

March 8, 2002

D'APPOLONIA

REPORT OF THE

# **EXTERNAL COMPLIANCE MONITORING GROUP (ECMG)**

**FOURTH SITE VISIT  
JANUARY 2002**

*Chad Export Project*

*Cameroon Petroleum Environment Capacity  
Enhancement Project*

*Chad Petroleum Sector Management Capacity  
Building Project*

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**SUBJECT: FOURTH VISIT OF THE D'APPOLONIA ECMG TEAM TO CHAD AND CAMEROON, JANUARY 14 – 27, 2002**

**SCOPE**

1. Under contract by the International Finance Corporation (IFC)<sup>1</sup>, 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.
2. 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 will monitor:
  - Chad: Petroleum Sector Management Capacity-Building Project;
  - Cameroon: Petroleum Environment Capacity Enhancement Project (CAPECE project).
3. This report summarizes observations related to both assignments.

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

4. 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 NGOs, both local and international, universities, governmental agencies and other resources.
  
5. The Chad/Cameroon Oil Development and Transportation Project (referred to as the Chad Export Project) has started the placement of pipeline and construction activities are beginning for major support infrastructure at Pump Stations 2 (PS-2) and 3 (PS-3) in Cameroon. Production drilling is about to start in Oil Field Development Area (OFDA) in Chad and it was possible to review the drilling operations that are about to take place at a nearby exploration well. Both of the capacity-building projects are in their initial stages of implementation. Therefore, this fourth visit focused on a review of pipeline placement operations, production drilling procedures, and those aspects of new and ongoing infrastructure development as having the greatest potential environmental and human impact, as well as the status of the capacity-building projects and the ecological offsets in Cameroon. Specific activities conducted during this third trip have included:
  - Visit placement of pipeline along Spreads 1 and 2 in Cameroon;
  - Review proposed production drilling procedures including a visit to ongoing exploration drilling activities;
  - Visit Project and Oilfield Development work sites and associated infrastructure upgrades in Chad and Cameroon;
  - Meet with representative NGOs in both Chad and Cameroon;
  - 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 representatives of the development Consortium, TOTCO, COTCO, the Lender Group, World Bank Chadian representatives and a representative of the Chadian Government focusing on key findings, correction of any factual inaccuracies and discussing possible corrective actions. The Cameroonian government and World Bank Cameroonian representation were not represented in this meeting.
  
6. The closeout meeting was conducted in N'Djamena, Chad on January 26, 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.

### DAILY ACTIVITY SUMMARY

7. Between January 14 to 27, 2002, the D'Appolonia ECMG team conducted the fourth 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:
- *January 14* — ECMG group arrived in Douala, Cameroon.
  - *January 15* — security and medical briefings, review of logistics, and project overview with COTCO in Douala; the entire group then traveled to Kribi.
  - *January 16* — the entire group, except for the socioeconomic team member, spent the morning visiting pipeline operations along Spread 2 (the half of the pipeline route ending at Kribi) and toured the Willbros-Spie Capag Joint Venture (WSJV) camp at Bipindi; in the afternoon a portion of the team traveled by vehicle to Yaoundé with stops to view the progress of infrastructure development, including the Doba Logistics storage yard at Lolodorf; the other portion flew to Yaoundé; the socioeconomic team member toured villages from Kribi to Bipindi camp.
  - *January 17* — in the morning the entire group except for the socioeconomic team member attended a meeting at the World Bank offices in Yaoundé with the acting Resident Representative of the World Bank; the socioeconomic team member traveled from Bipindi camp to Yaoundé and met with local government officials and also stopped at the Bikoué village bridge site over the Lokoundje River near Lolodorf; the entire team reunited in the afternoon at the World Bank office and attended a meeting with NGOs.
  - *January 18* — the entire group traveled by plane from Yaoundé to Bélabo; socioeconomic team member attended a meeting with COTCO personnel responsible for land acquisition and toured the Bélabo area; the public health team member toured the Contractor camps at Bélabo to review medical services and sanitary conditions; the remainder of the team visited pipeline operations along Spread 1 (the half of the pipeline route starting at Komé); the entire group reunited at the Tchad Cameroun Constructors (TCC) guest house in Bélabo.
  - *January 19* — in the morning the entire group except for the socioeconomic team member toured the PS-3/landfill construction sites at Bélabo; the socioeconomic team member toured the Bélabo area; the entire group reunited at the Bélabo air strip and then flew to Bélel where the socioeconomic team member departed; the remainder of the group continued to Dompla and toured TCC camp facilities and the PS-2 area; the socioeconomic team member traveled to Dompla from Bélel with stops at villages and reunited with the entire group for a briefing at the Sogea-Satom camp.
  - *January 20* — the entire team traveled by car from Dompla to M'Béré in two groups; a socioeconomic team toured Bemboyo with stops at other villages; the remainder of the team toured camp facilities at Dompla and then drove to the M'Béré camp of David Terrassement (DT) in Chad where they toured camp facilities there; the entire group reunited in M'Béré and traveled to M'Baïbokoum with stops to view the status of the diesel fuel spill site and the bypass road under construction at M'Baïbokoum; the entire group flew to Komé from M'Baïbokoum.

- *January 21* — the entire team attended a morning briefing by Pride-Schlumberger; after this meeting the group split into three; the socioeconomic team member attended meetings with Contractor representatives responsible for socioeconomic issues; the health team member toured TCC medical facilities and attended a Safety Coordination meeting organized by TCC; the remainder of the team toured a drill rig (Rig 340) at the Kayra exploration well site, as well as a smaller completion/workover rig (Rig 291) being set up at the Miandoum 3 (M3) location for inventory purposes and a rig starting to be set up at Miandoum 55 (M55); in the afternoon the socioeconomic team member joined the main team group to tour the truck parking area and then split off to tour the Komé Atan settlement; the health team member toured TCC kitchens and then visited the Pride-Schlumberger camp facilities; the remainder of the team attended a briefing by Schlumberger on the issue of produced fluids management options during well clean-up and well tests (including fluids re-injection and flaring); they then toured truck parking areas and the TCC storage yard.
- *January 22* — the socioeconomic and institutional team members traveled to Moundou where they attended meetings with NGOs and government officials and spent the night in Moundou; the rest of the team toured the Pride-Schlumberger camp, attended a briefing meeting by TCC and then toured the TCC camp; in the afternoon, this group visited the Komé 5 construction area, with stops at E2 and KBP9 borrow pits, K319H wellpad, and areas with infrastructure development at the Doba Operation Center (DOC), Komé 5 bonded storage yard and Main Construction Camp (MCC).
- *January 23* — the socioeconomic and institutional team members continued interviews with government officials, visited a vegetable farm about 12 km from Moundou, and then flew to Komé; the health team attended a Community Health Outreach Program (CHOP) meeting in Bébédjia; the earth sciences team member visited a sand pit along the Pende River near Doba while the remainder of the team visited a gravel pit near Bébédjia; the entire group reunited in the afternoon and flew to N'Djamena.
- *January 24* — the entire group attended progress status meetings at the EEPCI offices in N'Djamena by the Project EMP monitoring team.
- *January 25* – the entire group was present at the EEPCI offices to prepare the close-out meeting and consult with Project EMP staff as required.
- *January 26* — the entire group conducted wrap-up and review meeting with Chad Government officials, World Bank Group representatives and EEPCI/TOTCO and COTCO management and EMP personnel in N'Djamena.
- *January 27* — the entire group departed N'Djamena.

## **FOOTPRINTS**

8. Field activities with the greatest potential direct environmental impact at the time of this visit included the beginning of pipeline construction and new infrastructure development, such as the beginning of construction activities for the pump stations (PS-2 and PS-3) 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:

#### *Cameroon*

- Pipeline construction has been initiated by WSJV at Spreads 1 and 2 with the following total progress: approximately 370 km surveyed; 213 km cleared; 123 km graded; 57 km trenched; 30 km pipe in ground; 27 km backfilled; 17 km completed with final cover.
- Storage yard construction is essentially complete (some finishing work still underway at the Nanga Eboko site) and 60% of the project line pipe has been transported to the storage yards.
- The N'Gaouderé rail spur is complete.
- TCC has completed construction activities for permanent construction camps and has started construction at PS-2 (Dompla) and PS-3 (Bélabo). The construction of the landfill at PS-3 has been started.
- Construction of government buildings next to the M'Béré River border is complete and turned over to the Government of Cameroon.
- Construction of the Bikoye II temporary bridge is complete.
- Road construction/upgrade operations substantially advanced as follows:
  - Segment 1 –M'Béré bridge to Dompla (74.5 km) - road complete except for the placement of the second layer of laterite over a distance of about 10 km; only one bridge remains to be completed; 19 borrow pits for laterite and 6 for fill were developed and are pending final closure;
  - Segment 2 – Dompla to Kayta Bridge (67.3 km) – road complete except for the placement of the second layer of laterite over approximately 30 km; all box culvert construction is complete; 9 borrow pits for laterite and 5 for fill were developed and are pending final closure;
  - Segment 3 – Kayta Bridge to Bélel (49.6 km) - road complete except for the placement of the second layer of laterite; significant construction remains only on the Touldoro bridge; 9 borrow pits for laterite and 25 for fill were developed and are pending final closure;
  - Segment 4 – Bélel to Babongo (58.9 km) - road complete except for the placement of the second layer of laterite on 13 km; significant construction remains only on the Mambaka bridge; 11 borrow pits for laterite and 33 for fill were developed and are pending final closure.
- Road repair from N'Gaoundal and Meidoungou (135 km) complete and turned over to Government of Cameroon on December 14, 2001 – permanent road signs still to be erected.
- Abutments for the M'Béré bridge on the Cameroon side are under construction.

#### *Chad*

- The DT permanent camp at Kagopal is complete.
- The construction of the Gadjibian storage yard nearly 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 old Parker Brothers area has been cleaned up and 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 behind schedule and construction is less than 20% complete along any of the three segments in Chad; this situation has led to a new classification of a "passable" road where the roads will be used for convoy traffic with additional safety measures taken at village crossings.
- The borrow pit for rock boulders near M'Baïbokoum has not been exploited as sufficient boulders for use as rip-rap were provided by the villagers.
- M'Béré River bridge decks are all fabricated and the temporary bridge has been installed.
- Chad border facilities/custom buildings are complete and operational.

## **EMP OBSERVATIONS**

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. However, issues of concern have been identified and they are highlighted in the following sections. The ECMG will follow up on these issues critical or identified as potentially critical during the next mission.

The ECMG has observed a strong commitment of the Project EMP management and team to screen new potential issues and resolve pending issues. The EMP organization is staffed with committed people, although there are issues that may require additional resources and/or a stronger involvement of the EMP team in the decision making process. The response of CPMT teams and Contractors to EMP requirements is more varied and often depends on staff attitude and background. The ECMG has the perception that, at this stage of the Project, the influence of the EMP team to the decision-making process should be strengthened such that potential impacts of Project activities can be anticipated and efficiently mitigated.

Because of the limited resources and regulatory framework (especially in Chad), the Project needs to be stringent in the implementation of its own policies and focus on potential long-term effects.

## **Socioeconomic Issues**

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

#### *Project Strategy:*

According to the EMP<sup>2</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.

#### *Observations:*

In both countries the Project has developed a comprehensive price monitoring system. Although not available for a complete year yet, results in Cameroon do not show evidence of heavy inflationary trends.

Inflation does appear to be significant in Chad, however. Although a complete year of data are not yet available from Project sources, price data are available from the Moundou office of ONDR<sup>3</sup> for years 2000 and 2001. The ONDR does not specifically target the oilfield area but acquires price information in both departments of Logone Occidental (headquarters: Mondou) and Logone Oriental (headquarters: Doba).

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<sup>2</sup> EMP, Chad and Cameroon portions, Volume 1, Socio-economic topic #1

<sup>3</sup> ONDR: Office National du Développement Rural, a public institution in charge of Rural Development.

In January 2002, the prices of grain are at least twice as high as they were in January 2000. In the meantime, some other high prices have been recorded. For example 21,330 CFA was the price for one 100 kg bag of millet in Logone Oriental in August 2001. The observed changes exceed normal seasonal variations.

The economic mechanisms generating this inflation are complex. Local specialists within Chadian Government institutions in Moundou (Préfecture, Direction de la Statistique and ONDR) interviewed by the ECMG identify several contributing factors.

