

Water and drainage at Bamenda in Cameroon



Setting up of a local commission for reflection on matters related to water and sanitation



BAMENDA TOWN forms an integral part of the Fourmi programme (Urban Organizations and Micro-initiatives Funding) financed by the European Union. The Programme extends to four other towns and cities (Yaounde, Douala, Bafoussam and Bafang).

Bamenda alone experiences major water and drainage problems. The road network is seriously and periodically damaged by rainwater; frequent floods block access to the roads. Moreover, the popular neighbourhoods in the outskirts of the town suffer from short water supply.

The building of bridges and footbridges makes for easy access to many neighbourhood which suffer from serious encroachment during a good part of the year. The Fourmi Programme offers them the opportunity for a solution and most of the applications from the population concern connecting structures for which they are ready to contribute

financially in quite high proportions. Such initiatives show a strong determination of the population. However, these makeshift actions are not enough to solve the problem.

More global efforts should be undertaken, for example, the straightening of certain meanders or the afforestation of some plateaux to retain water thus forcing it to infiltrate the ground, or the proper management of household refuse and the bailing of river beds. But the masses cannot, on their own, with their own resources solve all the problems raised.

There needs to be some correlation between projects; there needs to be an understanding of the milieu as well as serious surveys; the gathering of data and, lastly, specific tools for planning for the future with full knowledge of the technical, financial and institutional constraints needs to be taken into account. Only concerted, all out action is likely to respond to these challenges.

We thought this was possible in Bamenda, given that water, in all its forms, is a very powerful tool which concerns everyone and for which no one may claim to be working alone.

We found it necessary to look for the means to bring about concerted action, not as a goal in itself but so as to solve the problems which seem to be of major concern locally.

It was at that time that the French Cooperation Ministry started a programme known as « potable water and sanitation in the peri-urban neighbour-

hoods and the small centres in Africa » aimed at increasing knowledge on the fundamental tenets of water management with a view to designing an appropriate intervention methodology.

We then made a pilot action proposal on the consultative meeting in Bamenda, which was accepted and this helped us to launch a series of activities:

- ◆ Data was collected from the institutions to which the themes applied, but also through a survey conducted with the quarter heads of Bamenda town (urban sector).

- ◆ Most of the data was mapped. In this instance we made use of a tool which could still be improved upon, but which was most useful for our project and was a first in Cameroon, given that it was the first numerized map produced on a town in the country. Subsequent steps made it possible to use it even more fully.

- ◆ A « launching workshop » took place on 24 October 1996. This provided the opportunity to the various persons involved for a balance sheet of the work and for launching the debate. The meeting had the very big advantage that it brought together around the same table many personalities, even antagonists, and served as a lever for the realization of some immediate actions, but also to install a pilot committee, which already constituted the premise of the negotiation which we are striving to reach.

- ◆ A household survey called for thorough preparation both of form and choice of sample. It was carried out in 450 fa-

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milies from 21 to 31.12.96 by twelve researchers deployed in ten typical neighbourhoods in Bamenda. The survey was aimed at collecting information on how families obtain water and how they use it (quantity, price, needs in water by households), problems posed by the evacuation of water and waste.

♦ At the same time, semi-guided interviews with resource persons or institutions made it possible to pinpoint the analysis and to bring out with more evidence the key points of the theme « water and drainage » in Bamenda.

Following this phase, we could now restate the results of our diagnosis. We chose to share it during a gathering which we called « Water and drainage forum ». This took place from 29.10 to 01.11.1998. The big media action surrounding problems linked to water and drainage, which brought together local authorities, distributor companies, competent technicians, the population (children, businessmen, etc.) brought about an awareness of the common interests between the different neighbourhoods or operators in the sector and the implication of the social, political, administrative or technical institutions concerned.

This document stands out as the most faithful reflection possible of that gathering, from its preparatory phase to its conclusions, among which is the wish that the major deliberations and works which took place during the gathering be made formal so that they can be shared to a large extent.

