé field and the pipeline. Work includes the construction of temporary and subsequently permanent work camps, road upgrades, the M'Béré River bridge and other stream crossing structures, pump stations, well pads, and pipeline storage yards. In Chad, DT is the main EPC Contractor for the transportation system upgrades, while TCC is responsible for infrastructure development at the oil fields and Komé base. In Cameroon the EPC Contractor for the transportation system upgrades is Sogea-Satom, while TCC is responsible for construction of the pump stations. Sogea-Satom has also been involved in the OFDA. EMP procedures have required that each Contractor submit its own EMP specific to its infrastructure development activities. These plans have been approved by the Project.

#### *Observations:*

##### M'Béré River Bridge

M'Béré River bridge deck was successfully launched and the bridge is now in use for the Project. A final erosion study has been prepared. Based on this study, erosion is expected to be limited. A monitoring plan is being developed by the Project.

##### Dust Control

Dust generated from infrastructure development at the OFDA, road upgrade and ROW activities is a significant issue that is faced by the Project. Dust control measures, particularly frequent watering, are being implemented by the Project along the Chad portion of the upgraded roads (particularly at village crossings and during convoy transit) and along roads at the OFDA. The Project adopted an effective measure placing double bitumen surface treatment (DBST) at village crossings in Cameroon.

*Recommendations:*

- 30.1 Finalize and implement a specific monitoring program to evaluate the possible physical, environmental impacts to baseline conditions that could be caused by changes to the hydraulic behavior of the M'Béré River due to construction of the permanent bridge. The monitoring plan should be aimed at the evaluation of the development of possible erosion phenomena (bed and banks) and to monitor the possible effects of the upstream water level increase during severe water flow conditions. The plan should be defined prior the next rainy season.
- 30.2 Complete the assessment of alternative options for dust control at OFDA construction areas (e.g., paving, non-hazardous water additives) in order to implement the selected measures at the end of the next rainy season. The Project should consider the implementation of the DBST in Chad.

## **CHAD CAPACITY-BUILDING PROJECT**

### 31. *Government Requirements:*

The World Bank (WB) project for capacity-building of the petroleum sector of the government of Chad has three specific goals:

- *Manage the development of its petroleum resources in an environmentally and socially sound manner, beginning with the Doba Petroleum Project in southern Chad;*
- *Minimize and mitigate the potential negative environmental and social impacts of the Doba Petroleum Project on the producing region, strengthen local capacity in the region, and provide opportunities for the region's residents to improve their living conditions; and*
- *Establish an effective framework for further sound private sector investment in the petroleum sector, and engage effectively with such investors.*

Among the key indicators of the effectiveness of the Capacity-Building Project are the following:

- Effective Government monitoring of implementation of the Doba Petroleum Project;
- Effective implementation of the Doba Petroleum Project's Environmental Management Plan; and
- Social infrastructure improvements and employment generation in the producing region<sup>18</sup> (this indicator includes implicitly the implementation of the FACIL project and the Rapid Intervention Measures, as well as the preparation of the Regional Development Plan, RDP).

In the short term, starting with the construction phase, anticipated efforts include the mitigation of the impact of in-migration at the Project work sites in the form of social investments in health facilities, water supply, management of wood fuel resources, and STD/AIDS prevention.

### 32. *Observations:*

During this fifth visit to Chad, the ECMG team collected the following relevant information on the status of the Chad Capacity-Building Project:

- The rehabilitation of office space for the National Coordination and CTNSC headquarters in N'Djaména is complete. Construction of annexes to the new CTNSC headquarters is at the contracting phase and is scheduled to be completed in October 2002. Office furniture and equipment are still under procurement, and deliveries are generally behind schedule. Nevertheless field vehicles are available, including eight for the CTNSC field team based in Komé. Procurement of mobile telecommunications equipment (radio) is still at the contracting phase, as indicated in the ECMG fourth report.

---

<sup>18</sup> Project Appraisal Document (PAD) March 2000, page 2

- As the question of recruitment of Government field monitors and CTNSC executive secretariat personnel has been resolved, the process of staffing made significant progress during the last quarter. The CTNSC Executive Secretary and the Supervisor of the field team are now working under formal contracts, as well as their respective staff members, including a total of five in the N'Djaména headquarters and four at Komé Base and Bébédjia. All of the additional agents have been identified and the entire CTNSC staff, for both headquarters and the field, should be posted in June 2002.
- Recruitment of the international Technical Assistant for CTNSC headquarters has not progressed significantly. A candidate has been identified but will not be posted before September (at the earliest), if he is to be recruited. A temporary solution for short term technical assistance is being considered.
- At the field level, the Government Supervisor in place is now supported by an expatriate Technical Assistant and four monitors in the bio-physical sector (one monitor focusing on drilling), socio-economic sector (one expert) and health sector (one medical doctor and one health agent). The other three field monitors, still missing, have been selected and should be in the field by the end of May. The main office for the CTNSC field team is in Bébédjia (close to the FACIL headquarters) and the remainder of the field team occupies an office in Komé camp, made available by the Project.
- Based on the accomplishments above, it can be stated that the Chadian government has made significant progress over the last quarter in its capacity to monitor the Project. Nevertheless, significant training of CTNSC personnel is still needed, as by May 2002 training has been limited to some EMP orientation provided by the Project. The overall training program within the Capacity Building Project has yet to be implemented by an external specialized consulting firm, still to be selected. This delay is a concern, as most of training activities were scheduled to be implemented during 2001. In addition, the recruitment of services of an International Advisory Panel is also far behind schedule, still at the stage of selecting a consultant.
- A services contract is about to be started, pending a World Bank non-objection, to develop the National Oil Spill Response Plan.
- Progress in developing the Environmental Management Information System (EMIS) is also limited and still at the stage of contracting for consulting services.
- The Communication Plan started in late January continued in April with another two-day "Public Information Workshop" held in Bébédjia, attended by Government representatives, the National Coordination and CTNSC, local businessmen, NGOs and representatives of the civil society, the World Bank group and EEPCI/TOTCO.
- The ECMG held a meeting at the World Bank Resident Mission in Chad with the Resident Representative, the newly appointed Task Manager posted full-time in N'Djaména since mid-April, and his Washington-based support officer. The Task Manager is supported by a staff including a micro-economist, a financial specialist and an IFC specialist in small enterprise promotion.
- The component "*Rapid Intervention Measures*", which, as indicated in the ECMG fourth report, were assessed to be at least a year behind schedule, made significant progress during the last quarter:
  - 1) The first issue of the study report relating to urban planning for Bébédjia, Moundou and Doba has been widely discussed and comments have been forwarded to the consulting firm that prepared the study. A Final report is expected to be available by the end of May.



- 2) A proposed contract for feasibility studies for public markets, slaughter-houses and a cattle market in Doba and Bébédjia have received World Bank non-objection and these studies are anticipated to begin in the near future.
  - 3) Analyses of storm water drainage and solid waste management have resulted in the preparation of tendering documents for construction and other activities to be carried out before the rainy season. Additional actions have been initiated within the urban planning of Doba and Bébédjia, including an "Opération ville propre" in each city.
  - 4) A unique request for proposal was presented jointly with the rural wells project for the enhancement of the Doba water supply. The proposed ranking of offers and awarding were rejected by World Bank. The offers have been re-evaluated and contracts for drilling water wells and engineering/construction supervision are expected to be awarded soon.
  - 4) Activities associated with the Health Sector are still delayed, which is a serious concern taking into consideration that the national priority HIV/AIDS program (*Programme Prioritaire de Lutte contre le SIDA*, PPLS) was terminated in December 2001. In order to continue the STD/AIDS prevention campaign, a short term services contract was signed in March with the medical consultant who was involved in the PPLS. Based on the information provided to the ECMG, this effort is very modest and not sufficient to be effective in the STD/AIDS prevention campaign.
  - 5) With respect to the Rapid Intervention Measure for the "promotion of the sustainable use of natural (forest) resources," some progress has been made in that the contracting has nearly been finalized for implementing a pilot project in five villages.
- The status of component "*Local initiatives fund - FACIL*" is as follows:
    - 1) The field office in Bébédjia is nearly operational, except that it lacks some office equipment including computers.
    - 2) The FACIL director is working. His operational staff includes two Technical Assistants from the German Cooperation DED (a third qualified national person under recruitment is still pending) and one administrative assistant. Six support staff members are in the process of being recruited. Procurement procedures have been lengthy, as potential candidates identified early on have yet to be interviewed.
    - 3) The Steering Committee "*Comité de Pilotage*" is working and recently approved four applications, out of about 130, for financing four schools with a total cost estimate of about 225 Million CFA Francs. The FACIL intervention zone covers 11 cantons, for which an average budget of 70 million CFA Francs is available. For each FACIL financed project, contribution from villagers must reach 20% of total costs.
    - 4) Limited progress has been made in informing villagers as to how to access FACIL and obtain financing for micro-projects, to a large degree because the six support staff members to implement this activity have not been recruited yet and placed in the field.
  - The Capacity Building project component "*Regional Development Plan, RDP*" has made the following progress:
    - 1) The "Regional Development Framework" has been finalized and approved by the Steering Committee, NGOs and the World Bank. The Terms of Reference (TORs) for preparation of the RDP have also been recently completed after