- a) Low supply - grain harvests in the Doba area (Logone Oriental) were very poor in 2001 due to very heavy rainfall in July and August which resulted in floods. Floods in Logone Occidental are reported to have destroyed 6,000 hectares with a loss of grain estimated to be 23,000 tons. Data are not available for Logone Oriental, but the situation is likely to be worse. Although there has been significant loss of grain production, however, there has been no reduction in cultivated surfaces.<sup>4</sup>
- b) Deliberately created scarcity - speculation has taken place after the harvests in Moundou and in other markets. Grain merchants have bought and stored much of the available grain in anticipation of higher prices during the period that precedes the harvests (“*soudure*”). This speculation is a usual phenomenon, but has apparently been of a greater magnitude than is normal.
- c) Increased demand – increased demand is in part fueled by the presence of Project workers with higher incomes and by the influx of job-seekers from outside the region.

There is a growing concern among many Government officials in Moundou that the grain shortage and high prices are likely to result in a famine in southwestern Chad if vigorous action is not taken shortly.

Low food supply and speculation are beyond Project control and require action from Government and charitable organizations. Nevertheless, the Project can help to reduce the demand for produce. For example, commissaries that reduce impact to local markets have been successfully developed by David Terrassement at three locations in their area of operation; however, none of the contractors active in Komé where most of the workers are located (TCC, Pride, Schlumberger, Sogéa-Satom) has taken this type of action.

The initial documentation for the Regional Development Plan (RDP), to be financed by the World Bank, acknowledges the Project implications to food security in the area<sup>5</sup>. Unfortunately, the RDP is still under preparation and it cannot be expected to be in place in time to alleviate the current situation. However, the planning process for the RDP needs to address food security and measures must be developed to enhance the productivity of subsistence peasant agriculture in the area.

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<sup>4</sup> A reduction in the amount of land under cultivation could be a Project impact if farmers were to seek jobs with the Project rather than farming their lands. However, this does not appear to have taken place, at least as indicated from data available at the Direction de la Statistique that indicate that total cultivated land has steadily increased in Logone Occidental for the last 5 years, with an increase in grain cultivation of 18% over the last two years.

<sup>5</sup> EMP, Chad Portion, Volume 4.

*Recommendations:*

- 9.1 Commissaries (*economats*) need to be developed urgently by Komé-based contractors to help decrease local market demands;
- 9.2 For this above measure to effectively relieve tension on the grain market, all grain for the commissaries needs to be purchased well outside of the Project area (consultation with ONC<sup>6</sup> and WFP<sup>6</sup> is recommended to select suitable purchasing areas – this may be in neighboring countries);
- 9.3 The Regional Development Plan, currently under final preparation stages, should include a food security component, ideally based on support to small subsistence agriculture in the Project area;
- 9.4 Support to the livestock sector, garden agriculture (like that developed by CIS<sup>7</sup> in Moundou, Doba, and Bébédjia), and agri-businesses is also needed, through the Urgent Mitigation Measures and *Fonds d'Action Concertées d'Initiative Locale* (FACIL, [Local Initiatives Fund]), both to be financed by the World Bank.

**10. 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>8</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:

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<sup>6</sup> ONC: Office National des Céréales – WFP: World Food Programme (Programme Alimentaire Mondial). Donor agencies involved in food security also include French aid and US AID.

<sup>7</sup> CIS is the catering company appointed by TCC in Komé.

<sup>8</sup> EMP, Chad portion, Volume 4, Appendix H, § 4.2

- 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.

*Observations:*

In Chad, as detailed in Point 38 of this report, the Regional Development Plan, which was intended to help mitigate in-migration to the Project sites, is not yet operational. In particular, resources have not been assigned to implement the Rapid Intervention Measures expected to target the effects of in-migration.<sup>9</sup> In-migration is now an actuality and no mitigation plan is effective, due to various bureaucratic delays within both the Government of Chad and the World Bank.

In both countries, the Consortium has their employment policies in place as provided under paragraph a) above, but this is not sufficient to prevent in-migration from occurring, as shown by the following observations.

*Komé Atan, Chad*

This is a spontaneous settlement located in front of the Komé Base main gate across the road. During the third ECMG mission (October 2001), the population was found not to have increased over the rainy season, after a significant increase between February and June 2001. Since last October, some limited expansion has taken place, as a few new houses and businesses, primarily bars and restaurants, can be observed. Garbage is not collected and sanitation is deteriorating. The demographic structure at Komé Atan is not well defined and the settlers appear to be a mixture of job seekers, shop keepers, women engaged in food vending, Project employees and their families and small sub-contractors (truck drivers). No community management organization is in place and neither Government institutions nor NGOs are present. We have been informed that unofficial discussions to “oust” this settlement are ongoing between the newly appointed *Sous-Préfet* of Bébédjia and individuals from TCC (see also Point 12 – Workers’ Accommodation).

*Bemboyo, Cameroon*

Bemboyo is a spontaneous village that has developed at about two kilometers from the Sogea-Satom camp. The population appears to have expanded since the third ECMG mission. New houses are visible in all areas of the village, including very close to the camp, and more construction is anticipated as brick stockpiles can be observed everywhere. While no population census or survey is available, our estimate is that Bemboyo has approximately 5,000 inhabitants. This small town now has an active market place and business is developing in the fields of accommodation, construction, bars and restaurants, and transport.

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<sup>9</sup> EMP, Chad portion, Volume 4, Appendix H, Table 1

The Government is not represented in the town except by the Gendarmes and the town does not have a primary school, health center, or administrative center. There is no permanent NGO presence.

ECMG observed that people in the south-eastern part of the village use a spring which likely is contaminated as it is downgradient and very close to the village. According to villagers, the water supply system constructed by the Project operates intermittently and is insufficient to meet increasing demand. However ECMG was informed that since November 2001, COTCO has instructed SOGEA to maintain the system through a dedicated plumber.

Another serious concern is that social tensions are arising between people of different regions of origin. Those who regard themselves as "Northerners" are expressing resentment at the hiring processes that they consider discriminatory (see also Point 11). People appear to have imprecise or limited information on construction activities and future hiring needs.

### Bélabo, Cameroon

During the third ECMG mission, significant in-migration was noted to be occurring in Bélabo when contractors WSJV and TCC were both in the process of starting construction activities in the area. The population of the town was then reported to have doubled. No demographic survey has since been undertaken to measure the effects of this population increase, nor have any mitigation measures been planned or carried out.

Based on interviews we had in Bélabo, the housing market has been stressed to the point of experiencing serious shortages, together with some inflation on staple food supplies and other goods. Informants generally tend to think that the influx is now less than it was a few months ago. The local police indicate that crime has increased. TCC is currently not hiring and is in the process of scaling back its Bélabo hiring office until their future subcontractors arrive onsite. WSJV has stopped hiring, but continues to accept CVs.

### *Recommendations:*

- 10.1 Launch a radio information campaign in both countries (responsibility: Governments/World Bank Technical Assistance with technical support from Consortium) with objectives as follows:
  - Explain carefully the employment needs for each location and phase of work,
  - Explain the hiring processes again, including the prohibition to contractors for hiring at the camp gates,
  - Explain why it is not useful to come to camp gates;
- 10.2 Initiate monitoring surveys for the areas with in-migration as provided in the relevant clauses of the EMP (Consortium);
- 10.3 Develop mitigating measures as they will result from above mentioned monitoring (Governments/World Bank Technical Assistance with support from Consortium);
- 10.4 Implement mitigating measures (Governments/World Bank Technical Assistance);
- 10.5 In Chad, make the implementation of the Rapid Intervention Measures in Doba and Bébédjia a priority and find immediate solutions to bypass the bureaucratic

procedures that hinder procurement and implementation (Government of Chad/World Bank at the highest appropriate levels).

## 11. *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>10</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.

### *Observations:*

TCC in Cameroon (Bélabo, Dompta) has improved its hiring practices for unskilled workers in the villages with a more transparent process based on random selection. Good procedures for hiring unskilled workers have also been put in place in Chad by TCC and David Terrassement, as was noted in the previous ECMG report. Pride and Schlumberger in Komé also have adequate hiring procedures in place. There is a valuable effort by Schlumberger to hire Chadian engineers and technicians and give them high level training overseas.

However, two cases of non-compliant hiring practices were observed by ECMG at two locations in Cameroon (Bélabo and Ndtoua).

In addition to these direct observations, we had several unconfirmed reports of similar practices taking place occasionally in Bemboyo (Cameroon) and Komé (Chad). These practices appear to result from personal initiatives by foremen or socio-economic officers, not from a routine Contractor policy.

In Bemboyo (Cameroon) and Komé (Chad), up to some fifty men can be observed every morning waiting at the gates. When ECMG interviewed these men, they expressed a general sense of discontent and distrustfulness with the hiring practices, which they regard unfair or even discriminatory. The great majority of them would fall under the semi-skilled or skilled categories, and they have usually filed an application through the normal processes. They feel that they will have more chances to be hired if they are readily available at the gate. Most of them appear to be poorly informed about the start and duration construction activities and they rely on rumors circulating among the job seekers to make plans<sup>11</sup>. In Bemboyo, the spontaneous village next to Dompta site, an

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<sup>10</sup> EMP, both countries, Volume 1, Section 2, Socio-economic topic #3

<sup>11</sup> For instance in Bemboyo, job-seekers indicated that they believe Willbros Spie Capag will be the next opportunity for them to obtain employment, when in fact it is TCC.

interview with job seekers in the presence of the “Dogari”<sup>12</sup> showed that there was bitterness and anger from people who regard themselves as “Northerners” towards “Southerners” whom they feel are favored by the hiring. On Monday, Jan. 21<sup>st</sup>, 2002, there were demonstrations and fighting in that village, and the Gendarmes had to arrest some people.

Village laborers are being used by sub-contractors for the collection of boulders, stones, gravels. They are not employees, but can rather be defined as suppliers to the Project. This is the case at a gravel extraction site near Bébédjia (Chad) next to the SDL<sup>13</sup> quarry operations, where gravel is collected for TCC construction activities in Komé, and also as noted in the previous mission report at M’Baïbokoum (Chad) where boulders are collected for gabion preparation by David Terrassement. Both these situations are examples of project jobs being shared beyond the Contractors’ employees. These activities raise a specific issue as they are exerted mostly for the Project, but not under the usual employment procedures. A determination needs to be made whether these laborers are treated fairly in terms of payment<sup>14</sup> and work safety. No child labor has been observed on these sites by ECMG, but this also needs to be monitored.

*Recommendations:*

- 11.1 Strengthen the monitoring of hiring procedures in both countries (dedicated monitors are desirable) and provide advice to the Contractors (Consortium);
- 11.2 Keep explaining the hiring procedures to local administrative officials (*Sous-Préfets*), as their involvement may be required to solve problems. Note that in both countries many of these officials have been recently appointed and may not be aware of information provided to their predecessors (Governments with Consortium technical assistance);
- 11.3 Central levels of Governments (CTNSC in Chad, CPSP in Cameroon) should request and monitor local administrative officials not to interfere in the hiring process by recommending individuals (Governments);
- 11.4 Where there is village labor done mainly for the Project but outside of normal employment procedures, monitor fairness of payment, provision of some safety advice and equipment, and prohibit child labor (Consortium).

## 12. *Workers’ Accommodation*

*Project Strategy:*

JSCP 29 “Socio-Economic Interactions”<sup>15</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.”

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<sup>12</sup> The Dogari is a representative of the Lamido (sultan), who is superior of the local village chief.

<sup>13</sup> Sablières du Logone

<sup>14</sup> The payment may involve more than one intermediary between the Contractor and the laborer.

<sup>15</sup> JSCP: Job Specification Coordination Procedure; EMP, Cameroon and Chad, Volume 2.