All these elements are found in the document you are now examining. ■

IDF and GRET

LA VILLE DE BAMENDA fait partie intégrante du programme Fourmi (Fonds aux organisations urbaines et aux micro-initiatives), financé par l'Union européenne. Celui-ci s'étend sur le plan géographique à quatre autres villes (Yaoundé,

Douala, Bafoussam et Bafang). Bamenda présente la particularité de connaître d'importants problèmes en matière d'eau et d'assainissement. La voirie est fortement et périodiquement dégradée par les eaux de pluie ; des crues fréquentes en bloquent l'accès. Par ailleurs, des quartiers populaires, à la périphérie de la ville, souffrent d'une desserte en eau déficiente.

La réalisation de ponts ou passerelles permet de désenclaver des quartiers entiers qui subissent un important préjudice pendant une grande partie de l'année. Le programme Fourmi leur en offre la possibilité et la plupart des demandes des ha-

vent, par leurs propres moyens, solutionner tous ces problèmes.

Ces actions nécessitent la mise en place de relations entre les interventions, une connaissance du milieu mais aussi des enquêtes sérieuses, le recueil de données et enfin, des outils spécifiques pour programmer l'avenir en connaissance des contraintes techniques, financières et institutionnelles à prendre en compte.

Seule une action concertée et globale serait susceptible de répondre à ces enjeux. Nous avons pensé que cela était possible à Bamenda dans la mesure où l'eau, sous toutes ses formes, est un enjeu

très fort qui concerne tout le monde sans que personne ne puisse prétendre agir seul.

Cela nous a conduit à rechercher les moyens de mettre en place une concertation, non comme un but en soi, mais pour résoudre des problèmes qui semblent faire l'objet d'un enjeu fort localement. C'est à ce moment que le ministère français de la Coopération a engagé un programme intitulé « Eau potable et assainissement dans les quartiers périurbains et les petits centres en Afrique » visant à approfondir les connaissances sur les aspects fondamentaux de la gestion de l'eau afin de déboucher sur l'élaboration d'une méthodologie d'intervention adaptée.

Nous avons alors fait une proposition d'action pilote sur la concertation à Bamenda, qui a été retenue et nous a permis de lancer une série d'activités :

♦ Un ensemble de données a été recueilli auprès des institutions concernées par ces thèmes, mais

aussi en opérant une enquête auprès des chefs de quartiers de la ville de Bamenda (secteur urbain).

♦ La plupart de ces données ont été cartographiées. Nous bénéficions là d'un outil, certes encore perfectible mais extrêmement utile pour notre démarche et qui constitue une première au Cameroun, puisqu'il s'agit de la première carte numérisée réalisée sur une ville du pays. Les étapes ultérieures devraient permettre de l'exploiter encore plus complètement.

♦ Un « atelier de lancement » a eu lieu le 24 octobre 1996. Il a permis de présenter aux différents acteurs concernés le



BAMENDA WATER AND DRAINAGE FORUM

Organised by : GRET - IDF - AYA

bitants se portent sur des ouvrages de franchissement auxquels ils sont prêts à contribuer financièrement dans des proportions relativement importantes.

Ces initiatives manifestent une dynamique forte de la part des habitants. Cependant, ces actions ponctuelles sont insuffisantes pour résoudre le problème.

Des actions plus globales devraient être menées telles que le redressement de certains méandres ou le reboisement du plateau pour retenir l'eau et l'obliger à s'infiltrer ou encore la bonne gestion des ordures ménagères et le curage du lit des cours d'eau. Mais les populations ne peu-

bilan de ce travail et d'engager le débat. Cette réunion a eu l'immense avantage de réunir à une même table des personnalités diverses, voire antagonistes et de servir de levier pour la réalisation de quelques actions immédiates mais aussi de mettre en place un comité de pilotage, constituant déjà les prémisses de la négociation à la quelle nous tentons d'aboutir.