inclusion of comments from the Steering Committee, the Ministry of Economy Promotion and Development, NGOs and the World Bank.

- 2) The contracting process for the preparation of the RDP is ongoing and negotiations are being conducted with the consultant who provided services for the development framework in 1999. CTNSC current schedule is to start the RDP preparation in June and to complete it by July 2003.

In summary the government capacity required to fulfill its obligations has made significant progress since the beginning of the year. Capacity is being put in place at CTNSC headquarters, as well as in the field in Komé and Bébédjia. Important progress has been achieved in staffing and contracting for services and procurement. This progress has been facilitated by a stronger involvement of the World Bank and the decision to locate the task management team in N'Djaména.

*Additional note on NGOs in Chad* - one of the sources of information to the ECMG is the dialogue we have had with local NGOs, particularly with the *Commission Permanente Pétrole Locale* (CPPL), a local committee of NGOs, which has strengthened over the course of our missions. The effectiveness of many aspects of the Government's role in the Project is reflected by the opinions of the various NGOs and this note is intended to highlight some of the significant issues presented to the ECMG. Although the scheduled meeting with NGOs was not held as planned, because of the unavailability of CPPL engaged in a workshop on regional development, they communicated through CTNSC a note of observations and comments on the ECMG fourth report. Shared concerns raised by CPPL include:

- Serious delays of FACIL, Rapid Intervention Measures and Regional Development Plan (RDP), and concerns about their adverse effects.
- Disturbances by heavy traffic of trucks in villages (including dust production, noise, risk for villagers).
- Participation of NGOs in the preparation of the RDP.

Local NGOs have participated in the Information Days, sponsored by CTNSC, EEP/TOCTO and the World Bank, and provided input to the final version of the RDP Framework and to the Terms of Reference for the RDP. The NGOs have pointed out the necessary participation of local populations and the potential risks of a hasty contracting process.

### 33. *Recommendations:*

- 33.1 The priority for CTNSC needs to be to expedite selection, recruitment and mobilization of the Technical Assistance (TA) to CTNSC headquarters, including the short term and the long term TAs, and then expedite the hiring and appointment of the remaining CTNSC staff. These actions should have been completed in March.
- 33.2 Expedite selection, recruitment and mobilization of the International Advisory Panel. Special attention should be given to two fields of expertise: preventive medicine/public health management and socio-economic issues.
- 33.3 The CTNSC field team needs to set up a detailed Work Plan for each sector and each team member. CTNSC and the Project EMP Group should agree on

- working procedures to ensure communications in the field. For example, regular meetings should be formalized.
- 33.4 Finalize the contract for the preparation of the Regional Development Plan taking into account that the assignment must be conducted under “*an iterative and participatory process*”. The contract should clearly specify that inputs from national Chadian consultants, firms and NGOs be incorporated, including the organizations identified and the precise nature, scope and estimated costs of their services and/or participation. CTNSC may consider following the suggestion of the NGOs to hold periodic workshops during the course of the study.
- 33.5 CTNSC and World Bank should take all practical decisions to accelerate the implementation of the program of the Rapid Intervention Measures (urban planning, construction of public infrastructures and services) with a strong focus on the health sector, especially the STD/AIDS prevention campaign. This may require immediate mobilization of an external task force to support CTNSC, not only for the Rapid Intervention Measures but also for FACIL (see below) and other technical assistance services.
- 33.6 Recruit and start the operation of the six field support staff and the third Technical Assistant from DED for FACIL.
- 33.7 Accelerate implementation of the four approved applications under FACIL and put in place all required measures and tools for accessing micro-credit. ECMG recommends that (i) the ownership of FACIL financed projects be delegated to the FACIL Project during the construction phase (for example, the schools by the Ministry of Education); (ii) that selection of projects by the Steering Committee be coordinated with those of the community compensation conducted by GTZ; (iii) that the Project Implementation Manual is revised, improved and updated, as recommended by the WB to avoid contracting delays.
- 33.8 Beyond recent accomplishments through “information days”, communication efforts by the National Coordination and CTNSC should be strengthened. Contracting for services for enhancement of the local existing NGO’s radio in Doba and procurement of radio-communication equipment should be accelerated.
- 33.9 Accelerate the contracting of services for the preparation of the National Oil Spill Response Plan and make sure that there is coordination with the EEP/CI/TOTCO General and Area-Specific Oil Spill Response Plans already under development.
- 33.10 Accelerate effective starting of priority activities under the “Petroleum Sector Management” component B, part B1, related to the national environmental and social regulatory framework. These activities include the selection and recruitment of Consultants for technical assistance and training of the *Direction du Pétrole* staff and relevant Government agencies.<sup>19</sup>

---

<sup>19</sup> PAD March 2000 page 42, paragraphs 44-45.

## **CAMEROON CAPACITY-BUILDING PROJECT (CAPECE)**

### 34. *Government Requirements:*

The World Bank Cameroon Petroleum Environment Capacity Enhancement Project (CAPECE) is to develop and establish a national capacity in Cameroon for the environmental management and monitoring of the Chad Export Project. CAPECE anticipates that the following will take place:

- *National environmental standards and norms in the petroleum sector are established,*
- *The Petroleum Development Pipeline Project meets environmental standards and norms,*
- *The Government of Cameroon develops its capacity to monitor and mitigate the environmental impacts of large infrastructure/energy projects, a condition for continued sound foreign investment in the country, and*
- *Information on the environmental and social safeguards implementation is disseminated to all relevant stakeholders.*

The Government of Cameroon established, by Decree 97-116 of July 7, 1997, the *Comité de Pilotage et de Suivi du Pipeline* (CPSP) under the trusteeship of *Société Nationale des Hydrocarbures* (SNH), the national oil company. The CPSP is an interministerial body mandated to oversee and monitor all environmental and social aspects of pipeline construction and operation. The CPSP has two branches, the *Comité de Suivi* (CS) which is the steering, monitoring and administrative arm and the *Secretariat Permanent* (SP), which is the operational arm of the CPSP.

In addition to monitoring the construction of the pipeline, with the associated requirements for protecting the public and the environment, the Cameroon Government also has responsibility for developing a National Oil Spill Response Plan. It is also responsible for the monitoring of an Indigenous Peoples Plan (IPP) for the forest dwelling peoples living in the area crossed by the Atlantic Forest part of the pipeline route and the implementation and monitoring of two Offsite Environmental Enhancement Projects (OEEP) established to compensate for generalized biodiversity loss in the Atlantic Coastal Forest and the semi-deciduous forest zones, respectively in Campo-Ma'an and in Mbam and Djérem National Parks.