*Observations:*

TCC, to date the main employer in Komé<sup>16</sup>, is apparently in the process of developing a worker housing policy consistent with the above-mentioned requirement, but few concrete achievements have been reached yet. Houses were identified in villages next to Komé base where non-local workers could be accommodated. However, most non-local workers eventually preferred to be housed in Bébédjia and Doba. Little appears to have been done in both these towns to “ensure that adequate housing and facilities are available.” Interviews with workers and socio-economic officers in Komé indicate that in both towns there is a shortage of houses for rental. As a result, locals with less income than the workers find it difficult to rent houses. This is especially critical for school and college students coming in town from neighboring villages. For those non local workers who may work in Komé for the whole duration of the construction, it had been previously suggested by ECMG that housing loans could be made available such that workers could build their houses rather than rent them. This has not yet been done. Overall, TCC’s housing policy in Komé is to date not compliant with above EMP requirements, however ECMG understand that steps are about to be taken, taking advantage of the experience gained by DT in Bam (housing development for workers which would eventually return to community members).

There is no accommodation available for Doba Logistics sub-contracted drivers while they wait for unloading and clearance in the Komé truck park, which may take several days. Therefore, most of them sleep under their trailers, which is common in the region. Some of them prefer to stay outside in front of Komé Atan once they are unloaded and are awaiting clearance.

The possibility of “ousting” the settlers from Komé Atan village because of health and “crime” reasons has been repeatedly mentioned to us from Project sources. Talks have been held by individuals in TCC with the *Sous-Préfet* of Bébédjia (see also Point 10 on in-migration for details on Komé Atan). The Project EMP socio-economic team is not involved. This is a possibility that must be ruled out unless strong and urgent reasons call for it, which ECMG doubt at this time, and full compliance with WBG safeguard policy Operational Directive (OD) 4.30 “Involuntary Resettlement” is ensured.

*Recommendations:*

- 12.1 Project EMP teams must review all Contractors’ housing policies and vigorously enforce compliance with EMP requirements as noted above (Consortium);
- 12.2 Basic accommodations, water and toilet facilities must be provided to Doba Logistics drivers waiting in Komé base (Consortium);
- 12.3 TCC, the main employer in Komé, must urgently develop and implement a housing policy consistent with the EMP requirements to mitigate adverse effects observed in Bébédjia, Doba, and Komé Atan (Consortium);
- 12.4 Instruct TCC individuals involved that the Project will not consider being a part of any “ousting” of settlers from Kome Atan (Consortium).

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<sup>16</sup> When peak is reached mid-2002, the total number of TCC workforce in Komé will be around 5,000.

### 13. *Additional Land and Crop Damages in Cameroon*

#### *Project Strategy:*

The EMP recognizes that some additional land will sometimes be needed when its acquisition or occupation could not be planned before the works are progressing. This is specifically the case for the pipeline works, where incremental surface is needed for such needs as wood storage, stockpiling of materials that are excavated during the works (topsoil, and earth where there is a significant cut), access roads to the pipe line right of way, and a few borrow pits.

The EMP<sup>17</sup> indicates that the following Project Design Feature is applicable:

“During construction, restriction of the width of the Cameroon Transportation System land easement to:

- 60m at river crossings;
- 50m at road/railroad crossings, areas with sloping terrains, and areas where natural obstacles exist;
- 30m, except in difficult areas.”

The EMP, under the Compensation Plan for the Republic of Cameroon<sup>18</sup> makes provisions for the proportion of additional land that may be required for “brush storage and access” for the pipeline. Table 1.3 of the Compensation Plan indicates that for all of Cameroon, 18.5% more surface may be required in addition to the 2,700 hectares corresponding to the usual 30m wide easement. According to the above-mentioned table, this percentage was planned to be evenly distributed along the whole route.

The EMP does not contain any specific provision as to procedures applying specifically to additional land needs.

#### *Observations:*

Incremental land is being occupied to accommodate for the additional needs of the works. On Spread 1, along the undulating segment from KP 539 to KP 647 where construction is progressing at the present time (January 2002), 65 hectares of additional land have been occupied, which represent about 20% of the area covered by the initial 30-m wide right-of-way. The actual number may be higher as damaged crops are not taken into consideration in this figure. At road crossings, the right-of-way width was planned at 50 meters, though an additional 20 x 120 meter piece was required at the intersection of the Bélabo-Bertoua paved road with the pipeline right-of-way.

When compared to Spread 2, the construction techniques being used by WSJV for Spread 1 appear to require more additional land.

The Government of Cameroon has little involvement in the process of this land procurement. Land requests are filed by the Contractor to COTCO, together with the

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<sup>17</sup> EMP, Cameroon, Volume 1, Section 2, Socio-Economic Topic #6

<sup>18</sup> EMP, Cameroon, Volume 3, Section 1, Table 1.3.

associated environmental baseline assessment (EBA). In application of the Change Management Process described by the EMP<sup>19</sup>, these requests need clearance by the Change Review Board. When approved, the land acquisition is processed in terms of stakeholders' identification, valuation, agreement and payment. All the principles for compensation are the same as those used for the previous phases of compensation for the right of way. Crop damages are reviewed following a more streamlined procedure, which does not trigger the Change Management Process.

*Recommendations:*

- 13.1 Keep Project EMP teams, and Contractors and CPMT teams, focused on the minimization of additional land use (Consortium);
- 13.2 Develop a monthly monitoring of the land requests in terms of cumulative percentage of additional land, and include the crop damages in this indicator (Consortium).

#### 14. ***Removal of Temporary Bridges***

*Project Strategy:*

In accordance with the Induced Access Management Plan<sup>20</sup>, temporary bridges built for the pipeline construction must be removed when works are complete.

*Observations:*

A temporary bridge has been erected over the Lokoundje River near Lolodorf (Cameroon) in Bikoué village. The plan is to remove this bridge, but COTCO has been requested not to remove it. If this bridge were left in place, the road would give access to Mvengué from Lolodorf through an area with mixed forest and cultivated zones.

*Recommendations:*

- 14.1 Additional information should be generated before a decision is made to leave or not to leave the bridge in place. As the Project plan is to remove the bridge, any public/Government desires and movements to retain the bridge should be accompanied by a Government assessment of the following:
  - Technical aspects - is the design of the bridge sufficiently safe for its intended long-term use?
  - Environmental and social aspects - a EIA would need to be developed to assess the potential impacts, especially in terms of induced access and the associated mitigations.

#### 15. ***Decommissioning of Temporary Facilities***

*Project Strategy:*

The EMP<sup>21</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."

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<sup>19</sup> EMP, Cameroon portion, Volume 1, Section 3.5.2

<sup>20</sup> EMP, Cameroon portion, Volume 1, Appendix D

<sup>21</sup> EMP, Supporting documents, Volume 1, Section 8

*Observations:*

In Cameroon, some facilities (storage yards) may have to be decommissioned soon. Therefore, the Consortium needs to make sure that “no further use is warranted” and to consult accordingly with parties that may potentially be interested by further uses, i.e. the Government of Cameroon at central and local levels.

*Recommendations:*

15.1 Develop a process and schedule for consultation with local authorities with respect to the future use and/or decommissioning of temporary support facilities (Consortium, CPSP/Government)

**16. *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 ECMG has had the opportunity to attend regional compensation consultations in southern Cameroon and to discuss the process from various sources, including village chiefs and villagers. NGOs are being involved as facilitators. The process allows villagers to make informed decisions. The initial “catalogue” approach has been amended and widened, as follows:

- Neighboring villages can associate together for a larger project and there are instances of such associations;
- Villages can come to COTCO with a project of their own, as long as it is agreeable to all villagers and consistent with the allocated budget.

Chad:

The Project is planning to entrust GTZ<sup>22</sup> with the planning, coordination and implementation of the community compensation process. The contract has not been finalized.

*Recommendations:*

16.1 Chad: sign the contract and get started (Consortium).

**17. *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. The Project has also developed grievance management

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<sup>22</sup> GTZ: Gesellschaft für Technische Zusammenarbeit (the technical cooperation institution of the German Government).

processes consistent with applicable legal procedures. Compensation is served either in cash, in-kind, or both.

*Observations:*

Cameroon:

Remaining cases are being settled on a case-by-case basis. Approximately 30 individual cases remain pending. Some quality problems have been experienced with bicycles served as part of the in-kind compensation.

Chad:

In Chad, individual compensation is being paid in cash and/or in-kind, depending on the concerned person's choice. A significant part of the in-kind compensation has not yet been paid in Chad. These delays can be as long as 10 months, and they appear to originate in delays with Project procurement procedures and the failure by some suppliers to deliver on time. The percentage of individuals opting for in-kind compensation has been decreasing with time from about 30% in the period 1998-2000 to about 5% in the last two quarters of 2001.

This trend may indicate that in-kind needs have been partly fulfilled by earlier compensation of the same individuals. It may also be the result of the concerned persons' increasing reluctance to choose in-kind compensation if they know they will have to wait a long time for delivery. This is unfortunate, as in-kind compensation is a good mitigation of such potential negative effects of cash compensation as misuse and unfair distribution of benefits within the household.

*Recommendations:*

- 17.1 Ensure that procurement procedures be expedited for in-kind compensation in Chad, and pay as soon as possible the pending in-kind compensation (Consortium);
- 17.2 Re-encourage in-kind compensation by developing targeted messages at consultation, identification, and valuation stages (Consortium);
- 17.3 To mitigate the quality problems that have been experienced for some items, they could be delivered in the future with a "guarantee" period of 6 months. To trigger the guarantee, a visit to the Local Community Contact (LCC) would be needed. Local mechanics in towns where there is a LCC would do the repairs and charge TOCTO/COTCO (Consortium).

18. ***Indigenous Peoples Plan***

*Project Strategy:*

An Indigenous People Plan (IPP) is to be implemented through FEDEC<sup>23</sup> to provide assistance to Bagyeli/Bakola (Pygmy) communities in the Project area.

*Observations:*

Based on the results of consultations carried out in July and August by COTCO, a program has been proposed by COTCO for FEDEC consideration. This proposed

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<sup>23</sup> EMP, Cameroon portion, Volume 4.

program includes the following projects targeting the Bagyeli/Bakola communities in the Project area:

- Inventory of existing land right agreements for the Bagyeli/Bakola, and improvement of housing;
- Provision of National Identity Cards;
- Organization of free health care access, and a corresponding health access information campaign;
- Tuberculosis diagnosis;
- Assistance to education;
- Agricultural extension and seed distribution.

These proposed actions are consistent with the objectives of the IPP in terms of human rights, production, health and education.

*Recommendations:*

18.1 Proceed with implementation of the IPP.

19. ***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:*

The ECMG did not interview the Project archaeologists such that the current status of field investigations can be reported. Nevertheless, the field procedures followed by the Project archaeologists were provided to the ECMG in a document entitled *Chad-Cameroon Pipeline Project: Archaeological Survey Techniques*. In this document, a rationale for field procedures was provided to be consistent with the probability of encountering significant cultural resources. Also, the Project EMP team management have stated that since the third ECMG visit the number of archaeologists working in the field has doubled.

*Recommendations:*

19.1 The Project will benefit from providing the archaeologists with sufficient resources to fully investigate sites identified as being of "high priority."

## **Health and Safety**

### **20. *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, an adequate number of non-professional personnel trained in first aid are required to be available within four minutes to any person within a work unit and a fully-trained first aid responder to be available within 20 minutes in order to stabilize and transport patients to an adequate health facility. It establishes that 10% of the work force should be trained in first response level first aid. Medical evacuation alternatives are location-specific and defined as part of individual Contractor Health, Medical and Sanitation Plans.

#### *Observations:*

- In some work sites the presence of workers trained in first aid was found to be below the EMP requirements. Locations where these observations were made include the Kribi storage yard, Libi bridge, Doba Logistics storage yard at Dompla.
- Good training practices were encountered at the DT camp in M'Béré where methodology for first aid training included practical drills performed in front of the entire work team. At the TCC camp at Komé base, the training material and methods were also found to be based on drills. However, first aid providers at several camps were found not to be able to answer basic questions on the practical application of their training and some workers were not able to describe adequate procedures to be followed in case of an accident. Examples of this situation were found at the Sogea Satom Camp in Bélabo, TCC Camps at Bélabo and Komé, and the Pride-Schlumberger Camp at Komé.
- At some locations, workers, nurses or doctors were found not to have all the necessary equipment for first aid response. For example, some first aid boxes were found to be incomplete (Kribi storage yard; Libi bridge; concrete plant at Bélabo). A nurse interviewed along the pipeline route at KP1039 between Kribi and Bipindi had good training and a complete first aid responder bag, but did not carry a portable oxygen bottle, which is needed at remote locations. At the Bélabo camp there are three ambulances, but only one responder bag.
- Cellular communication is frequently difficult. Doctors or nurses may need to communicate with radios when on the road or at some work sites, but we did note one instance where the medical team from the Bipindi camp could not communicate with the main clinic because they did not have access to a radio and their cellular phones did not work.