• Une enquête ménage a fait l'objet d'une préparation approfondie, tant dans sa forme que dans le choix de l'échantillon. Elle a été réalisée auprès de 450 familles du 21 au 31.12.1996 par douze enquêteurs, déployés dans dix quartiers type de Bamenda. Cette enquête visait à recueillir des informations sur les modes d'approvisionnement des ménages en eau et son utilisation (quantité, prix, besoins des ménages en eau), les problèmes posés par l'évacuation des eaux et les ordures.

• Parallèlement, des entretiens semi-directifs auprès de personnes ou d'institutions-ressources permettaient de préciser l'analyse et de faire émerger avec plus d'évidence les points clés sur le thème de l'eau et de l'assainissement à Bamenda.

À l'issue de cette phase, nous étions en mesure de restituer les résultats de notre diagnostic. Nous avons choisi de le faire partager à travers une manifestation que nous avons baptisée « Water and drainage forum ». Celle-ci a eu lieu les 29.10 au 1.11.1998.

Cette action médiatique d'envergure autour de problèmes liés à l'eau et l'assainissement, mêlant autorités locales, sociétés distributrices, techniciens compétents, population (enfants, commerçants, etc.) a favorisé la prise de conscience de la solidarité d'intérêts entre les différents quartiers ou acteurs et l'engagement des institutions sociales, politiques, administratives ou techniques concernées.

Ce document se veut le reflet, le plus fidèle possible, de cette manifestation, depuis sa phase de préparation jusqu'à ses conclusions parmi lesquelles figuraient le souhait de voir formaliser les principaux travaux et débats qui ont eu lieu au cours de ces journées afin de les faire largement partager.

L'ensemble de ces éléments figure dans le document que vous avez entre les mains. ■

IDF et le GRET

Extracts of semi-guided interviews in Bamenda

THE HOLDING OF THE FORUM WAS possible only through a preparatory phase where many persons were approached to give their opinion during non-guided interviews or were mobilized to enter the active stage of the organization of the forum.

Gathering the opinions of resource persons (interviews): consultation between the different public or private actors, technicians or representatives of political institutions may only be put in place progressively. That is why we started by making contacts and carrying out interviews with different persons or institutions mainly concerned with water and drainage in Bamenda.

We wanted to gather their opinions and find out what, according them, were the key points on which better cooperation could be achieved between all the actors at the local level.

We re-transcribe here some extracts of the interviews. Placing these ideas side by side makes it possible to measure the diversity of the points of view and to note them so to lay the foundation for cooperation towards better management of this common asset known as water.

La tenue du forum n'a été possible que grâce à une phase de préparation où de nombreuses personnes ont été sollicitées pour donner leurs avis à l'occasion d'entretiens non directifs, ou se

en place que progressivement. C'est la raison pour laquelle nous avons commencé par prendre des contacts et à réaliser des entretiens auprès de différentes personnes ou institutions particulièrement concernées par le problème de l'eau et de l'assainissement à Bamenda.

Nous voulions en effet recueillir leurs avis et savoir quels étaient selon eux les points clé sur lesquels pourrait s'établir une meilleure collaboration de tous les acteurs au niveau local.

Nous retranscrivons ici quelques extraits de ces entretiens. La mise en parallèle de ces idées permet de mesurer la diversité des points de vues mais aussi d'en tenir compte pour fonder les bases d'une collaboration autour d'une meilleure gestion de ce patrimoine commun qu'est l'eau.

M. le directeur régional de la SNEC Nord-Ouest

« Les gens sont ignorants. Ils ne savent pas toujours qu'il y a une différence entre l'eau traitée (de la SNEC) et l'eau brute distribuée par les réseaux communautaires. L'eau de la SNEC est désinfectée d'avance pour tuer les bactéries.

L'eau du réseau villageois est distribuée à l'état brut, bue et éventuellement c'est l'usager qui se fait soigner dans un hôpital avec des antibiotiques qui coûtent plus cher ».

M. Jokwi, adjoint au chef du Service provincial de l'eau et de l'énergie

« Il n'y a pas eu des études visant à évaluer les ressources souterraines en eau. Je crois que la raison principale est que

par le passé il n'y avait pas de problème d'eau. À cause de la pression de la population et de la déforestation anarchique et la création de nombreux champs d'eucalyptus, le besoin d'une étude de ce genre va se faire sentir très vite.