### 35. *Observations:*

Based on a meeting with CPSP staff on May 7, discussions with Government field monitors encountered at work sites, and meetings with the World Bank officer in charge of CAPECE, the ECMG observed the following on the status of the Cameroon Capacity-Building Project in early May 2002:

- In general, the CAPECE project made significant progress during the last quarter, especially in terms of contracting for services.
- The Government field monitoring capacity is in place and generally operational in the environmental, bio-physical and socioeconomic sectors, despite weaknesses in their equipment and follow-up in reporting. The monitoring capacity in the health sector remains weak. Specifically:

- 1) The road construction project including the six sections totaling 245 kilometers from Meiganga to Mbéré bridge is almost complete with the exception of about 10 kilometers still under completion. Acceptance of the road works was signed by a Government representative on May 2, 2002. One engineer from *Ministère National des Travaux Publics* (MINTP) will continue to monitor completion of road works while another monitor will work at the Mbéré River bridge site until the end of June. The new bridge is open to Project convoys and will soon open to public traffic. The road safety measures implemented by the Project at village crossings appear to be effective, and recognized as such by local authorities (for example in Dompta village).
  - 2) MINEF has continued with the monitoring of the biophysical sector with five engineers assigned to the northern part of the Pipeline and five in the southern sector. Two engineers from the Ministry of Mines (*Ministère des Mines, de l'Eau et de l'Energie*, MINMEE) have participated in the hydraulic tests of the pipeline and they monitor environmental aspects related to blasting, welding, waste management and other issues at sensitive sites such as the vicinity of the Lom River crossing. These field personnel indicated that they provide reports to CPSP, but receive limited feedback.
  - 3) Commercial wood over Spread 1 (160 Km from KP 647 up to KP 486) and over Spread 2 (296 Km from KP 943 up to KP 647) has been entirely purchased by WSJV through a contract negotiated with *Ministère de l'Environnement et des Forêts* (MINEF). Part of the wood is used for the restoration works along the ROW (e.g., river crossings, wetland crossings, etc.). ECGM understands that WSJV's intention is to leave the remaining unused wood along the ROW. Field monitors did not report on commercial wood, as they did not participate in the negotiation.
  - 4) Two socio-economists from the Ministry of Agriculture are working along Spreads 1 and 2. They report their field observations to CPSP and have noted, for example, villagers' demands related to the future re-use of temporary facilities, such as the Ndtoua camp in the Bipindi area or the temporary bridge over the Lokoundjé 2 River, as well as the use of plants currently in WSJV tree nurseries.
- As noted in our last report, the ECMG determined that government monitors are involved in the assessment of specific Project impacts, such as for example issues associated with the closing of the Ndtoua camp in Bipindi and the analysis of socio-economic issues in Dompta linked to the completion of Sogea-Satom construction activity. However, it appears that their effectiveness in the field is reduced because of the limited feedback from CPSP, especially in terms of their ability to function as an interface between local populations or authorities and the Government, as well as for providing input to the various demands for transfer of Project temporary facilities.
  - Procurement and contracting activities under CAPECE made significant progress during the last quarter. In particular, contracts were awarded for the development of a regulatory framework; for implementation of a training plan; for studies of environmentally sensitive areas; a contract for monitoring services for the Indigenous People Plan and cultural patrimony has also been awarded. A Request for Proposal has been prepared for the development of an Environmental Management Information System (EMIS) that is waiting for World Bank non-objection, as well as for the recruitment of the International Consultant Panel.
  - Recruitment of consulting services to support the CPSP in the preparation of a framework for the National Oil Spill Response Plan made some progress, with the

RFP and a proposed short list submitted to the World Bank in April. The CPSP is waiting for the World Bank non-objection. This study is expected to last three months and is scheduled for completion in December 2002.

- The implementation of the Communications Plan made progress with about 80 meetings organized with local population. A third "Press Day" was held in February and press releases have been sent to newspapers, TV and radio. The publishing of the bimonthly "CPSP News Letter" appears to be effective and the third issue is being prepared. One meeting was held in March with NGOs, which also included the World Bank.

In spite of this progress, several issues and problems still remain to be solved, among which the health sector is of greatest concern:

- Field monitoring in the health sector is still very weak. Government staff in the health sector is still not in place for monitoring and prevention of health risks including STDs and HIV/AIDS. The only doctor appointed to the Project zone has been replaced and the new one is not yet fully aware of the scope of work. The five health officers for the five Provinces crossed by the pipeline have not yet been appointed.
- Despite the progress made, communication needs to be improved, especially towards NGOs and local authorities along the pipeline route and at main Project locations. Meetings with the *Préfets* were scheduled in May, but did not take place because of the ongoing elections.
- MINEF field monitors still need to report on the management of commercial logs along the pipeline route, consistent with EMP requirements.
- Training of Government field monitors did not make significant progress during the quarter. Training by the firm recently awarded the training plan contract is expected to start soon.
- The contracts for the development of an Environmental Management Information System (EMIS) and the National Oil Spill Response Plan are still to be awarded.
- The procurement of five vehicles, office equipment including computers and mobile telephones is still underway, with increased delays.
- There are significant delays in implementing development plans for the Campo-Ma'an and Mbam-Djérem environmental offsets.

*Additional note on NGOs in Cameroon* – as previously noted for Chad, one of the sources of information to the ECMG is the dialogue with local NGOs, which has strengthened over the course of the missions. The effectiveness of many aspects of the Government's role in the Project is reflected by the opinions of the various NGOs and this note is intended to highlight some of the significant issues identified to the ECMG. ECMG had the opportunity to meet with the NGO coordination group (GCA) in the headquarters of a member, *Service Oecuménique pour la Paix*. This meeting, chaired by this NGO, was also attended by the World Bank and representatives from COTCO. Communication between participants was recognized to be good.

A report on "Monitoring of the Pipeline" (February 2002), prepared by a steering committee of four NGOs, was presented. Some concerns were raised by the report and discussed during the meeting with the ECMG, including:

- Sound and documented solutions for the grievances and complaints related to compensation;
- Improvement of communication and collaboration with the Project, for instance through a framework for periodic meetings which could include COTCO, the World Bank, the Government of Cameroon and the civil society.

36. *Recommendations:*

- 36.1 Health monitoring in the project area by the Ministry of Health, under CPSP supervision, should be strengthened as a matter of urgency. The five health officers for the five Provinces crossed by the Pipeline should be appointed and put in place as soon as practical. The collection and analysis of epidemiological data in the Project zone, in close collaboration with COTCO, is a priority. The CPSP health officer should work with the AIDS National Action Plan (*Plan National de Lutte contre le SIDA*, PNLIS) for the portion of that project associated with the pipeline. The projected procurement of medicine and medical equipment needs to be consistent with the monitoring objectives of the project. See also Section 19 above.
- 36.2 The CAPECE Training Plan should be carefully adjusted and updated to make up for the current implementation delay (training is at least a year behind schedule).
- 36.3 Accelerate arrangements for procuring consulting services for the preparation of an EMIS, a framework for the National Oil Spill Response Plan and also for the procurement of vehicles and office equipment. World Bank staff should expedite review of CPSP requests and the non-objection process.
- 36.4 Communication at the local level should be improved by both CPSP and COTCO in cooperation with the World Bank resident office. A special effort should be directed towards improving communications with NGOs.
- 36.5 The implementation of the four short-term projects currently being initiated under the leadership of FEDEC for the Indigenous Peoples Plan should benefit from *ad hoc* support of CPSP. For example CPSP could facilitate issuing of identity cards. Also CPSP could provide support to FEDEC for the rapid implementation of action plans for Mbam-Djérem and Campo-Ma'an national parks, with priority given to poaching control. CPSP oversight of FEDEC should be "upgraded" through an increased role of the government representative (from MINEF) on the FEDEC Board.
- 36.6 CPSP should improve the follow-up and feedback processes with the field monitors, especially to allow them to better react to locally sensitive issues, for instance for closure of temporary facilities.
- 36.7 CPSP needs to ensure that the field monitors have the necessary resources including equipment and vehicles, as needed to enhance local communication and to work with local authorities.
- 36.8 CPSP should take the lead for preparing requests and all the support documents and data needed to allow the concerned parties to make informed decisions on closure, restoration and/or handing-over of the Project temporary facilities to the communities, taking into consideration the Project EMP requirements. A comprehensive table of transfer requirements would be useful.