#### *Recommendations:*

- 20.1 Emphasize first aid training through drills that simulate different accidents and involve the entire work force such that individuals, from the management and Safety Supervisors to the workers, understand their specific roles. Train each work team at isolated sites and set arrangements between subcontractors and contractors to carry out periodical joint drills for first aid.

- 20.2 Provide visible identification such as badges and specially-designated hardhats to the individuals qualified to provide first aid such that they can be easily recognized by all the workers.
- 20.3 Review the content of first aid boxes and verify that they are adequate for the types of risks and distances from fixed health services. Strengthen the systems for the control and replenishing of medicines and other supplies for the boxes and make sure they are placed at visible, accessible locations where they can be safely stored, checked, and protected from potential damages due to environmental conditions (i.e., heat and sun).
- 20.4 Establish priorities for the distribution of the individuals trained for first aid in the most remote areas and high risk sites.
- 20.5 Provide adequate radio communication for doctors and nurses in remote sites.

21. ***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. Health clinics at work sites and at the main camps are required to be able to provide good primary care and to ensure referral to previously certified hospitals or clinics outside the camps. HCPs are required to have medical protocols. Laboratory and X-ray equipment are important elements for following the procedures established in the medical protocols.

*Observations:*

The SOS-operated Clinics visited by the ECMG (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. Doctors, nurses, and professional support staff had good knowledge of the technical and management documents and procedures.

All of the clinics visited (Bipindi, Bélabo, Sogea-Satom Dompla, PS-2, PS-3, TCC Komé, Pride-Schlumberger Komé) had few medical reference books, typically between one and four of the books recommended in the EMP.

Clinical laboratory facilities and portable X-ray machines are part of the contractor's Health Plan for all clinics operated by SOS. They were missing at the clinics at Bipindi, PS-2, PS-3, TCC Komé, and Pride-Schlumberger Komé Clinics. The X-Ray and laboratory were acquired but not installed at the clinic in Bélabo. None of the camps have sufficient space available to install both laboratory and X-ray equipment.

*Recommendations:*

- 21.1 Provide adequate space for the laboratory and X-ray equipment consistent with the Health Plans presented by the contractors.
- 21.2 Provide more reference books to keep MDs and nurses able to readily access scientific information on diseases and treatment in special cases.

## 22. *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 stresses the risk of sexually transmitted diseases and AIDS and emphasizes health education and easy availability of condoms. The 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. Initial and periodic drinking water quality control needs to meet WHO standards. 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, 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. They also include periodic warnings in the toolbox meetings and provide free distribution of condoms. Some Clinics extend the information to nearby communities (e.g., Sogea-Satom Clinic at Dompla), or to guest houses outside the camp (Bélabo Clinic). CHOP supports NGOs which work in health education. Information on STD risks is posted in communities (e.g., village near Dompla). Doctors at clinics report cases of STD, but a full evaluation of the effectiveness of the health education and AIDS prevention activities is not available as yet.
- Weekly and monthly health reports show malaria as the first cause of medical consultation. Periodic spraying of insecticides of camp is reported to be done at all camps. Insect repellent and insecticides are available to workers and managers. Workers receive orientation to wear long sleeve shirts with light colors.
- Risk of other vector borne diseases is apparently higher in some areas. For example, tsetse flies were caught in the woods next to the Bipindi camp. Insect traps were installed around the camp and workers were instructed to avoid resting in the shade under trees. Two onchocerciasis (river blindness) cases were reported to have been encountered in the hospital near the Bélabo camp. The disease is transmitted by black flies which may leave their breeding places and may occasionally reach the working sites and the camp. It was observed that some living quarters at Bipindi and Bélabo camps are not screened.
- Food handling was found to be not safe in some kitchens, particularly because of potential cross contamination between raw meat and cooked food. At some location (e.g., Bipindi, Bélabo, PS-2, and TCC Komé camps) it was observed that flies may enter the kitchens, because screens are not installed in the doors. In addition, unsafe behavior, caused by poor design, was observed at the TCC Komé camp, where the

kitchen door was found intentionally open because of heat. Garbage cans were found outdoors, near the kitchen doors in Bélabo and Komé camps. Overstocking in the dry food storage area and food on the floor makes floor cleaning difficult and ineffective at the TCC Komé camp. At this location meat is thawed next to an external access door and only a wooden wall separates this area from where pastry is prepared. Prepared food is left at room temperature for more than six hours at the Komé *boukarou* kitchen and it is transported in inadequate vehicles to the work sites. It was also observed that hand wash basins for food handlers were not available at the TCC main and *boukarou* kitchens at the Komé camp and at the PS-3 kitchens.

- Living quarters at building L at the TCC main camp in Komé are constructed within the minimum requirements of individual sleeping space, but the significant number of its occupants (68 at the time of the visit, with maximum capacity for 96) and the lack of internal partitions create an environment which appears to be highly susceptible to outbreaks of respiratory diseases. This same building had fewer wash basins than EMP standards, which seem to cause long lines in the morning and shorten the available time for personal hygiene, potentially increasing the risk of outbreaks of food and water borne diseases.
- It has been observed that the drinking water quality is being analyzed regularly at camps, but this testing, especially the microbiological analysis, does not appear to be standardized. Water at the Komé TCC camp has low pH of 5.6, which is lower than WHO standards required by the EMP. Relatively high lead concentration was found in the water from three wells at the TCC Bélabo camp, although this finding is being checked with additional testing. Water distribution at work sites was found to be generally safe, although the observation that all workers were drinking from a single cup at a pipeline construction site near Bélabo is of concern.

*Recommendations:*

- 22.1 The ECMG recommends to monitor the STD/AIDS cases by the use of adequate indicators taking into account that different factors may cause changes in the frequency of findings (such as variation of assisted population size, increasing availability of doctors and laboratory resources along the Project implementation period). Data should be analyzed using incidence rates, distinguishing new from repeated known cases, and should be processed separately for workers living in and outside the camps, pre-employment candidates, and Good Samaritan cases from Bemboyo and other recent settlements.
- 22.2 Ensure that screens are correctly installed at kitchens, areas where garbage is stored, and at living quarters. We recommend that automatic closing mechanisms be provided for all screen doors.
- 22.3 Review and improve, as needed, the layouts of some of the kitchens. Specifically, adequate space for safe food storage, on shelves and not on the floor, should be provided. Areas to functionally separate the handling of raw meat from the cooked food in the kitchen should also be provided. Hand wash basins for food handlers should be installed, as needed. Only impermeable materials should be used for the walls of working areas for food processing.
- 22.4 Review and improve, as needed, the management and supervision procedures implemented at the kitchens. Specifically, it is recommended that all work surfaces and floors be frequently cleaned before, during, and after food handling

- sessions. Ensure that meat is thawed in the refrigerator. Carry out frequent retraining of all food handlers. Review the relevant procedures and ensure frequent monitoring and supervision of the entire food handling operation from raw material storage to processing, storage, transportation and distribution of finished food. Place food refuse and garbage in cans in insect net protected areas.
- 22.5 Conduct a review of the hygiene issues in all living quarters and at work sites. Specifically consider changing the lodging of the workers in buildings similar to building L at Komé camp such that sleeping areas are partitioned into four-occupant modules and provide extra hand washing basins, according to EMP standards, to allow more time for personal hygiene.
- 22.6 Review and standardize, as needed, all the methodologies used for sampling, analysis, interpretation, reporting and data interpretation for drinking water.
- 22.7 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 chlorine to protect treated water from recontamination.

### 23. ***Occupational Health***

*Project Strategy:* Industrial hygiene and occupational health activities are to be coordinated for preventing, controlling and treating work-related injuries and diseases. The EMP emphasizes the control of exposure to excessive ionizing and non-ionizing radiation, airborne mist, vapors, dust, noise, heat, vibration, and high temperature and pressure. PPE is required to be specific to different activities and includes adequate masks for dust, mist, and gas. Health Plans require experienced industrial hygienists or equivalent health professionals to assess exposure to chemical and physical agents. Health professionals are to be capable of assess the work-related hazards and to diagnose and treat affected persons. Periodic data analysis is required.

*Observations:* The Occupational Health doctor stationed at the Bipindi camp clinic has noted that the welders working at the pipeline construction sites have a relatively high amount of acute respiratory disease, mainly bronchitis and bronchospasm. Specifically, about 20% of welders who have received medical consultation exhibit acute respiratory disease versus 5% among road construction workers. In the U.S., the Occupational Safety and Health Agency (OSHA) does not require welders to wear respiratory protection when the welding takes place in the open air, but notes that some gases and vapors generated in the welding operation are toxic and respirators may be required depending on the type of welding and that the material safety data sheet (MSDS) for the particular welding material used or generated should be consulted to determine if respirators are needed.

Procedures for medical data registration, processing and analysis do not appear to be consistently in place. The ECMG observed that minor injuries are usually reported as occupational care regardless of their cause, but lower back pain and other muscle aches appear to be, almost always, not counted as occupational. Also, record keeping for work related medical visits is not consistent for all the medical teams.

*Recommendations:*

- 23.1 Provide occupational health reference books to the occupational doctor at Bipindi camp and/or provide access to Internet with the intent of optimizing the MD's

participation in job safety analysis, diagnosis and treatment of diseases associated to exposure to specific physical and chemical agents.

- 23.2 Review the MSDS sheets for the materials used by the welders to evaluate the need for respiratory protection.

## 24. ***Community Health***

*Project Strategy:* 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, especially AIDS (see Section 22). The project also 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. World Bank Technical Assistance is also intended to strengthen the government institutions' capacity to monitor the impact of the Project, including community health.

### *Observations:*

- AIDS information posters written in French and some other local languages are posted in villages.
- Mosquito nets ready for distribution through an NGO were observed at Saint Joseph Hospital in Bébédjia as part of the CHOP. Local NGOs will also receive financial support for health education as part of the CHOP.

### *Recommendations:*

- 24.1 The effectiveness of educational material in a complex issue as sexually transmitted diseases should be further evaluated, as delineated in Section 22.

## 25. ***Baseline Data and Epidemiological Analyses:***

*Project Strategy:* The EMP emphasizes the importance of clear and precise record keeping of illnesses and accidents and the epidemiological approach to analyze and present baseline data and to monitor the health of the workforce. Particular emphasis is placed on the presentation and analysis of data to allow evaluation of the effectiveness of the Health Plan.

### *Observations:*

As noted in previous trips reports, ECMG has observed that data collected on individual medical visits are detailed and could be very useful in evaluating the effectiveness of the Health Plan for the decision-making process. The raw data are sent to EMP collection points in Douala, N'Djaména and Houston, but the processed information is not sent as feedback to the health professionals in the field. The consolidated weekly and monthly reports do not provide the sufficient detail to analyze the incidence rates in the various worker and population groups. In addition, the use of total visits as denominators may lead to analytical errors.

### *Recommendations:*

- 25.1 Process health data through indicators with the appropriate denominators. Adequate data processing and analysis needs to be conducted using as numerator

the number of cases of a given disease or symptom, and as denominator the total exposed population to that specific risk.

25.2 Send critical analyses as feedback to the health professionals in the field.

## 26. ***Operational 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.

### *Observations:*

Numerous JSAs have been developed since the beginning of construction activities. Nevertheless, the ECMG has observed in the field the need for the review of some operational procedures to adopt an integrated “fail safe” approach in the definition of the sequence of activities and operations.

In some of the working places, JSAs have been observed to be available in English only. ECMG has been informed that French version was under preparation, however a significant number of workers, including skilled and high-skilled operators, read and speak other languages (e.g. Spanish, Arabic). In some cases, safety and operation advisors in the field were observed to have some communication difficulties with workers.

### *Recommendations:*

26.1 Review JSAs to adopt “fail safe” approaches in defining operational sequences.

26.2 Adopt languages other than English, where necessary, when preparing versions of the JSAs to target workers that may speak other languages and make sure that communication between safety and operation advisors and workers in the field is effective.