Aucune étude n'ayant évalué à un moment donné les ressources souterraines en eau à Bamenda, il n'est pas possible de dire si ces ressources ont évolué ou non. Cependant, la déforestation intense et les habitations ont réduit la couverture du sol et l'ont exposé, augmentant ainsi

l'évaporation.

Par simple observation, on constate que certaines rivières ou des sources qui avaient des débits importants même en saison sèche, tarissent complètement en période de forte chaleur ».

M. Maurice Noumedem,
directeur de l'école primaire GMI

Parlant des problèmes sanitaires, M. Noumedem explique que « c'est très com-

pliqué pour les enfants d'utiliser le gobelet en respectant les règles élémentaires d'hygiène. Il faut la présence permanente du maître qui doit se charger lui-même de donner cette eau aux enfants. Ceci cause beaucoup de perturbations dans la classe car les enfants veulent boire tout le temps, dès qu'un camarade commence, ça devient un défilé.

Pendant la saison sèche, la poussière entre dans les seaux d'eau et le couvercle du seau est toujours couvert d'une couche épaisse de poussière car la cour de récréation n'est pas cimentée, ce n'est pas hygiénique ».

Il poursuit en indiquant plusieurs autres problèmes environnementaux :

« - *Le problème de voisinage* : les eaux usées des voisins sont dirigées à l'école, cette eau s'accumule et stagne dans la rigole et dégage des odeurs qui parviennent jusque dans certaines salles de classe.

- *Le problème de sécurité des biens et des personnes* : l'école n'étant pas clôturée, l'accès est ouvert à tout le monde, les passants se mettent à l'aise dans les classes et les torchons sont parfois utilisés comme papier hygiénique.

- *Les latrines*, déjà insuffisantes, sont utilisées par les passants et les voisins et lorsque l'on ferme à clé le jour suivant, le battant complet est enlevé et emporté par les propriétaires inconnus.

- *Les eaux de pluie et les torrents d'eau* étouffent à cause du manque de canalisations. Cette eau très abondante orientée par les voisins passe dans la cour et entre directement dans certaines salles de classe, mouille et dégrade les bancs pendant la grande saison de pluies. Pendant les vacances, on est obligé de payer les gens pour enlever les eaux. Le courant d'eau de ce torrent est tellement fort qu'il déborde le lit de la rigole. »

M. Fankem, chef de production
chez Sotramilk

« Sotramilk utilise près de trois mille litres d'eau par jour pour un coût moyen de cent mille francs par mois. Sotramilk est l'un des plus grands clients de la Snec à Bamenda ».

À la question de savoir si les services de la SNEC sont satisfaisants, la réponse est « Non, à cause de la qualité de l'eau

PROVIDING FOR ALL INPUTS NECESSARY TO THE SMOOTH FUNCTIONING OF THE FORUM

A LOC (Loc Organizing Committee) was set up. It included the following institutions: Minef, TPH, Buc, Minmee, Snec, Bota/CD, Cominsud. A small size committee was set up including: IDF, AYA, P. Acha, Gret.

This LOC met five times from September 3 to October 24. Its ideas and discussions progressively helped decide the precise content and the form the forum would take and also put up its material organization.

• During the **first meeting** (September 3, 1997) that was at the same time an opportunity to get acquainted with each other and to exchange opinions on the situation of the town as far as water and drainage are concerned, many resolutions were taken-guests came back with emphasis on the idea of holding a forum on water drainage in order to create the first foundation of a consultation on these important questions-participants agreed to help to the preparation of this form by organizing themselves into LOC. They also felt that by their side a small size committee should be created in charge of the implementation and carrying out of LOC decisions.

• The **second meeting** (September 10, 1997) gave way to the specific step of preparation by deciding on the date and venue of the forum. First ideas on activities were put forward or improved by LOC members. Member shared various preparation tasks and contact or sensitization.