## ENVIRONMENTAL FOUNDATION

### 37. *Responsibility:*

The creation of the Foundation for Environment and Development in Cameroon (FEDEC) was proposed by the World Bank in order to ensure that the Project will meet the Bank's Operational Policies related to Natural Habitats (OP 4.04) for the two new National Parks of Campo Ma'an and of Mbam and Djérem, and related to Indigenous Peoples (OP 4.20) for the community of Bagyeli/Bakola Pygmies. The EMP for Cameroon provides in Volume 4 details on FEDEC's role, responsibilities and operation procedures, as well as COTCO's capital contribution of US\$ 3.5 Million. FEDEC has the goal of providing long-term financial support to the two newly established National Parks and to the Bagyeli/Bakola Community through the Indigenous Peoples Plan (IPP).

### 38. *Observations:*

The status of FEDEC as of May 2002 is as follows:

- Substantial progress has been made since the Foundation obtained its "Public Utility" status in Cameroon in November 2001. FEDEC is now operational.
- The two newly recruited permanent FEDEC staff, i.e., the Foundation Administrator (FA), and the Community Development Facilitator (CDF), started their assignment on May 2. ECMG met them during a meeting held in FEDEC's office in Yaoundé.
- FEDEC holds periodic Board Meetings. Budget for the administrative operations of the Foundation for fiscal year 2002 (35 Million CFA Francs) is available and the approved Work Plan for the year is starting with the IPP (see below). In addition, the process of selecting the Implementation Organizations (IOs) to assist in the ecological preservation and enhancement objectives of the two national parks is ongoing and is expected to be completed soon.
- A Preliminary program of four short-term projects was approved by the 5<sup>th</sup> board session for the Indigenous Peoples Program (IPP), which is to be implemented by FEDEC. Implementation of the short-term projects will begin immediately, starting with the project "Establishment of Identity Cards for the Pygmy Community" under the leadership and active role of the Community Development Facilitator.
- *Mbam-Djérem National Park* - Last year the Ministry of Environment and Forest (MINEF) appointed a *Conservateur* for the Mbam-Djérem National Park, but has yet to provide the budget and other resources necessary for this individual to carry out his mandate. Without a car, motorbike, a small boat and camping equipment, the Mbam-Djérem National Park is not even accessible to the *Conservateur*. He participated in the preparation of the "*Proposal for Development of the Mbam-Djérem National Park*", which was submitted to the Foundation for support and financing. Several studies that define the unique and sensitive nature of the Mbam-Djérem area have recently been completed, including: (i) large mammals and human impacts, by Wildlife Conservation Society (WCS), March 2000; (ii) socio-economics of villages surrounding the Park, by MINEF and WCS, December 2000; and (iii) an inventory of birds, by the Park *Conservateur*, May 2000. Two points should be noted:
  - 1) FEDEC expects to receive by the end of May a detailed offer from an international organization to have the role as the Implementing Organization (IO) for the Mbam-Djérem National Park. This offer will be submitted to MINEF for review and comments.



- 2) The MINEF Director of the Department of Fauna and Protected Areas (DFAP) expressed his concern about poaching along the eastern border of the Park and the socio-economic aspects of the overall conservation approach for the Mbam-Djérem Park. MINEF plans to create another park (or protected area) of Lom and Pangar close to the pipeline ROW north of Bélabo. Several conservation IOs are involved in this zone.
- *Campo-Ma'an National Park* - A development plan for the Campo-Ma'an *Unité Technique Opérationnelle* (UTO), including the National Park, has been prepared by MINEF, through the "Management and Bio-Diversity Conservation Project Campo-Ma'an". It would be finalized during a workshop to be held in mid-May 2002 and then submitted to FEDEC. During the visit to the Campo Ma'an Park the ECMG was able to discuss the development plan with the *Conservateur*, as well as to meet the representatives from the logging company "*La Forestière de Campo, HFC*" entitled with a concession for *Unité Forestière d'Amenagement* (UFA) 024. A new *Cahier des Charges* for UFA 024 was signed on April 10, 2002 by the logging company HFC, establishing protection measures to be implemented by HFC to minimize the potential impacts and mitigate the residual impacts on the Park due to logging at UFA 024 and log transportation activities. The following is noted:
  - 1) HFC expressed its willingness to thoroughly and consistently implement the *Cahier des Charges* provisions and to implement an environmentally sustainable operation, also through cooperation with internationally recognized nature conservation societies.
  - 2) The 4.7 kilometers of new road constructed by HFC, east of the Park, have yet to be restored by the logging company, as required by the *Cahier des Charges*; a restoration plan prepared by HFC has been submitted and is waiting for MINEF approval and WB non-objection.
  - 3) The road crossing the Campo-Ma'an National Park is already used by HFC convoys, transporting logs from other UFAs, although activities at UFA 024 have not started yet. The road is maintained by HFC in accordance with the *Cahier des Charges*; bamboo bridges linking forest canopies and speed control bumps are in place.
  - 4) Ten guards (in red suits to be easily identifiable in the field) have been recruited by HFC and are posted at the entrance gates, where MINEF guards are also present. The HFC guards are equipped with a 4WD car and motorbikes.
- FEDEC expects to have, by the end of May, offers from international conservation and research organizations interested in being assigned as the Implementing Organization (IO) for the Campo-Ma'an National Park. The offers will be submitted to MINEF for review and comments.

### 39. *Recommendations:*

- 39.1 FEDEC should demonstrate in the next coming months the concrete implementation of the four short-term projects pertaining to the IPP. Actions should be conducted under the lead of the Community Development Facilitator with the support of organizations and groups working with Pygmies, and specific support from COTCO and CPSP.
- 39.2 Regarding the *Mbam-Djérem National Park*:
  - 1) FEDEC should coordinate closely with MINEF/DFAP in the selection of the IO, as well as in the overall contracting process. Criteria for selection of an IO should take into account the adequacy of proposal received with the

priority objectives (poaching control, fauna and bio-diversity conservation), as well as the proponent's capacity for financing conservation activities. The selection of an IO should not be exclusive of future support from other conservation organizations and the contract with the IO should take into account MINEF/DFAP plans in the zone such as the creation of the Lom and Pangar protected area.

- 2) MINEF/DFAP should provide the necessary administrative and logistical support to the appointed *Conservateur* (suitable transportation vehicle(s), equipment, lodging close to the park, and an operating budget), as soon as practical. A conservation strategy should be worked out in collaboration with the surrounding villages (World Bank funds from the PSFE *-Programme Sectoriel Forêt et Environnement-* may be made available for this purpose).

39.3 Regarding the *Campo-Ma'an National Park*:

- 1) FEDEC should coordinate closely with MINEF (through the Campo-Ma'an UTO project) and the World Bank in the selection of an IO as well as in the overall contracting process. Criteria for selection of IO should take into account the quality and experience of proposed teams, their capacity to match bio-diversity conservation with a socio-economic approach, their capacity to proactively deal with the sustainable approach set up for the logging of the UFA 024, as committed to the World Bank. The selection of an IO should not be exclusive of future support from other conservation organizations.
- 2) As manager of the Forest Unit UTO Campo-Ma'an, MINEF should fulfill its obligations by providing full support to poaching control (recruitment of additional guards and equipping the guard posts, especially in the northern part of the UTO Campo-Ma'an), bio-diversity conservation, and community forests development. MINEF should explore the possibility of applying World Bank funds already available to Cameroon for these obligations.<sup>20</sup>
- 3) The *Conservateur* should work full time for the National Park and the UTO Campo-Ma'an.

---

<sup>20</sup> World Bank programs and funds available to MINEF: PCGBC *Programme national de Gestion de la Biodiversité*; PSFE *Fonds de préparation du Programme Sectoriel Forêt-Environnement*; PNDP *Programme National de Développement Participatif*.