## 27. ***Worker Safety***

*Project Strategy:* 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:*

The Project generally provides a safe working environment with appropriate Personal Protective Equipment (PPE). The EMP and safety monitors appear to place emphasis on identifying safety violations. Nevertheless, the ECMG has observed some deficiencies and violations. In some cases (e.g., hearing protection at noisy locations, waste handling at camp sites), the most appropriate PPE has not been adopted for the actual operation; in one case (gravel extraction pit at Bébédjia) PPE was missing among subcontractor workers.

*Recommendations:*

- 27.3 Safety supervisors in the field need to ensure that appropriate PPE are used for the different operations.
- 27.4 Strengthen the monitoring of prompt and adequate use of PPE among Contractors and especially their subcontractors.

**28. 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 is being developed by David Terrassement (DT) in Chad.

*Observations:*

Although the recent installation of the temporary M'Béré bridge may alleviate this situation, the delays in road upgrades in Chad have forced project transport to Komé to be extended beyond original project plans through the "northern route" that extends for 900 km over public roads. The potential impact of the Project to road safety and communities along this route has not been determined. The recommended safety awareness program along the northern route (see third ECMG report) was considered by COTCO, but was not implemented in the field.

Along the upgraded Project road sections in both Cameroon and Chad, safety awareness programs have been implemented. However, based on ECMG observations, villagers may not have reached full understanding of the actual hazards represented by the project traffic and convoys, particularly with respect to unusual situations and conditions (e.g. fire hazard from transportation of flammable fluids) in remote villages.

During the visit, the ECMG was informed that the first few transportation tests have been conducted to evaluate the possibility to use the Project road under construction in Chad from M'Béré to Komé. However because of the delay in road upgrades in Chad, additional specific safety measures are under evaluation for their implementation to further mitigate risks due to Project convoys along roads defined as "passable" by the Project, as long as the situation of the roads will not meet the "fit for purpose" conditions.

*Recommendations:*

- 28.1 Implement a safety awareness program along the northern route as long as the route will continue to be used by convoys and until the Project route to Komé will be fully operational.
- 28.2 Verify the effectiveness of safety awareness programs along the villages crossed by the new and upgraded Project roads and continue awareness consultation until an adequate understanding of hazards is achieved by villagers.
- 28.3 Complete village-specific evaluations along the Project roads in Chad, and adopt the most appropriate safety related measures to be implemented for convoy traffic

along “passable” road conditions until “fit for purpose” conditions are achieved. Safety measures may include: escort cars, water truck in front of the convoy to be operational at village crossings for dust control, hiring of villagers for safety awareness during the transit of convoys, use of flagmen, etc.

## 29. *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:*

In spite of significant effort demonstrated by the Project at Contractor camps and Project yard facilities, access to some of the workplaces is open to third party intrusion. In some cases, camps or work yards have been expanded because of operational needs, but fencing has not been extended to enclose the new work areas (e.g. Bipindi camp, Kribi storage yard, Bélabo cement plant). Also, some intrusions of children and women were observed along the pipeline route at Spread 1 and 2 locations where construction activities were performed.

### *Recommendations:*

- 29.1 Expand fencing at temporary Project footprints (e.g. camps, bases, yards).
- 29.2 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.

## 30. *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:*

The fuel supply contract with Mobil is still being finalized. A specific Fuel Safety and Management Plan is still under development and not yet implemented. Fuel and lubricant suppliers are involved in this process, but the current status is still inconsistently managed by the several Contractors. The lack of a centralized EEPCI/TOTCO/COCTO management and contract with fuel haulers has inhibited enforcement of a Plan as yet.

### *Recommendations:*

- 30.1 Finalize and implement the Fuel Safety and Management Plan, consistent with the recommendation presented in the previous ECMG reports.
- 30.2 Improve basic safety awareness campaigns for fuel transport, wherever a significant traffic of diesel fuel haulers convoy occurs or will occur.

### 31. ***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 ECMG had the following observations:

- The attitude to fire safety demonstrated by the different Contractors is different. In particular, some of the fire fighting equipment (e.g. extinguishers, water hoses) were missing or poorly managed and kept.
- Diesel fuel storage facilities in some camps need improvements (e.g. exposed piping at Bélabo WSJV camp; unsafe storage of fuel drums beneath main fuel storage tank at Bipindi camp);
- Bush fires could reach Project facilities (e.g. TCC – PS-2 yard facilities)

#### *Recommendations:*

- 31.1 Safety advisors and monitors need to improve fire safety awareness and closely monitor the implementation of fire safety measures.
- 31.2 Safety advisors to need to review the status and management of the diesel fuel storage facilities.
- 31.3 Buffer zones should be considered to minimize the risk to Project installations from bush fires.

### 32. ***Safety Management System and Organization***

#### *Project Strategy:*

As previously mentioned, 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:*

During the site visit, the ECMG had the opportunity to review the different organization charts adopted by EEPCI/TOTCO/COCTO, Contractors and subcontractors. Some differences in safety organization can be noted. In some cases (e.g. COTCO Cameroon Organization) safety teams in the field are included within the construction team organization and are linked to the Project Management Team through the Construction Management Team. In other organizations the field Safety Team is completely independent and does not respond to the Construction Management Team, but depends directly on the Project Management Team (e.g. WSJV organization). Both approaches are commonly applied, but an independent safety team could be advantageous.

Safety data (e.g. incidents, near misses, etc.) are recorded and processed by Project and Contractor Safety organizations, but in some cases the results of the statistical analyses

are only partially available in the field for possible follow-up actions and to define measures to improve safety performances (e.g. WSCJV team at Bélabo).

*Recommendations:*

- 32.1 Safety statistics and safety feedback from data processing should be available to field safety operators to improve safety performances. Comparative analyses of safety-related data should be performed by the Project to outline safety performance differences and attitudes among Contractors and subcontractors.

## **Biophysical Environment and Environmental Management**

### 33. ***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.

*Observations:* The observations from the last ECMG visit are essentially still valid. Sufficient information has not been compiled from which to make a firm determination as to whether the Project is or is not impacting water resources, particularly at the Oil Field Development Area (OFDA). Although monitoring of village water supplies is taking place, sufficient information has yet to be provided to the ECMG to determine if the baseline data are sufficient to identify if an impact could occur from ongoing or future construction activities. For example, a subcontractor to TCC, Les Sablières du Logone (SDL), is currently withdrawing surface water for the gravel works and dust control from an oxbow pond supporting a wetland area near Bébédjia. This subcontractor is planning to develop a water well located within the gravel extraction concession next to the wetland. The potential impacts of this water use to the wetlands have not been quantified as yet.

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*. Although this may be a sufficient program for the monitoring of water quality, 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.

Water usage is not tracked accurately, specifically at the OFDA where significant withdrawals are to be expected. Although the EMP for TCC (Revision 2, 6/01, Section 4.3.3) requires that Project wells be equipped with flow meters, the estimate for water usage provided to the ECMG was based on some indirect data, such as the number of tank trucks filled for watering of the work sites. Reported actual use for dust suppression is much more than the maximum assumed in the TCC EMP and the current total consumption, at least in the OFDA area, is reported to be within 90% of the maximum estimated in the EMP for the construction phase. As the single largest use of water is assumed in the EMP to be irrigation, an activity not yet underway to a significant degree, future total water usage could exceed estimated consumption. In any case, the total reported water consumption in the OFDA is a situation where the EMP requires that water consumption be reviewed. Specifically, the EMP for TCC states: "If consumption levels approach (i.e. reach) 90% of the rates estimated here, the Environmental Manager will advise the Operator's EMP Manager, and the Operator will consider if further

mitigation measures will be required". The ECMG was not provided evidence that this process is being followed.

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. Nevertheless, some Cameroonian villages (Dimako, So-Ondene, Ngamba I, Ngamba II and Mbinam) have complained that they have had their supplies of surface water impacted by pipeline construction activities. The placing of pipe across streams temporarily causes turbid water to flow downstream where it is used by villagers. When this has taken place, the contractor (in this case WSJV) has provided the villagers with potable water. Although the villagers appear to have been compensated for this short-term and reversible impact, the environmental baseline surveys prior to construction did not anticipate impact to village water supplies and the Project response has been reactive, rather than proactive.

*Recommendations:*

- 33.1 Ensure that sufficient water consumption data are collected and processed in a consistent manner by the contractors and the Project EMP team. The development of simple, predictive models of the areas of greatest groundwater usage should be considered by the Project to assess the significance of groundwater extraction and to provide quantitative evidence that impacts are not significant, especially at the OFDA.
- 33.2 Identify the potential existing and future "hot spots" in terms of water resource protection, water use and discharge, such as the wetlands next to the Bébédjia gravel extraction pit, and include this concept in the development of the water monitoring plans for the Project fixed installation areas.
- 33.3 Review the current program of measuring groundwater levels at Project and village wells to make sure that sufficient baseline data are available to be able to distinguish Project-induced and natural variations to water levels.
- 33.4 Install the monitoring wells as soon as practical at selected locations, taking into account potential impact sources and current and future water withdrawals.
- 33.5 Review the baseline environmental studies along the pipeline route and other areas of new construction to check that the village water supplies that could be impacted are fully identified in advance and take appropriate countermeasures, where needed.

34. ***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 media monitoring of non-hazardous and hazardous waste (hazardous waste landfill, non-hazardous waste landfill, hazardous and municipal waste incinerators, innocuous solid waste pits); groundwater monitoring; sewage collection, treatment and effluent monitoring.

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 wastes, and deliver their non-recyclable hazardous wastes to the Project facilities for storage and/or disposal, which will be 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

The Project landfill at B elabo, Cameroon is currently under construction. The waste treatment/disposal facility at Kom e is scheduled to be constructed in 2002. Monitoring wells are present at both the Kom e and B elabo sites, although the wells at the B elabo site were found to be located within the construction area and may be unsuitable for monitoring during the landfill operation phase. The Project has recognized the need for additional hazardous storage capacity and some temporary hazardous waste storage areas have been constructed at PS-2 and PS-3 sites in Cameroon and at Bam in Chad.

Camp waste incinerators and storage facilities are available and operating at most of the locations. However, the ECMG has observed that domestic waste management at Kom e Base, specifically at TCC Camp, is a concern due to the malfunctioning of the old waste incinerator, which was found to be undersized. A new incinerator was procured, but was still not in operation at the time of the ECMG visit. Waste storage areas have also been observed outside of the Project facility fences (e.g., Sogea-Satom camp at Dompla, Cameroon).

Innocuous waste dump sites are being operated by the Contractors, although differences were reported in terms of their daily management. For example, good waste disposal practices with the use of daily cover were observed at the TCC camp in Dompla, but innocuous waste including some organic material was found to have been exposed for many days at the dump at B elabo.

Following the recommendation of the ECMG aimed at reducing the waste quantities stored at the hazardous waste storage areas, testing of potentially non-hazardous ashes produced by incineration of segregated domestic wastes is being performed by the Project. As soon as the results confirm that this waste is innocuous, actions are being taken to dispose it of at the innocuous waste dump sites.

First attempts to treat hydrocarbon-impacted soils in lined areas through improved aeration and volatilization have been observed by the ECMG at Bipindi, M'Ber e and Kom e. As observed by the ECMG during the third mission, hydrocarbon contaminated soils have been collected in drums by the EPC Contractors since the beginning of the construction phase and they represent a significant amount of the hazardous waste currently being stored. The ongoing efforts still need to be standardized in terms of objectives, evaluation of results, reporting and operating procedures, and their effectiveness assessed.

Used lube oil recycling began in September 2001 by COTCO in Cameroon, with the collection of used lube oils from Sogea Satom, WSJV, TCC and Doba Logistics facilities. Available data collected during the first implementation period highlight that actual monthly quantities generated by the EPC Contractors are close or slightly higher than

their initial monthly estimates, with the exception of significantly lower quantities (7,300 liters actual vs. 20,000 liters estimated) reported for Doba Logistics.

#### Wastewater Management

The Project is taking actions to improve the layout and the efficiency of the wastewater treatment at camps. Specifically, actions have been identified at Pride-Schlumberger and TCC camps at Komé to increase treatment capacity, relocate treatment units and relocate/enlarge leach fields to more suitable locations, farther from potential receptors within the camps. The leach field at Bam camp was also expanded.