• The **third meeting** (September 24, 1997) focused on the content of the forum by reflecting in small work groups on the three topics of the forum: household garbage, rainwater, drinking water. Each of these workshops made proposals to tackle these topics in the most objective and lively way during the forum.

• The **fourth meeting** (October 1st, 1997) focused on the clarification of ideas already put forward and making them formal by way of planning with the names of resource persons in order to prepare some visits that would take place during the forum and mainly those that would be part of the « water route ».

• The **fifth meeting** (October 24, 1997) gave the opportunity to examine all the steps and activities envisaged in forum schedule and to check the good distribution of everybody's tasks or to settle last minute questions so that everything should be set for the « D » day.

(physique: boueuse par moment, gênant ainsi la fabrication. En effet, cette eau rend le yaourt impur et pas tout à fait hygiénique ».

M. Forgwel, adjoint au chef du Service provincial des mines et géologie (géologue, géophysicien, ingénieur, pétrolier), Délégation provinciale des mines

« Je n'ai pas fait une étude, mais on peut dire que la nappe est menacée. Si on prend les mesures, on peut le dire. Je crois que ça baisse. En décembre dernier, le directeur du Baptist Secondary School (BSS) m'a dit que le niveau de l'eau de leur forage était trop bas et que ça remontait déjà ».

Pa Moussa, retired PWD Waker and CD technical engineer

« Since Bamendankwe remains the main water catchment area for Bamenda municipality, it would be necessary to adopt the following practice in order to conserve water and drainage.

1) Forest Rehabilitation: with the forest back in place, water will be conserved and erosion or landslides reduced. The springs and streams will not be contaminated with dirt from hills.

2) Soil conservation: the practice should be to farm across slopes to avoid rain water washing away the top fertile soil into streams. This soil sometimes contains farm chemicals.

3) Agro forestry: this is the practice where trees and food crops are grown on the same piece of land. The roots of trees hold the soil from being carried away.

4) The village should be supplied with tap water to make them less dependent on streams.

5) Financial assistance should be sought so as to involve the village as far as the recommendations given here are concerned. »

Perspectives ?

« To sustain the water, there should be put in place a committee charged with maintenance. It should be vested the powers to collect and spend levies meant for maintenance. It should be responsible for recruiting and training maintenance staff ».

PROGRAMME OF THE WATER AND DRAINAGE ISSUES

Bamenda 29, 30, 31 and 1.11.97

TIME	ACTIVITIES	VENUE
29.10.97		
9 a.m.	Opening of the Forum by the Governor : Arrival of dance groups Arrival of invitees Arrival of Governor · National anthem · A word of prayer · Speeches · Laying of the foundation stone · Visit of exhibitions · Refreshment	Atuazire podium
2 p.m.	Animation of Atuazire quarter Visit of the Water track	Stands Atuazire podium Water track
5.30 p.m.	Official signature of DAC's commitments letters	Holiday Hotel
30.10.97		
9 a.m.	Workshop I : « Problems and solutions to drainage issues in Bamenda »	Holiday Hotel
12.30 p.m.	Lunch	Holiday Hotel
1 p.m.	Popular restitution of the water and drainage pilot action Testimonies presentation Fourmi projects, quizz, dances	Atuazire podium
2 p.m.	Workshop II : « Drinking water problems and their causes in Bamenda » Permanent stands and exhibition	Holiday Hotel
31.10.97		
9 a.m.	Workshop III : « Drinking water, possible solutions in Bamenda »	Holiday Hotel
12.30 p.m.	Lunch	Holiday Hotel
1 p.m.	Quizz semi-final Stands opened	Atuazire podium
3 p.m.	Sketch (Cominsud)	Holiday Hotel
3.30 p.m.	Drama : « Witch wata ? » (Atuazire)	Holiday Hotel
6 p.m.	Dinner Debate	Holiday Hotel
01.11.97		
8 a.m.	Football and quizz finals	Big Mankon field
9 a.m.	Arrival of dance groups	
10 a.m.	Arrival of invitees	Atuazire podium
11 a.m.	Arrival of the Governor : · Public restitution of the Forum · Results and recommendations · Prizes and rewards given to the various participants.	
END OF THE FORUM		

M. Elie Sitcheu, responsable intérim de la Savonnerie de Mile 4 Nkwen

« Le réseau de Nkwen est le plus utilisé, et si ce réseau n'a pas de problème la consommation de la Snec est négligeable.