**List of Acronyms and Abbreviations**

Area-Specific Oil Spill Response Plan (ASOSRP)  
Cameroon Oil Transportation Company S.A. (COTCO)  
Cameroon Petroleum Environment Capacity Enhancement Project (CAPECE project)  
Chad Pipeline Management Team (CPMT)  
Chad/Cameroon Oil Development and Transportation Project (Chad Export Project)  
*Comité de Suivi* (CS, Inter-ministerial Committee, under CPSP, Cameroon)  
*Comité Permanent de Pilotage et de Suivi du Pipeline* (CPSP)  
*Commission Permanente Pétrole Locale* (CPPL)  
*Comité Technique National pour le Suivi et le Contrôle* (CTNSC)  
Community Health Outreach Program (CHOP)  
David Terrassement (DT)  
Double Bitumen Surface Treatment (DBST)  
Engineering, Procurement and Construction (EPC)  
Environmental Impact Assessment (EIA)  
Environmental Management Information System (EMIS)  
Environmental Management Plan (EMP)  
Esso Exploration and Production Chad Inc. (EEPCI)  
External Compliance Monitoring Group (ECMG)  
Floating Storage and Offloading (FSO)  
*Fonds d'Actions Concertées d'Initiative Locale* (FACIL)  
Foundation for Environment and Development in Cameroon (FEDEC)  
General Oil Spill Response Plan (GOSRP)  
General Project Specification (GPS)  
Implementation Organization (IO)  
Indigenous Peoples Plan (IPP)  
International Finance Corporation (IFC)  
Job Safety Analysis (JSA)  
Job Specification Coordination Procedure (JSCP)  
*Ministère de l'Environnement et des Forêts* (MINEF)  
*Ministère des Mines, de l'Eau et de l'Energie* (MINMEE)  
*Ministère des Travaux Publics* (MINTP)  
Non-Governmental Organization (NGO)  
Offsite Environmental Enhancement Projects (OEEP)  
Oil Field Development Area (OFDA)  
Oil/Water Separator (OWS)  
Personal Protective Equipment (PPE)  
*Plan National de Lutte contre le SIDA* (PNLS)  
Pressure Reducing Station (PRS)  
*Programme Prioritaire de Lutte contre le SIDA* (PPLS)  
Pump Station No. 2 (PS-2)  
Pump Station No. 3 (PS-3)  
Regional Development Plan (RDP)  
Right-of-Way (ROW)  
*Secretariat Permanent* (SP)  
Sexually Transmitted Disease (STD)  
*Société Nationale des Hydrocarbures* (SNH)

Tchad Cameroun Constructors (TCC)  
Tchad Oil Transportation Company S.A. (TOTCO)  
Technical Assistance (TA)  
*Unité Forestière d'Aménagement* (UFA)  
*Unité Technique Opérationnelle* (UTO)  
Wildlife Conservation Society (WCS)  
Willbros Spie Capag Joint Venture (WSJV)  
World Bank (WB)  
World Bank Technical Assistance/Capacity Building (WBTA)  
World Health Organization (WHO)

**Table 1**  
**Follow-up Issues**

N°	Mission	Opening Date	Closing Date	Description	Status	Comments
<b>EMP ISSUES</b>						
1	1	Mar 01		Demonstrate improved system for community/regional compensation: revise the "catalogue" concept	<b>Pending</b>	The first stage (consultations) is completed in Cameroon. Community projects are now under technical review for final clearance by CPSP. In Chad, the contract with GTZ, the organization in charge, is now signed and GTZ is mobilizing. Field actions are expected to start in May 2002.
2	1	Mar 01	Jun 01	Demonstrate that damaged houses occupied by resettlers have been repaired	<b>Closed</b>	
3	1	Mar 01		Demonstrate development and implementation of mitigation and safety measures, particularly where roads pass through villages	<b>Pending</b>	Safety awareness campaigns were never implemented along the Northern route, used by convoys before the M'Béré River bridge was complete.  Village crossings have been paved in Cameroon which is an appropriate mitigation to both dust and safety issues.  Village by-passes are being constructed in Chad according to plans..
4	1	Mar 01		Bakola Pygmies: include land management in the CDF's priorities	<b>Pending</b>	The proposed IPP four actions have been endorsed by the board of FEDEC. The Community Development Facilitator (CDF) has been recruited by FEDEC and is in place. A detailed work plan still needs to be developed.
5	1	Mar 01		Social closure: develop and test mechanism	<b>Pending</b>	An adequate framework has been developed for Cameroon. It needs to be expanded to Chad., and implemented in both countries when community/ regional and individual compensations are complete.
6	1	Mar 01		Mitigate the effects of in-migration to Project sites  (this issue was opened in March 2001 under a different wording)	<b>Pending</b>	In-migration has been monitored where it is taking place, in compliance with EMP requirements.  In-migration to Project sites is still taking place. The hiring policies that are expected to limit the extent of in-migration are enforced by the Consortium. Monitoring has recently been strengthened, non-compliances have been identified and fixed. Radio messages have been broadcasted in Chad.  In-migration to the OFDA is insufficiently mitigated, following the delays in the implementation of the Regional Development Plan. Specifically , the sanitary situation in Komé Atan, the spontaneous settlement near to Komé Base, is deteriorating, a new settlement is appearing at Komé 5 and workers' significant presence in Doba and

N°	Mission	Opening Date	Closing Date	Description	Status	Comments
						<p>Bébédjia has significantly affected the local housing markets, with notable inflation detrimental to locals.</p> <p>The Consortium needs to implement more actively its housing policies in the OFDA so as to avoid adverse affects on neighboring communities. This may involve loans to workers and development of lots to enable them to build houses.</p> <p>CTNSC is advised to implement three complementary projects in Komé Atan and the OFDA, in the fields of land use planning, water management and solid waste management. Technical assistance from the Consortium is desirable.</p>
7	1	Mar 01	Jun 01	Expand the sample of households surveyed for socioeconomic indicators to non-compensated households	<b>Closed</b>	
8	1	Mar 01	Jun 01	Registration of land rights: resolve issue of villagers having access to the land they formerly occupied before construction	<b>Closed</b>	
9	1	Mar 01		Demonstrate that road safety during construction phase is improved	<b>Pending</b>	DT in Chad has refreshed safety awareness with a new campaign. Specific procedures are expected to be developed along the route for the hauling of heavy loads from N'Djamena to Komé. Driving practices in both Chad and Cameroon are frequently not consistent with the Project safety standards. In the Komé area, piles of soil and poor surface drainage may prevent villagers from using the walkways..
10	1	Mar 01		Develop and implement a Fuel Safety and Management Plan	<b>Pending</b>	A Fuel Safety and Management Plan has been developed, but it is still to be implemented. This issue also requires that a contract be finalized to the fuel supplier.
11	1	Mar 01	Oct 01	Provide fencing at storage facilities	<b>Closed</b>	
12	1	Mar 01	Jun 01	Provide documentation that minimal quantities of road construction materials are used	<b>Closed</b>	
13	1	Mar 01		Provide documentation that M'Béré River crossing construction activities will not have an adverse environmental impact	<b>Pending</b>	A monitoring program based on bio-physical baselines should be developed and implemented as soon as practical.