However, there are still examples of inappropriate selection of location within camps or insufficient treatment, which need to be addressed. The ECMG has observed operating treatment units at TCC Komé camp located very close to the camp restaurant and residential units. The leach field for the treatment facility at the TCC Dompla camp had not yet been selected and constructed at the time of the visit. The treatment unit for the Esso camp at Komé was reportedly not operating and sewage is partially treated through a malfunctioning septic tank and an evaporation pond.

#### Management of Drilling Fluids

Good drilling practices have been observed at the well sites. Mud and water pits are lined. Freshwater gel muds are being used. Casings are being cemented from 1,000 feet to surface to protect the main aquifers.

#### *Recommendations:*

- 34.1 Start construction of the permanent waste treatment and disposal facilities in the OFDA as soon as practical.
- 34.2 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.
- 34.3 Provide evidence that the characteristics of some waste streams, such as incinerator ash, are suitable for disposal at innocuous waste dump sites, reducing the need for stockpiling in some areas.
- 34.4 Ensure that all the waste is stored within the Project camps and/or installations in fenced areas.
- 34.5 Verify that all the innocuous waste dumps are properly managed and that dumped waste is properly and frequently covered with soil.
- 34.6 EMP teams should analyze the data collected on waste generation, to proactively identify priorities and needs in terms of treatment, storage capacity and new infrastructure. For example, the actual generated amounts of used lube oil should be investigated to ensure that the recycling program is effective in reducing potential impacts due to this waste stream.
- 34.7 Contractors should address the issues related to the efficiency of the wastewater treatment plants and provide readily available evidence through monitoring data consistent with EMP requirements.
- 34.8 Innocuous characteristics of muds and ponded waters should be documented prior to pit closure. Parameters such as pH, metals, oil and grease, soluble salts and cationic distributions, and radioisotopes should be considered in the sampling plan.

### 35. ***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 will serve 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.

*Observations:* The ECMG was informed that the ASOSRPs are under preparation and first drafts are due in March 2002. Tier 2 response kits are available in both countries and a strategy for site deployment is being developed both in Chad and Cameroon. Hydrocarbon analyzers are also available in the main offices of COTCO and EEPCI/TOCTO.

Based on the results from analytical testing showing no significant impact to soil or water resources, the diesel fuel spill issue that occurred in September 2001 in a streambed near M'Baïbokoum has been closed, including any restrictions related to surface water use.

*Recommendations:*

35.1 The Project EMP team should coordinate with CTNSC (Chad) and CPSP (Cameroon) to ensure an effective integration of the ASOSRPs within the National Oil Spill Response Plans which should be prepared soon.

### 36. ***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 recently 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:*

#### Roads and Borrow Pits

Road upgrades in Cameroon are nearly complete. The schedule for "fit-for-purpose" has been delayed in Chad and an interim objective has been set to reach "passable" road conditions (see Point 28 on Road Safety).

Sogea-Satom and DT have developed, in coordination with CPMT, their own siting criteria and plans to select borrow pit locations, minimizing environmental and human impacts stemming from their exploitation, as well as assuring that the open pits are properly closed and reclaimed. Although most closed borrow pits have been properly

reclaimed, the closed borrow pits in the Komé area have yet to be reclaimed. The closed borrow pits visited in northern Cameroon have been properly reclaimed, and borrow pit reclamations in southern Cameroon have been re-evaluated. Specifically, additional efforts have been taken to reclaim the borrow pit near the Bipindi camp. A site-specific soil erosion and reclamation plan for the Touldoro quarry site in Northern Cameroon has been submitted by Sogea-Satom.

#### M'Béré River Bridge

A Bailey bridge has been installed to serve as the temporary bridge at M'Béré River. This option complies with the EMP and does not impact the river streambed. Following the observations during previous ECMG visits (see first, second and third ECMG reports), preliminary results of the specific analyses for the definition of the expected consequences of the increase of water velocity and increase of the upstream water levels have been presented. Based on these preliminary results (final report to be issued in few weeks) the expected impacts are limited and considered negligible; the design of the bridge is confirmed and no further data are necessary, at this stage, to validate the design.

#### Dust Control

Dust generated from infrastructure development at the OFDA, road upgrade and ROW activities is a significant issue that is currently faced by the Project. Dust control measures, particularly frequent watering, are being implemented by the Project. Research is being also conducted to identify alternative approaches and reduce water consumption (see Section 33 on Water Resource Protection). Dust emissions from the working sites and Project roads are a potential impact factor in terms of public health.

#### *Recommendations:*

- 36.1 Develop 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.
- 36.2 The formal closure of the rehabilitated borrow pits through the procedure put in place by the Project should be accelerated.
- 36.3 The Project should complete the assessment of alternative options for dust control at OFDA construction areas (e.g., paving, non-hazardous water additives) as soon as practical. The options should be assessed 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.

## **CHAD CAPACITY-BUILDING PROJECT**

37. *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.*

Main indicators of the effectiveness of the Capacity-Building Project include:

- Effective Government monitoring of implementation of the Doba Petroleum Project; and
- Effective implementation of the Doba Petroleum Project's Environmental Management Plan<sup>24</sup>

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

38. *Observations:* Despite a concurrent meeting in Bébédjia involving CTNSC and World Bank representatives, which interfered with the meetings scheduled with the ECMG and partially disrupted the mission agenda, the ECMG was able to collect the following relevant information on the status of the Chad Capacity-Building Project in late January 2002:

- The rehabilitation of office space for the National Coordination and CTNSC is complete. Construction project for new CTNSC headquarters is at the contracting phase; completion of works scheduled for October 2002. Office furniture and equipment are still under procurement. Several vehicles were delivered in December and the remaining ones are to be made available in February. Procurement of mobile telecommunication equipment (radio) is at the contracting phase.
- The question of recruitment of Government field monitors and CTNSC executive secretariat personnel was reported to be resolved last December by an agreement between the Government and the World Bank. The process of staffing, however, is reportedly still slow, possibly due to lengthy procedures through the Chadian administration. The CTNSC Executive officer is working, even if his personal contract has not been formally finalized by the Chadian administration.
- Recruitment of the international Technical Assistant for CTNSC headquarters is ongoing, but not yet finalized. Also delays have occurred in the selection and

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<sup>24</sup> Project Appraisal Document (PAD) March 2000, page 2

recruitment of an international consulting firm for training and providing technical support to the engineers from the *Direction du Pétrole*.

- At the field level, the government supervisor is in place in Komé camp and has been supported since January 25 by an expatriate Technical Assistant and three monitors in the bio-physical and socio-economic sectors. Although this is a major step, the overall capacity for the Chadian government to monitor the Project is still very limited and critical situations have not been monitored. For example, the Regional Delegation of Public Works in Moundou (DRTP) appears to not have the capacity to control heavy traffic of Doba Logistics along the Léré-Moundou road and the government technical services are not in a position to regulate environmental issues associated with the Project.
- As reported by the World Bank Resident Representative in Chad, project management will be transferred from Washington headquarters to the country office in N'Djaména. A Task Manager is under recruitment and is expected to be in place in March or April. This individual will be supported by a staff including a specialist in small enterprise promotion (from the IFC), a micro-economist and a financial specialist. A second person from the IFC will be based in Moundou, where an office for micro-credit will be opened within an IFC-supported small and medium enterprise development program to help local people access benefits from the economic growth potential from this project.
- The World Bank lead petroleum engineer who arrived in September in N'Djaména has been devoted full time to the Capacity Building project. He has started to provide direct technical assistance to the CTNSC Executive Secretary.
- Implementation of the Communication Plan started with a two-day "Public Information Workshop" held in Bébédjia on January 24 and 25, attended by the National Coordination, CTNSC, the World Bank, TOTCO and several NGOs.
- The Capacity Building project component "*Rapid Intervention Measures*" is experiencing significant delays with its implementation. Based on the Implementation Schedule reported in Table 2, Chapter 8, Volume 4 of the EMP, Chad Portion, the measures for the reduction of the number of immigrants, health services, public hygiene and sanitation services, energy and water supply are at least one year behind schedule. However, some progress has recently been achieved and the status of components is as follows:
  - 1) Field missions related to urban planning for Bébédjia, Moundou and Doba have started and some initial results have been presented;
  - 2) Contracts to start feasibility studies for public markets, slaughter-houses and a cattle market in Doba, as well as for drainage, sanitation and water supply projects are expected to be awarded such that they can start in February;
  - 3) The procurement of technical services for the enhancement of water supplies and rural wells is at the bidding stage;
  - 4) The first report on current STD/AIDS campaign status submitted last December was reportedly weak and must be improved;
  - 5) The Phase A report for sustainable forest management (Action Plan) was reviewed and approved during a meeting held in Bébédjia.
- The Capacity Building project component "*Local initiatives fund - FACIL*" has made the following progress:
  - 1) The field office in Bébédjia is about to receive furniture and a generator.
  - 2) The "Comité de Pilotage" is now operational and has held two meetings. It will review the first applications for financing in early February.

- 3) A FACIL director has been recruited, but his contract has yet to be signed and is contingent upon a no-objection from the World Bank. Since April 2001 FACIL project has been supported by a Technical Assistant from German DED and another expert joined the team in January.
- 4) The current situation prevents FACIL from being able to support, for example, vegetable producers in Moundou, Doba and Bébédjia who are supplying project catering under poor irrigation techniques.
- The Capacity Building project component "*Regional Development Plan, RDP*" has made the following progress:
  - 1) A first draft study on "Regional Development Framework, RDF" was carried out by a contractor ACODE, a local NGO. After review by CTNSC and World Bank, it was considered insufficient, and must be improved. It has yet to be discussed with local authorities and NGOs.
  - 2) From a political standpoint, it appears that the geographical limits of the RDP zone have not been finalized. This is an issue which was identified two years ago in the World Bank Capacity-building project appraisal document (PAD): "*As requested by local NGOs, the government is organizing the delineation of the RDP under an iterative and participatory process designed to promote full and wide spread ownership in the region*<sup>25</sup>" It should be noted that the process of defining the scope of the RDP started in early 1999. Given the structural links between the RDP and the RDF, Rapid Intervention Measures and FACIL, the preparation of the RDP appears to be about one year behind the EMP schedule for the Rapid Intervention Measures as set forth in Volume 4, chapter 8.

In summary, government capacity required to fulfill its obligations has not yet been put in place and the slow pace of the Capacity Building project is incompatible with the current development of the Consortium's oil field and pipeline project. Specifically, field monitoring at the work sites (roads, Mbéré bridge, drilling sites, monitoring of socio-economic issues) has been minimal. Nevertheless, the fact that the World Bank has recently made the decision to locating a project task management team in N'Djaména is encouraging. No significant progress was made for the recruitment of the consultants in charge of the preparation a National Oil Spill Response Plan.

### 39. *Recommendations:*

- 39.1 Ensure and expedite the hiring and appointment of staff to the CTNSC and the Direction du Pétrole. This action requires strong support from the National Coordination, and that the CTNSC Executive Secretary be given actual executive power. The Government needs to ensure that its agents receive salaries and allowances according to the agreement made with the World Bank and that their representatives are trained and installed as field monitors.
- 39.2 Expedite selection, recruitment and mobilization of the senior Technical Assistant (TA) for CTNSC headquarters. This TA must have proved strong skills in projects and programs management, preferably with experience in the oil sector. One of his priorities should be the launching of the training program for CTNSC members and Executive Secretary personnel.
- 39.3 Ensure effective starting of priority activities under the "Petroleum Sector Management" component B, part B1, related to the National environmental and

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<sup>25</sup> PAD March 2000, page 59

- 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>26</sup>
- 39.4 Accelerate the effective completion of the Regional Development Framework Study, under “*an iterative and participatory process.*” This is a key element to help elaborate the Regional Development Plan, RDP, as well as to organize the activities of the FACIL. Obtain Government formal decision on the delineation of the zone covered by the RDP. Preparation of RDP should be given high priority and should be completed before mid-2003, which is the current tentative schedule indicated by CTNSC representatives.
- 39.5 Accelerate implementation of Rapid Intervention Measures (urban planning, construction of public infrastructures in regional cities). Accelerate review of applications and proceed with actual financing of projects under the FACIL fund. It should be noted that the Regional Development Framework, still under preparation, should be incorporated into the FACIL manual which will guide the activities of the FACIL Steering Committee.<sup>27</sup>
- 39.6 Communication by National Coordination and CTNSC should be given priority, with a special focus on the RDP/Project zone, towards local authorities, representatives of population and NGOs. A list of “*information points*” should be published, where interested parties can find recent information on the Project (including those related to the RDP).
- 39.7 Expedite the recruitment of consulting services for the preparation of the National Oil Spill Response Plan. This National Plan should benefit from the parallel effort, currently undertaken by EEP/CI/TOTCO, for the update of the General Oil Spill Response Plan and the development of the Area Specific Oil Spill Response Plans, expected to be available for review in the second half of Year 2002.