Pour nous, l'eau de la Snec est une source d'eau de secours et pour la consommation. L'eau de Nkwen est légèrement plus 'dure' que celle de la Snec. Dans les deux cas il faut traiter.

La Snec coûte cher. Pour les usines, il faut toujours deux sources de ravitaillement. À l'ouverture de l'usine, nous avons seulement le branchement Snec, mais avec les nombreuses coupures sans avertissement et prolongées, nous avons dû chercher une autre solution. »

M. Talla Samuel, PWD (travaux publics)

« Les sources n'étaient pas encore polluées et il y avait une politique bien définie et respectée pour empêcher les gens de jeter les ordures dans ces sources car les populations buvaient cette eau-là ».

Magdalene Mayer, médecin-chef du Centre médicalisé de Nkwen

« Nous avons un sérieux problème de drainage ici car les eaux de pluie, venant de partout, envahissent le centre et causent beaucoup d'érosion au point où les véhicules accèdent difficilement à l'hôpital. Les eaux usées sont dirigées ailleurs. Nous souffrons aussi des coupures intempêtes de la part de la Snec qui ne prend pas la peine d'informer parfois, nous en avons au moins pour deux jours. Beaucoup de personnes de notre aire de santé n'ont pas les moyens de s'offrir des branchements privés. »

Abegesa Simon, retired Officer (meter reader), Formal Worker with MINMEE

« Water problem is too complicated, water is life and people must join their hands and put their head together to look for, after all the problems has been identified. It needs determination and few people to start and it would work because it is a necessity now. »



MANY PERSONS attended the opening ceremonies, including many representatives of important local institutions: the North-West Province Governor, the SDO, the Mankon village Chief, Atuazire Quarter Head, Bamenda Urban Council, Atuazire Member of Parliament.

Most of Provincial Delegations of Technical Ministries were also represented: Town planning and Housing, Environment and Forest, Public Health, Social and Women's Affairs, Labour and Social Insurance, Mines, Water Resources and Power.

Many NGOs or private institutions, from Bamenda or elsewhere, international ones, were attending : AEC, Bamccig,

Cass/D, CDCV, Cepad, Cipcre, Cominsud, ENSP, Eypic, IDF, Noweba, Oricaa, Sash, AFVP, Alliance franco-camerounaise, Gret, Helvetas. Para-statal organizations such as Snec, as well as private enterprises such as Akuma & Sons and Magson International were in attendance too.

But the major part of attendance (40 %) included representatives of DAC of various neighbourhoods of the town who had come in great numbers to participate in the forum.

Une assistance nombreuse a participé aux cérémonies d'ouverture, parmi laquelle on pouvait noter la participation de plusieurs représentants d'insti-

d'Atuazire. La plupart des délégations provinciales des grands ministères techniques étaient également représentées : Urbanisme et Habitat, Environnement et Forêts, Santé publique, Affaires sociales et Condition féminine, Travail et Prévoyance sociale, Mines, Eaux et Énergie.

De nombreuses ONG ou institutions privées, locales de Bamen-da ou d'autres villes, ou encore internationales, étaient présentes : AEC, BAMC-CIG, Cass, CDCV, Cepad, Cipcre, Cominsud, ENSP, Eypic, IDF, Noweba, Oricaa, Sash, AFVP, Alliance franco-camerounaise, Gret, Helvetas.

Des organisations para-publiques telles que la Snec, mais aussi des entreprises privées telles que Akuma & Sons et Magson International étaient également présentes.

Mais la majeure partie de l'assistance (40 %) était constituée par les représentants des CAD des différents quartiers de la ville qui étaient venus nombreux pour participer à ce forum.