N°	Mission	Opening Date	Closing Date	Description	Status	Comments
14	1	Mar 01	Jun 01	Provide documentation that road design is appropriate for final usage	<b>Closed</b>	
15	1	Mar 01	Jun 01	Demonstrate development and implementation of borrow pit siting plan	<b>Closed</b>	
16	1	Mar 01	Jun 01	Demonstrate improvements to dust control, especially when passing through villages	<b>Closed</b>	
17	1	Mar 01	Jun 01	Demonstrate that local village labor has appropriate PPE	<b>Closed</b>	
18	1	Mar 01	Jun 01	Demonstrate that EMP monitoring system is fully staffed and functional, especially with respect to Chad	<b>Closed</b>	
1	2	Jun 01	Jan 02	Evaluate the need of possible house relocation to ensure safety along upgraded roads at village crossings	<b>Closed</b>	
2	2	Jun 01	Jan 02	Implement appropriate medical protocols at the contractor medical facilities	<b>Closed</b>	
3	2	Jun 01	Oct 01	TCC in Dompla does not comply with EMP requirements: qualifications of staff, physical space, equipment, and medical supplies.	<b>Closed</b>	
4	2	Jun 01	May 02	Medical services are not yet in a situation to provide first aid and emergency services in the field within the 20 minutes required by the EMP	<b>Closed</b>	The issue has been closed through an EMP change approved under the EMP Change Management Process. See Issue 1 of Mission 5 for follow up.
5	2	Jun 01	Oct 01	Storage of old drilling-related materials at the Komé camp does not meet EMP requirements	<b>Closed</b>	
1	3	Oct 01		Monitor the population evolutions in mid-size towns in Cameroon and Chad	<b>Pending</b>	Monitoring being done in both countries, results need to be processed in view of decision-making.
2	3	Oct 01	May 02	Provide documentation that the archaeological field procedures currently employed will provide a	<b>Closed</b>	

N°	Mission	Opening Date	Closing Date	Description	Status	Comments
				representative inventory of the cultural materials that are actually within the pipeline easement		
3	3	Oct 01		Drinking water testing has not been adequate at some camps. The overall testing program should be reviewed in terms of compliance with the EMP and corrected as appropriate.	<b>Pending</b>	Further improvements have been made, but it is recommended that the Project ensure that written, consistent standards and procedures are available on site to all Contractors.
4	3	Oct 01		Improve waste management procedures, especially for hazardous waste.	<b>Pending</b>	Significant improvements were noted, but waste management is still a significant issue. New hazardous waste storage facilities are almost complete. Field treatment procedures are still to be finalized for hydrocarbon-impacted soils. Incinerator ashes have been tested and are consistently managed. Adequate documentation is to be provided to define innocuous characteristics of specific waste streams, including reserve pit drilling fluids. The Project needs to ensure that all the different waste streams, including <i>inter alia</i> domestic waste, are handled, segregated, transported and stored in the field in a proper and sanitary manner..
5	3	Oct 01		Borrow pit closures need to be reviewed.	<b>Pending</b>	Most decommissioned borrow pits have been properly closed and final closure is under way in Cameroon. Borrow pits in Chad are still to be closed, although a few of them are under reclamation. It is important to limit standing water and maximize drainage. Borrow pit closure needs to be addressed in a consistent and systematic way for all the Project construction sites
6	3	Oct 01	Jan 02	Complete closure operations associated with the diesel fuel spill at M'Baïbokoum.	<b>Closed</b>	
1	4	Jan 02		Develop commissaries ( <i>economats</i> ) to mitigate inflation currently observed in southwestern Chad and purchase grain for these <i>economats</i> well outside the project area.	<b>Pending</b>	Commissaries are not operational yet in the OFDA although progress has been made and they are expected to be in place shortly.
2	4	Jan 02		Include in the Regional Development Program a component targeting small peasant agriculture.	<b>Pending</b>	The Regional Development Program is not in place yet. However, the Consortium has taken steps to implement a component aiming at improving agricultural practice for resettled persons in the OFDA, through ORT, an international NGO.
3	4	Jan 02	May 02	Strengthen monitoring of hiring procedures	<b>Closed</b>	Monitoring has been strengthened and non-compliances identified and fixed.
4	4	Jan 02		Monitor village labor done for the Project	<b>Pending</b>	Contractors sometimes use village laborers for works such as the collection of stones or gravel. This creates employment opportunities, but it is necessary to verify that these workers are treated fairly (safety, effective payment and no child labor). More



N°	Mission	Opening Date	Closing Date	Description	Status	Comments
						monitoring still needs to be done.
5	4	Jan 02		Enforce the EMP clauses on workers' accommodation in Komé	<b>Pending</b>	EMP states that the impacts of "national non local" workers' housing on neighboring communities must be minimized and mitigated. The housing of Komé workers in the towns of Doba and Bébédjia has impacts on housing price and availability to other people. These impacts are not yet mitigated. Komé Contractors must implement a housing policy for workers that is consistent with EMP requirements.
6	4	Jan 02		Provide basic accommodation to Doba Logistics drivers in Komé	<b>Pending</b>	Doba Logistics drivers are provided with no accommodation while they wait for unloading and clearance in Komé base. The same is applicable to Gadjibian storage yard when this facility starts operation.
7	4	Jan 02		Verify that additional land beyond the area where compensation has been provided is not being impacted by construction activity	<b>Pending</b>	Additional land requirements and crop damages are not always be kept minimal, especially for the pipeline construction Spread 1. EMP teams should be able to map the extent of construction activity over maps depicting land where property owners have been compensated and identify non-compliances when unauthorized impacts take place.
8	4	Jan 02		Prepare EIAs for temporary bridges prior to any decision is made to leave them in place	<b>Pending</b>	Three bridges in Cameroon are to be removed after construction to prevent induced access to environmentally sensitive areas. Requests to leave these bridges in place are being made. Any change to the initially agreed removal would need to be assessed by the Government within the context of an environmental and socio-economic impact study.
9	4	Jan 02		Develop a process for the decommissioning of temporary facilities	<b>Pending</b>	Some facilities (storage yards, camps) may have to be decommissioned as soon as construction moves to other areas. Initial consultation has taken place in Cameroon at the initiative of CPSP and COTCO. A schedule and case-by-case work plan still need to be developed for either decommissioning or transfer of temporary facilities. Potentially impacted areas are to be investigated and cleaned up as needed. The changes for the closure and proposed final use of all the temporary facilities need to be addressed in compliance with the EMP Change Management Process. Lenders should be consulted in case any changes be contemplated regarding the fate and destination of any of the temporary facilities that could represent a major change to the initial provision, especially bridges.
10	4	Jan 02		Improve the delivery of in-kind compensation in Chad	<b>Pending</b>	Progress has been done; deliveries have resumed, and need to be completed.
11	4	Jan 02		Improve the hygiene of camp kitchens to EMP standards	<b>Pending</b>	Improvements have been made at TCC Komé camp. However, there are still examples of unsafe conditions at camps (e.g., Lolodorf camp, PS-2 and PS-3 camps). It is necessary that there is adequate space, equipment and screens for food handling and storage facilities. Better training is necessary for food handlers. Review relevant procedures and ensure frequent monitoring/inspections

N°	Mission	Opening Date	Closing Date	Description	Status	Comments
12	4	Jan 02		Equip health facilities to be consistent with Contractors' Health Plans	<b>Pending</b>	Some camp clinic are still not equipped according to the Contractor's Health Plan, which call for simple laboratory support and portable X-ray machines, which are not present or not installed yet at several facilities. See also Issue 2 of Mission 5.
13	4	Jan 02	May 02	Control third party access to workplaces	<b>Closed</b>	Significant improvements have been noted in isolating and controlling the camps, yard facilities and workplaces from third party intrusion.
14	4	Jan 02	May 02	Improve safety from bush fires	<b>Closed</b>	Significant improvements have been made with respect to fire preparedness and the risk to work areas from bush fires has been addressed.
15	4	Jan 02		Improve wastewater treatment systems	<b>Pending</b>	Improvements of the systems at camps have been observed. Wastewater monitoring of camp plants is being performed. Oil/water separators at some facilities appear to be insufficient. Monitoring of batch plant discharges is to be ensured.
16	4	Jan 02		Demonstrate that water resources are being protected	<b>Pending</b>	Sufficient information has not been compiled from which to make a firm determination as to whether the Project is or is not impacting groundwater resources, especially at the OFDA, although progress has been made in terms of implementing a specific water monitoring and assessment program. Develop predictive models of the areas of greatest groundwater usage and environmentally sensitive "hot spots" such that the significance of groundwater extraction can be quantified to outside parties. Review the monitoring program in the light of actual Project development, focusing on OFDA and permanent facilities. The baseline environmental studies along the pipeline route and other areas of new construction to identify in advance the village water supplies that could be impacted are reviewed by the EMP staff in order to take appropriate, preventive countermeasures.
17	4	Jan 02		Assess alternative options for dust control at OFDA construction areas	<b>Pending</b>	Complete the assessment at OFDA construction areas. Options should be screened against the evaluation of both the medium-term impacts of the construction activities and the potential long-term scenarios for the operation phase, in terms of water consumption, dust emission and air quality nuisance.
1	5	May 02		Provide adequately trained first aid responders at each geographically isolated work unit including convoys	<b>New</b>	Some convoys do not meet first aid EMP requirements and first aid training needs to be strengthened, including drills. Escort cars for convoys in remote areas need to have the staffing and equipment necessary to respond to first aid requirements.
2	5	May 02		Update Health Plans and upgrade staff/equip the clinics at camps as needed	<b>New</b>	Camp populations at fixed installation construction sites have outgrown the initial projections upon which their Health Plans were based.
3	5	May 02		Review the safety performance and work procedures of the different workforces	<b>New</b>	JSAs are being reviewed to adopt "fail safe" approaches through the Project operational sequences. JSAs are also under translation for workers not fluent in English and French. Significant differences have been observed for the safety statistics between the two pipeline spreads in Cameroon.