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<sup>26</sup> PAD March 2000 page 42, paragraphs 44-45.

<sup>27</sup> PAD, part G of annex 2, page 53

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

40. *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 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 implementation and 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 Djerem National Parks.

### *41. Observations:*

The ECMG mission was impacted by unforeseen overlaps with the agenda of CPSP and World Bank officers that prevented scheduled meetings from taking place. Nevertheless, the ECMG was able to monitor the implementation of the project through useful discussions with Government field monitors and with the World Bank Acting Resident Representative. Over the past quarter, several positive developments have taken place.

- The Government's capacity for field monitoring significantly improved during the fourth quarter of 2001. Specifically:
  - 1) Road construction from Meiganga to Mbéré, including the Mbéré bridge site, has been continuously monitored since January 18 with a team of engineers from MINTP organized with two-week rotations.

- 2) Monitoring of the environmental sector has continued to involve specialists from MINEF and foresters from ONADEF, who make regular visits to tree felling sites along the pipeline ROW.
  - 3) Monitors are present on the welding sites and issue monthly reports to CPSP.
  - 4) Two socio-economists from the Ministry of Agriculture have been appointed and are working along Spreads 1 and 2.
  - 5) The government has provided some specialized monitors. For example the Ministry of Mines, Water and Energy (MINMEE) is involved in the preparation of blasting programs and the monitoring of welding activities.
- During field visits, the ECMG determined that, among other accomplishments, socio-economic monitors are involved with the assessment of specific Project impacts. For example, they have been involved with the analysis of several issues: in-migration in Ndtoua village close to WSJV camp; the increase of prices at seven towns between Kribi and Bélabo; identification of sacred sites of the Bagyeli-Bakola community; impacts associated with the closing of Contractor camps; community development initiatives; dust control; and employment of women. They participate in the Regional Compensation Program and have regular contacts with local authorities, including *Préfets* and *Sous-Préfets*.
  - Generally speaking, monitors have lodging and transport provided through the Project. However, at some sites the CPMT-EMP teams and Contractors voluntarily provide improved support (e.g., Sogea-Satom at Bélel and Dompla provide office space and secretarial support, as well as access to documentation), whereas at other sites ECMG observed a weak level of interaction between the Government monitors and the Project teams.
  - Procurement and contracting activities under CAPECE, which faced delays due to the late constitution of the CPSP contracting committee, has recently made significant progress.
  - The Communication Plan finalized in September is being implemented with collaboration among CPSP, COTCO and the World Bank. Communications have included press releases to newspapers, TV, magazines, and the launching in October of a "CPSP News Letter". Regular monthly coordination meetings continue between CPSP and COTCO.
  - The Environmental Foundation FEDEC was fully registered in Cameroon under a public utility status in November. CPSP participates in FEDEC meetings as technical advisor to the Board.

In spite of this progress, some problems still remain to be solved as soon as practical.

- Government monitoring staff in the health sector is still not yet fully in place for monitoring and prevention of health risks including HIV/AIDS (also refer to Sections 22 and 24). With only one doctor appointed for the entire project zone in Cameroon, CPSP is not yet in a position to fully monitor and report on current health issues.
- Despite good progress stated above, communication strategies still need to be improved, especially towards NGOs and local authorities along the pipeline route and at main Project locations. However, it must be recognized that Government monitors do improve communication by providing relevant information at the local level. Additional efforts should be made to facilitate communication with CPSP, COTCO and the WB and the public should have ready access to Project documents and reports, including the ECMG quarterly reports.

- Several monitors are not equipped to conduct their duties and lack minimum field equipment, such as monitoring kits, cameras and computers. Some of them were found to not have copies of Project documents and suitable, standardized reporting forms that would facilitate their mission.
- The construction activities at Pumping Stations PS-2 and PS-3 should be selected as locations for Government monitoring. These large construction sites will remain and be operated over the long-term, and should be carefully assessed in terms of potential environmental and socio-economic impacts. Special attention should be given to the protection of groundwater resources in the vicinity of the Project landfill site at Bélabo.
- MINEF field monitors need to report on the management of commercial logs along the pipeline route, consistent with EMP requirements.
- Training of Government field monitors should be completed as soon as practical, with a special focus to the pipeline and pump station construction and operation activities and their potential environmental impacts. Several monitors encountered by the ECMG team had received only limited training, provided mainly by COTCO on oil spill response.
- Recruitment of consulting services to support CPSP in the preparation of the National Oil Spill Response Plan has yet to be completed (tendering documents have been transmitted to the World Bank for no-objection).
- Regarding the two environmental offsets of Campo-Ma'an and Mbam-Djérem, it appears that there are delays with the finalization and implementation of their development/action plans. These delays may impact the effectiveness of the first actions to be taken for the environmental management of the two offsets, which is crucial during the construction phase of the Project. A development plan for Mbam-Djérem was transmitted by CPSP to FEDEC for consideration and financing in November 2001. An action plan for Campo-Ma'an, under preparation by MINEF, has yet to be submitted to FEDEC.

42. *Recommendations:*

- 42.1 Expedite finalization of the CAPECE Training Plan, which is part of the Project Implementation Manual (recall that "*training & services*" represent US\$ 4.0 million out of total project costs of US\$ 10.9 million and include training of CPSP staff as well as of involved Government institutions).
- 42.2 Accelerate procurement arrangements for consulting services and training. Services aim at four project key components: (i) development of an enabling regulatory framework; (ii) strengthening coordination capacity for environmental and social management; (iii) strengthening intervention capacity for environmental management; (iv) preparation of an Environmental Management Information System (EMIS).
- 42.3 Communication strategies at the local level should be improved by both CPSP and COTCO in cooperation with the World Bank. Public access to information should be facilitated by CPSP and COTCO. Periodic meetings of CPSP, COTCO, and the World Bank should be held to prepare quarterly local communication plans, which could be financed through CAPECE funds. Government field monitors should receive the relevant project progress documents, including monthly and quarterly reports, and monitoring reports.
- 42.4 Health monitoring in the project area by the Ministry of Health, under CPSP supervision, should be reinforced as soon as practical.

- 42.5 Continue oversight support to the implementation of the Indigenous People Plan IPP by FEDEC (plan which received WB no-objection), and to the finalization and implementation of action plans for Campo-Ma'an and Mbam-Djérem parks. Priority should be given to poaching control in the two National Parks and to the potential adverse effects on the Campo-Ma'an Park due to the logging activity and the road work in the southern forest unit UFA 024 (see the following section on FEDEC).
- 42.6 Ensure availability of equipment and vehicles as needed for field monitoring, for training and for communication, under CAPECE funding or through the finalization of agreements with Project counterparts on the use of available Project facilities.
- 42.7 Finalize the recruitment of consulting services to support CPSP in the preparation of the National Oil Spill Response Plan. Ensure that this National Plan should benefit from the parallel effort, currently undertaken by COTCO, for the update of the General Oil Spill Response Plan and the development of the Area Specific Oil Spill Response Plans, expected to be available for review in the second half of Year 2002.

### **ENVIRONMENTAL FOUNDATION**

43. *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 Djerem, 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). The precise nature, content and size of FEDEC activities has yet to be defined by its Management Board, based on budget available, and taking into account MINEF responsibilities for the management of the two National Parks. It should also be noted that the FEDEC budget (generated by COTCO's contribution) was never intended to cover all the costs required to operate and ensure the protection of the parks.
44. *Observations:* The status of FEDEC as of January 2002 is as follows:
  - The Foundation obtained its "Public Utility" status in Cameroon, through a Decree on November 16, 2001.
  - On January 2002, COTCO provided FEDEC with free office space of about 80 m<sup>2</sup>, in Yaoundé. It includes a telephone with domestic calls paid for, office furniture, a computer and a printer; access to photocopier, fax machine and other office services available in the COTCO office. The FEDEC web site is [www.fedec.org](http://www.fedec.org).
  - FEDEC held its 4<sup>th</sup> Board Meeting in December during which important decisions were taken, including: (1) Dr Paulette Bissecq was unanimously confirmed as President of the Foundation; (2) the Board agreed to do its best to achieve the objectives of the Foundation based on its current resources; (3) it resolved to open a US\$ account at City Bank, New York, and a CFA Francs account in Yaoundé; (4) a

budget for the administrative operations of the Foundation for the fiscal year 2002, in the amount of 35 Million CFA Francs was approved, as well as a Work Plan for the year; (5) a decision was taken to fill three positions for FEDEC and find an implementation organization:

Foundation administrator,

Community Development Facilitator,

Fund investment Manager,

Implementation organization to assist in the ecological preservation and enhancement objectives in either or both of the national parks

Advertisements for these positions appeared in selected Cameroonian publications (and in certain instances in selected international publications) in January and they were also posted on the FEDEC web site.

- A preliminary program of four short-term projects pertaining to the Indigenous Peoples Program (IPP), prepared by COTCO, is available and be reviewed for approval during the next (5<sup>th</sup>) board session. These projects include:
  - Establishment of identity cards,
  - Medical diagnosis for pulmonary-related diseases,
  - School supplies,
  - Seeds and plants for food production.

These four short-term projects, after approval by FEDEC board, would be implemented prior to the Community Development Facilitator becoming fully operational in the field.

- The program above represents the immediate priorities that were expressed by the Bagyeli/Bakola settlements located between Lolodorf and Kribi. It is consistent with the recommendations of the "Report on the *IPP Consultations Conducted in the Kribi-Lolodorf Area*", June-August 2001. On another hand, the ECMG understand that 25 Bagyeli-Bakola settlements located in the vicinity of the pipeline route are eligible for the Project's Regional Compensation Program.
- For Mbam and Djerem National Park, the Ministry of Environment and Forest (MINEF) has prepared a "*Proposal for Development of the Mbam-Djérem National Park*", which was submitted in November 2001 to the pipeline Steering Committee and then to the Foundation for consideration and financing.
- For Campo-Ma'an National Park, no proposal has been received yet from MINEF. During this visit the ECMG was informed that a proposal on priority measures is still under preparation by the "*Management and Bio-Diversity Conservation Project Campo-Ma'an*".
- The ECMG was also informed that a logging concession on the Campo-Ma'an Forest Unit UFA 024 has been given to a private logging company "La Forestière de Campo". Transport of logs will be done by an existing road from Campo to Ma'an village, across the Park. The company has already started works for widening and upgrading of the road.

#### 45. *Recommendations:*

- 45.1 ECMG recommends that FEDEC work plan gives priority to the implementation of the four short-term projects pertaining to the Indigenous Peoples Program IPP, as soon as they are approved by the board. At the same time, the Foundation through its Community Development Facilitator and Organizations or Groups working with Pigmies should ensure that COTCO efficiently implements the overall "*Bagyeli-Bakola Regional Compensation Program*" to the benefit of 25

settlements.

- 45.2 For FEDEC-funded activities to be implemented in the Campo Ma'an and Mbam-Djérem National Parks through Implementation Organizations (IOs), it appears that the selection of IOs is a matter of urgency. FEDEC should accelerate the review of proposals to be submitted by the end of January 2002 and proceed with the selection of experienced IOs.
- 45.3 Regarding Mbam-Djérem National Park, for which a Board meeting and site visit is scheduled in April, criteria for selection of an Implementation Organization (IO) should take into account the adequacy of proposals received with the priority objective: poaching control, fauna and bio-diversity conservation.
- 45.4 Concerning Campo-Ma'an National Park, although the overall management responsibility of the Forest Unit (UTO Campo-Ma'an) resides with the Ministry of Environment and Forests (MINEF), ECMG strongly recommends that the Foundation's contracted Implementation Organization for the Campo-Ma'an National Park closely monitor the potential adverse effects on the Park due to the logging activity in the southern forest unit UFA 024, and associated infrastructure construction. Again, it is recommended that MINEF provides urgent support to the UTO in terms of staffing of the guard posts, motorbikes, communication equipment, supplies and utilities, regular payment of salaries and allowances. Considering that the road construction activity, as well as the logging, may have adverse effects on the Campo Ma'an National Park (poaching and illegal logging), the Foundation should assess the proposed management plan developed by the logging company, and screen and include suitable additional measures to minimize this impact within the FEDEC Campo-Ma'an program.