N°	Mission	Opening Date	Closing Date	Description	Status	Comments
4	5	May 02		Ensure that EMP provisions are applied at third parties involved in waste management, particularly hazardous waste	New	The Project has identified a third-party incinerator in Douala for hazardous waste. Spent oil is being sent to a cement kiln to be recycled as fuel in Cameroon. Spent oil reuse and/or final disposal in Chad is still to be addressed.
5	5	May 02		Finalize and implement a reserve pit closure procedure	New	The reserve pit muds and waters are being tested to assess their characteristics. The pits are properly lined and fenced for safety and environmental protection. A procedure will be developed to reclaim and close the pit locations.
6	5	May 02		Develop and implement a restoration procedure for land resources exploited during the construction phase	New	The gravel extraction area at Bébédjia has been expanded and exploited parcels are not reclaimed yet by TCC and its subcontractor. The Project needs to focus on all the locations, which have been used by EPC contractors and are relatively remote from main construction sites.
				<b>CAPACITY-BUILDING CHAD</b>		
19	1	Mar 01	Jun 01	Complete initial project funding (Government of Chad funds)	Closed	
20	1	Mar 01	Jun 01	Complete Implementation Manual	Closed	
21	1	Mar 01		Appoint government field monitors	Pending	Recruitment or appointment of field monitors and CTNSC staff is under way and almost complete (an agreement has been reached on appointment conditions for civil servants under the Project). Staffing expected to be complete by end of June.
22	1	Mar 01		Train government field monitors	Pending	No significant training carried out as of May 2002. Training activities yet to be implemented through consulting firms and experts (for CTNSC staff and Directorate of Petroleum). Selection of such Consultants yet to be completed.
23	1	Mar 01	May 02	Start effective government field monitoring	Closed	Field monitoring has been started for the biophysical, socio-economic and health components..
7	3	Oct 01		The selection and recruitment of two Technical Assistants for the CTNSC and consulting services for the Directorate of Petroleum are needed	Pending	Field TA is in Komé. TA for CTNSC headquarters urgently needed to support Executive Secretary, but its recruitment has not yet progressed significantly. The Directorate of Petroleum needs external expertise as drilling of oil wells started in November.
7	5	May 02		The selection and recruitment of International Advisory Panel for the CTNSC is needed	New	The selection and recruitment of International Advisory Panel is far behind schedule.
8	5	May 02		Establish work planning for field monitoring and communication with Project EMP staff	New	The effectiveness of CTNSC monitoring is still to be improved and to follow a more systematic approach to interact with the Project.

N°	Mission	Opening Date	Closing Date	Description	Status	Comments
9	5	May 02		Finalize and start the contract for the preparation of the Regional Development Plan	New	The Regional Development Program is not in place yet, although some progress has been made. Consider the implementation of an iterative and participatory process and dedicated workshops.
10	5	May 02		Expedite selection and recruitment of additional field support staff and technical assistant for FACIL	New	Significant delays in the implementation of the procurement and hiring procedures. Limited progress observed in informing villagers as to how access FACIL.
11	5	May 02		Accelerate implementation of FACIL approved applications and of the Rapid Intervention Measures	New	Significant progress has been made in setting up the organizational framework. Effective implementation is now urgent.
12	5	May 02		Accelerate contracting for services for preparation of National Oil Spill Response Plan and Environmental Information Management System	New	The contract for the National Oil Spill Response Plan is pending WB non-objection. Limited progress of contracting for the EMIS preparation
				<b>CAPACITY-BUILDING CAMEROON</b>		
24	1	Mar 01	Jun 01	Start CAPECE project as defined in WB project appraisal document	Closed	
25	1	Mar 01	Jun 01	Complete Implementation Manual	Closed	
26	1	Mar 01	Jun 01	Appoint government field monitors	Closed	
27	1	Mar 01		Train government field monitors and start effective government field monitoring	Pending	Contracts of TA for consulting and training services were awarded. Update training plan taking into consideration delays and current status of the Project. Government field monitoring remains very weak in the health sector. There is still a need for resources, including equipment and vehicles, at a field level.
18	4	Jan 02		Improve communication towards Project local population, local authorities and NGOs.	Pending	The implementation of the Communication Plan made progress. However, communication with the civil society, NGOs and local authorities is still to be improved.
13	5	May 02		Accelerate contracting for services for preparation of National Oil Spill Response Plan and Environmental Information Management System	New	The process for selection of consultants is under way. Coordination with the Project is recommended for the development of the Oil Spill Response Plan and the integration of the area-specific plans
14	5	May 02		The selection and recruitment of International Consultant Panel is needed	New	A Request for Proposal has been submitted to the WB for non-objection.

N°	Mission	Opening Date	Closing Date	Description	Status	Comments
15	5	May 02		Demonstrate that the follow-up and feedback processes with the field monitors are in place	New	Limited feedback from CPSP to field personnel has been observed.
				<b>ENVIRONMENTAL FOUNDATION</b>		
28	1	Mar 01	Jan 02	Have Foundation registered and operations started	Closed	
29	1	Mar 01		Protect the National Park within Campo Ma'an UTO from poaching and illegal logging	Pending	MINEF has yet to provide adequate support to the UTO in terms of staff and equipment. MINEF needs to finalize the development plan for Campo-Ma'an National Park. The above should be urgently addressed.
30	1	Mar 01		Expedite implementation of IPP (Indigenous People Plan)	Pending	The Community Development Facilitator has been recruited by FEDEC. Concrete implementation of the four short-term projects needs to start as soon as practical.
31	1	Mar 01		Review EIA study for forest unit UFA 024 such that WB safeguard policies are met and stringent controls established	Pending	Based on the EIA complements, logging concession has been given by MINEF to logging company HFC. MINEF should carefully monitor that HFC commitments for mitigation measures (i.e., recently signed <i>Cahier des Charges</i> ) to protect the National Park are respected (poaching control, illegal logging, etc.).
19	4	Jan 02		Expedite the selection of the Implementing Organizations for the two National Parks	Pending	The selection of experienced IOs is under way. The finalization is urgently needed to implement the programs and monitor current and potential disturbances on the two Parks.
16	5	May 02		Provide support to the <i>Conservateur</i> of the Mbam-Djérem National Park	New	MINEF to support the the appointed <i>Conservateur</i> with resources to carry out his mandate.