**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)  
*Comité Permanent de Pilotage et de Suivi du Pipeline* (CPSP)  
*Comité Permanent Local* (CPPL)  
*Comité Technique National pour le Suivi et le Contrôle* (CTNSC)  
Community Health Outreach Program (CHOP)  
David Terrassement (DT)  
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)  
*Fonds d'Actions Concertées d'Initiative Locale* (FACIL)  
Foundation for Environment and Development in Cameroon (FEDEC)  
General Oil Spill Response Plan (GOSRP)  
Indigenous Peoples Plan (IPP)  
International Finance Corporation (IFC)  
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 National des Travaux Publics* (MINTP)  
Non-Governmental Organization (NGO)  
Offsite Environmental Enhancement Projects (OEEP)  
Oil Field Development Area (OFDA)  
Personal Protective Equipment (PPE)  
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'Amenagement* (UFA)  
*Unité Technique Opérationnelle de Campo Ma'an* (UTO)  
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 approach has been refined in Cameroon and is being implemented in a satisfactory manner. In Chad, although progress is expected shortly, the village consultations have not started yet as the contract with the organization in charge is not in place yet.
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 need to be expanded to the routes actually used by convoys and refreshed where convoys will soon cross villages where all safety measures are not constructed yet.  The by-pass solution at M'Baibokoum (Chad) has been developed along satisfactory principles and is now being constructed.
4	1	Mar 01		Bakola Pygmies: include land management in the CDF's priorities	<b>Pending</b>	FEDEC is now registered in Cameroon. A proposal for potential development actions has been drafted by COTCO for FEDEC consideration, following consultations in Bakola settlements that took place in July 2001. This proposal does include land management aspects, together with health, education, and provision of ID cards.
5	1	Mar 01		Social closure: develop and test mechanism	<b>Pending</b>	Development is in progress, but is not finalized.
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 is still taking place although the hiring policies aimed at limiting it have been implemented by the Consortium. Limited action has been taken to handle this in-migration and mitigate its consequences in the spontaneous villages. Radio campaigns are recommended to inform potential in-

N°	Mission	Opening Date	Closing Date	Description	Status	Comments
						migrants on the realities of job availability. Both Governments must take care of the equipment and services in the spontaneous villages (health, education, security, administration). Workers housing policies need to more actively implemented, especially in Komé.
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>	The most significant issue is assuring the safety to villagers in Chad when convoys pass along roads that are "passable," but not "fit for purpose."
10	1	Mar 01		Develop and implement a Fuel Safety and Management Plan	<b>Pending</b>	Fuel Safety and Management Plans are still under development and still need to promote a program of village awareness where the subject of hazardous transport is addressed. This issue also requires that a contract be issued 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 needs to be developed and implemented.
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>	

N°	Mission	Opening Date	Closing Date	Description	Status	Comments
17	1	Mar 01	Jun 01	Demonstrate that local village labor has appropriate PPE	Closed	
18	1	Mar 01	Jun 01	Demonstrate that EMP monitoring system is fully staffed and functional, especially with respect to Chad	Closed	
1	2	Jun 01	Jan 02	Evaluate the need of possible house relocation to ensure safety along upgraded roads at village crossings	Closed	
2	2	Jun 01	Jan 02	Implement appropriate medical protocols at the contractor medical facilities	Closed	Medical protocols are available.
3	2	Jun 01	Oct 01	TCC in Dompla does not comply with EMP requirements: qualifications of staff, physical space, equipment, and medical supplies.	Closed	
4	2	Jun 01		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	Pending	Camp Clinics are capable of safely handling most emergency cases, but some Project Clinics distant from major hospitals do not comply with EMP requirements for medical evacuation. 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.
5	2	Jun 01	Oct 01	Storage of old drilling-related materials at the Komé camp does not meet EMP requirements	Closed	
1	3	Oct 01		Monitor the population evolutions in mid-size towns in Cameroon and Chad	Pending	Significant demographic evolution may be taking place in Bélabo, Nanga Eboko and Ngaoundal where the Project has fixed facilities. This should be monitored by the Project for measures to be taken by Government if required.
2	3	Oct 01		Provide documentation that the archaeological field procedures currently employed will provide a representative inventory of the cultural materials that are actually within the pipeline easement	Pending	The amount of physical sampling has been reviewed and field procedures modified with the addition of additional staff. Final confirmation of the effectiveness of this program will be reviewed in light of the procedures developed to mitigate the cultural resources encountered.

N°	Mission	Opening Date	Closing Date	Description	Status	Comments
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>	Some improvements have been made, but there are still inconsistencies in test procedures and water being used for drinking water at the TCC Komé Camp has a lower pH than WHO parameters for drinking water.
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. Field treatment procedures should be standardized. Adequate documentation should be provided to define innocuous characteristics of specific waste streams. Permanent waste treatment and disposal facilities in the OFDA should be constructed as soon as practical.
5	3	Oct 01		Borrow pit closures need to be reviewed.	<b>Pending</b>	Although most decommissioned borrow pits have been properly closed, final closure procedures of borrow pits have not been completed. In some cases, such as in the Komé area, some reclamation efforts still need to be completed.
6	3	Oct 01	Jan 02	Complete closure operations associated with the diesel fuel spill at M' Baïbokoum.	<b>Closed</b>	Operations and monitoring completed.
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>New</b>	The price of grain has significantly increased in southwestern Chad as a result of poor supply (no harvest in some areas) and higher demand. Commissaries for Project workers would help relax the tension on the grain market as long as grain for these commissaries is purchased outside the Project area.
2	4	Jan 02		Include in the Regional Development Program a component targeting small peasant agriculture.	<b>New</b>	The present situation demonstrates that food security in the oilfield area must be enhanced.
3	4	Jan 02		Strengthen monitoring of hiring procedures	<b>New</b>	Non-compliances are still observed. The Project needs to ensure compliance through increased Contractor monitoring.
4	4	Jan 02		Monitor village labor done for the Project	<b>New</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

N°	Mission	Opening Date	Closing Date	Description	Status	Comments
						fairly (safety, effective payment and no child labor).
5	4	Jan 02		Enforce the EMP clauses on workers' accommodation in Komé	New	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 that 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	New	Doba Logistics drivers are provided with no accommodation while they wait for unloading and clearance in Komé base.
7	4	Jan 02		Verify that additional land beyond the area where compensation has been provided is not being impacted by construction activity.	New	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	New	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	New	Some facilities (storage yards, camps) may have to be decommissioned as soon as construction moves to other areas. A process and schedule need to be developed for consultation with Government and local authorities on the potential future uses of these facilities.
10	4	Jan 02		Improve the delivery of in-kind compensation in Chad	New	Late deliveries of in-kind compensation are compromising the effectiveness of this program in Chad. Take the necessary measures to ensure faster deliveries and encourage in-kind compensation by an appropriate campaign.

N°	Mission	Opening Date	Closing Date	Description	Status	Comments
11	4	Jan 02		Improve the hygiene of camp kitchens to EMP standards	New	Some kitchen facilities at camps do not comply with the EMP in terms of hygiene (e.g., Komé TCC Camp <i>boukarou</i> kitchen). It is necessary that food be transported at an appropriate temperature and that there is adequate space for food handling and storage. Better training is necessary for food handlers.
12	4	Jan 02		Equip health facilities to be consistent with Contractors' Health Plans	New	Some camp clinic are 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
13	4	Jan 02		Control third party access to workplaces	New	Expand fencing around camp workplaces and provide access control at workplaces along the pipeline route to monitor induced access, avoid unauthorized intrusion and minimize the risk for third parties.
14	4	Jan 02		Improve safety from bush fires	New	Sufficient clearing needs to take place to assure protection of critical facilities
15	4	Jan 02		Improve wastewater treatment systems	New	Some operating wastewater treatment systems are insufficient in terms of treatment efficiency and/or need to be relocated.
16	4	Jan 02		Demonstrate that water resources are being protected	New	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. 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. Review 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 and take appropriate countermeasures.

N°	Mission	Opening Date	Closing Date	Description	Status	Comments
17	4	Jan 02		Assess alternative options for dust control at OFDA construction areas	<b>New</b>	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.
				<b>CAPACITY-BUILDING CHAD</b>		
19	1	Mar 01	Jun 01	Complete initial project funding (Government of Chad funds)	<b>Closed</b>	
20	1	Mar 01	Jun 01	Complete Implementation Manual	<b>Closed</b>	
21	1	Mar 01		Appoint government field monitors	<b>Pending</b>	Although some field monitors have been appointed, there is only three CTNSC agents in the field under the chief of Doba branch based in Komé. Recruitment or appointment of other monitors and CTNSC staff is yet to be formalized according to agreement reached with WB on appointment conditions for civil servants under the Project. This is a matter of urgency.
22	1	Mar 01		Train government field monitors	<b>Pending</b>	No significant training carried out as of January 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		Start effective government field monitoring	<b>Pending</b>	Not yet fully effective as there are only three field monitor in place in Komé (plus supervisor of Doba branch and field TA). Additional monitors urgently needed, especially in health and socio-economic sectors; as well as personnel for the Directorate of Petroleum.
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	<b>Pending</b>	Field TA is in Komé. TA for CTNSC headquarters urgently needed to support Executive Secretary. Directorate of Petroleum needs external expertise as drilling of oil wells started in November.

N°	Mission	Opening Date	Closing Date	Description	Status	Comments
				<b>CAPACITY-BUILDING CAMEROON</b>		
24	1	Mar 01	Jun 01	Start CAPECE project as defined in WB project appraisal document	<b>Closed</b>	
25	1	Mar 01	Jun 01	Complete Implementation Manual	<b>Closed</b>	
26	1	Mar 01	Jun 01	Appoint government field monitors	<b>Closed</b>	
27	1	Mar 01		Train government field monitors and start effective government field monitoring	<b>Pending</b>	Finalize training plan. Accelerate contracting of TA for consulting and training services. Government field monitoring remains insufficient in the health sector.
	4	Jan 02		Improve communication towards Project local population, local authorities and NGOs.	<b>New</b>	For CPSP, with COTCO and WB collaboration, facilitate exchange with the civil society, and facilitate access to information through communication plans prepared jointly.
				<b>ENVIRONMENTAL FOUNDATION</b>		
28	1	Mar 01	Jan 02	Have Foundation registered and operations started	<b>Closed</b>	Registration in Cameroon under Public utility status obtained in November. FEDEC activities started. First activity plan for 2002 prepared and adopted.
29	1	Mar 01		Protect the National Park within Campo Ma'an UTO from poaching and illegal logging	<b>Pending</b>	MINEF has yet to provide adequate support to the UTO in terms of staff and equipment. MINEF needs to submit to FEDEC a priority action plan for Campo-Ma'an National Park.
30	1	Mar 01		Expedite implementation of IPP (Indigenous People Plan)	<b>Pending</b>	Oversight of the IPP received WB no-objection. Consultations with 25 Bagyeli-Bakola settlements completed in July-August. Propose four short-term projects should be implemented as soon as practical under the responsibility of both the Foundation and CPSP.
31	1	Mar 01		Review EIA study for forest unit UFA 024 such that WB safeguard policies are met and stringent controls established	<b>Pending</b>	Based on the EIA complements, logging concession has been given by MINEF to logging company HFC. MINEF and FEDEC should review and monitor that HFC commitments for mitigation

<b>N°</b>	<b>Mission</b>	<b>Opening Date</b>	<b>Closing Date</b>	<b>Description</b>	<b>Status</b>	<b>Comments</b>
						measures to protect the National Park are respected (poaching control, illegal logging, etc.).
18	4	Jan 02		Expedite the selection of the Implementing Organizations for the two National Parks	<b>New</b>	The selection of experienced IOs is urgently needed to implement the programs and monitor potential disturbances on the two Parks.