**APPENDIX A**  
**DAILY ACTIVITY SUMMARY**

Between April 29 - May 13, 2002, the D'Appolonia ECMG team conducted the fifth site visit and audit of the Chad Export Project in Chad and Cameroon and the assessment of capacity building programs in Chad and Cameroon. Specific activities were:

- *April 29* — ECMG group arrived in N'Djamena, Chad.
- *April 30* — security and medical briefings, review of logistics, project and EMP issues overview were conducted at EEPCI offices in N'Djamena, meeting with the Project EMP management staff; a meeting was held with WB officials at WB offices in the afternoon.
- *May 1* — the entire group traveled to Komé and attended morning briefings on the general progress of operations in the OFDA by CPMT staff; the group then split into three; the socio-economic field member visited villages within the OFDA, as well as Komé Atan and another spontaneous settlement at Komé 5; the health team member visited the Komé PCC and Pride-Schlumberger Camp Clinics; the remainder of the team visited the Komé 5 area and attended a meeting with the CTNSC field team.
- *May 2* — in the morning the team split into three groups; one group visited Doba and Bébédjia where meetings were held with the *Préfet* in Doba and other local government officials, as well as NGOs and the FACIL team; the health team member toured the Komé 5 Main Construction Camp (MCC), briefly joined the first group for a meeting with the *Préfet*, and then visited the Doba Hospital, the Regional Health Delegation, a private Protestant clinic and then the Bébédjia Hospital, and again joined the first group at the FACIL offices in Bébédjia; the third group toured the Komé PCC and Pride-Schlumberger Camps, two well pads (M55, the first completed production well and the recently completed M501 injection well) and in the afternoon had a meeting with TCC safety and environmental management and visited the Bébédjia gravel extraction area.
- *May 3* — the entire group traveled from Komé to Bessao; part of the group traveled by car to view the status of road construction; the remaining group members either attended a meeting with a representative of the CTNSC or reviewed the drinking water testing program before flying to Bessao. The entire group drove to the Sogea-Satom Camp at Dompta, Cameroon with a stop at the M'Béré River bridge. Part of the group visited facilities and stayed at the Sogea-Satom Camp for the night and the rest went to the TCC Camp at PS-2. In the evening, two group members met with Cameroonian government monitors from the Ministry of Public Works.
- *May 4* — in the morning the part of the group that stayed at the TCC PS-2 camp held a meeting there and then toured the camp; the remainder of the group toured the Bemboyo settlement and then traveled to the TCC PS-2 Camp, where the health specialist conducted an inspection; the socio-economic team toured Bemboyo and met with the TCC socio-economic offices and the *Dogari* and then went to Dompta where they had a meeting with the village chief; the entire group met at the Dompta airport and then flew to two different locations; part of the team departed in Meiganga and then all but the socio-economist traveled to the WSJV Camp 3 in Meidouougou; there they met with representatives of Willbros and CPMT and the health specialist visited the medical facilities before the group reunited and departed for a tour of the pipeline from KP 405 to the Mba River; this group returned to WSJV Camp 3 and spent the night in Meiganga; the socio-economic team member traveled to the area of

WSJV Camp 2 and the town Doyo and then returned to Meiganga; the two remaining team members left the flight from Dompta at Bélabo, where they met with the President of FEDEC and the M'Bam D'jerem Park *Conservateur*.

- *May 5* — the part of the team in Bélabo toured the pipeline route from KP 580 to KP 535 including the Lom River crossing, and also visited a portion of the Deng Deng Forest area; the team from Meiganga drove to Meidoukou and visited WSJV Camp 3; this group then flew to Bélabo and then split; one group attended a meeting with the TCC manager and the CPMT representative at the TCC Camp, visited the pipeline route from KP 495 to 493, visited WSJV Camp 1, the pipe coating area and the landfill area; the remaining group members visited the village Ebaka 1 near PS-3.
- *May 6* — the entire team toured the PS-3 facility and the TCC Camp and then flew to Yaoundé, where meetings were held with WB representatives at the WB offices and then a meeting was held with FEDEC representatives, the Director of MINEF Department of Fauna and Protected Areas, and the *Conservateur* of the Campo Ma'an National Park at the FEDEC offices.
- *May 7* — in the morning the entire group attended a meeting with government officials associated with the CAPECE project in the offices of SNH; in the afternoon part of the group attended a meeting at the Ministry of Public Health and the rest of the group attended a meeting with representative NGOs at the offices of *Service Oecumenique pour la Paix*, which is the GCA coordination office in Yaoundé.
- *May 8* — the team split into two groups; the first group drove from Yaoundé to the WSJV Spread 2 Lolodorf Camp with visits along the pipeline beginning at KP 952 including the pipe assembly/welding position at KP 946 and the Lokoundjé River crossing; the second group also visited the pipeline welding location at KP 946 and then traveled to the villages of Minkang, Bikoue Si, and Madong. The entire group lunched at Lolodorf where they met with field archaeologists. After lunch the first group toured Lolodorf Camp and visited pipeline positions from Lolodorf to Kribi. The second group visited the *sous-Prefét* in Lolodorf and then met the village chief in Ndtoua together with the *sous-Prefét* of Bipindi, as well as the Lolodorf Camp clinic and the Lolodorf District Hospital; the entire team reunited in Kribi.
- *May 9* — the team split into two groups; the first group visited the Campo Ma'an National Park area with the Park *Conservateur* and the HFC representatives; the second group visited government medical facilities in Kribi and held discussions with the COTCO socioeconomic team responsible for regional compensation and implementation of the IPP; the second group then visited several villages near Kribi where regional compensation processes are complete and then visited Pygmy villages along the road between Kribi and Lolodorf; the entire team reunited in Kribi.
- *May 10* — the entire group traveled to the COTCO offices in Douala and attended meetings with Project EMP and COTCO staff throughout the afternoon.
- *May 11-12* — the entire group was in the COTCO offices in Douala to prepare the closeout meeting and consult with EMP staff as required.
- *May 13* — the entire group conducted the wrap-up and review meeting with Chad and Cameroon Government officials, a World Bank Group representative from Cameroon and EEPCI/TOTCO and COTCO management and EMP personnel in Douala; the entire group departed Douala, Cameroon.

## APPENDIX B PROJECT FOOTPRINTS

Field activities with the greatest potential direct environmental impact at the time of this visit included the ongoing of pipeline construction and new infrastructure development, including construction activities for the pump stations (PS-2 and PS-3), the PRS, and the landfill at PS-3 in Cameroon, and particularly the construction activities and the beginning of the drilling activities in the OFDA in Chad. Except for the pending road improvements in Chad, most of the initial infrastructure development identified during the previous ECMG visits is complete. Specific footprints corresponding to the extent of current construction activities are identified as follows.

### *Chad*

- The construction of the Gadjibian storage yard is complete and the site is ready to accept pipe.
- DOC construction activities include completion of the construction warehouse and the warehouse compound perimeter fence; the concrete batch plant is erected; site preparation activities are ongoing; the first structural concrete has been placed at the Central Treatment Facility (CTF); the drilling support service main warehouse Phase 1 is complete and additional warehouses are under construction; Doba Logistics bonded yard Phase 1 has been completed; MCC Phase 1 buildings are in place; other buildings are under construction.
- The Komé base camp has continued to be upgraded and expanded. The construction of the Pride-Schlumberger camp is complete. TCC's Pioneer Camp is expanding to a Phase 4.
- Construction of the first 29 well pads for production drilling is complete and an additional 9 are underway.
- Miandoum 1 (M1) site preparation activities are underway.
- Gravel is being extracted from a gravel pit on the right bank of the Logone River near Bébédjia and a sand pit is being operated along the Pende River near Doba.
- Road upgrades are progressing with the segment between Komé to Bolobo essentially complete, road upgrades are continuing between Bolobo and the M'Béré River.

### *Cameroon*

- Pipeline construction by WSJV is ongoing along Spreads 1 and 2 with the following total progress: 380 km cleared (36%); 334 km (31%) trenched and field welded; 323 km (30%) pipe in ground and backfilled; 186 km (17%) rough restoration; 6 km (0.5%) completed with final cover.
- 100% (1,089) km of pipe has been delivered to Douala and 80% of the project line pipe has been transported to the storage yards; the delivery of pipe has just started at the Nanga Eboko Storage Yard.
- TCC is continuing construction at PS-2 (Dompla), PS-3 (Bélabo) and has started construction at the PRS (Kribi). The construction of the landfill at PS-3 has continued.
- Road construction/upgrade operations in Cameroon are essentially complete and were accepted by the Government of Cameroon on May 3; some borrow pits are still pending final closure, but these activities will now be incorporated into the maintenance program.
- Construction of the permanent M'Béré River bridge is complete.