Opening addresses

THE SIGNIFICANCE OF THIS FORUM WAS particularly put forward in the addresses of various personalities who successively went to the platform and emphasized one after the other the importance of this celebration.

L'importance de ce forum a été particulièrement manifestée par les discours des différentes personnalités qui se sont succédées à la tribune et ont chacune mis l'accent sur l'enjeu de cette manifestation.

The Quarter Head of Atuazire, Mr Victor Achu

« On behalf of the inhabitants of Atuazire, I have the pleasure and the privilege to transmit to you all our cordial, fraternal greetings and our ardent renewed wish to see the solemn launching of this forum on water an drainage and the laying of the foundation stone on the bridge linking « T » junction and Atuazire crowned with success.

Our hearty thanks goes to Fourmi, Gret and IDF officials for their marvellous assistance towards the realization of this forum. We also thank the Atuazire Youths

Association (AYA) for their relentless efforts towards this forum and project. To the inhabitants of Atuazire, we thank all those who have met up with their contributions and plead on those who have not done so to do so.

His Excellency, permit me to say Atuazire is one of the largest and thickly populated quarter in Bamenda with a cosmopolitan population of about 4,000 inhabitants, but, unfortunately backward in development. We pray that our administration and the Council should come to our help in any of our developmental project. Secondly, I want to bring to your notice that we have a serious problem in carrying out developmental projects in the quarter because of the name mette quarter Atuazire.

We are calling on the administration and the Fon to help us reconciled this differences for the saying goes united we stand divided we fall. I will also seize this opportunity to inform inhabitants of Atuazire to confine all stray animals and avoid the throughing of dirst in gutters.

I wish you all present her the best of our hospitality through out your stay and a safe return to your destinations after this forum. Once more you are welcome.

Long life Atuazire, long life Fourmi, long life Gret and IDF. God bless you all. »

Representative of the Government delegate to the Bamenda Urban Council

« First of all, I have to thank the organizers of this forum for inviting Bamenda Urban Council to be part of this ceremony. The council attaches great importance to water and drainage problems within the municipality. That is why we have spared no effort to support the activities of Gret, IDF and other NGO's who are making every effort to ameliorate the living conditions of people within our council area. On behalf of Bamenda Urban Council, I sincerely welcome everybody to this educational forum.

Your excellency, ladies and gentlemen, the aid which has been coming



from the European union and French cooperation through Gret/IDF has been very tremendous, if one considers the number of projects that have already been realised.

We can only say thank you to the European union and French cooperation through the organisers of this seminar. I also seize the opportunity to call on other NGO's to follow this good example and make their presence felt within the council area.

Lastly, I cannot end this brief address without recognising the efforts of the administration, the Fons, the Chairmen of various project committees and those who have in one way or another collaborated for the success of the development projects in Bamenda.

Once more, I wish you success in your deliberations during this forum. Long live Gret, IDF, and Fourmi programme. Long live Cameroon. »

nary endeavours involving self sustaining, revenue generation and social projects to ameliorate the living conditions of women and children. Our activities are focused on participative research action which is a practical tool of discoveries. We were fortunate to meet a partner with the same approach, always looking for new things, wanting to be pioneer in many domains.

I seize this opportunity to thank the Gret, specially Isabelle de BoisMENU the overall boss from France who did not hesitate to choose IDF in this action. I cannot forget Christophe Hennart the national coordinator, the last but not the least, Patrick Pélissier, my immediat Gret collaborator.

Thanks to the French cooperation who is the funding body. I also thank Fons of Mendankwe, Nkwen and Mankon for their personal implication and the involvement of their populations in all the stages of this research. My thanks also go

just the compilation of what you have given or said to the team of Gret and IDF and we will only retribute to you for your accreditation. Gret and IDF have just acted as your secretaries.

You will be the one now to speak. You will be the one now to take decision on how you want this forum to be in the future. This means that we are here today to share. To share, we must have. To have, we must work. To work, we must organize ourselves. To organize ourselves, we must love ourselves.

Since we have come together, it means we love ourselves, to keep this love going, we should master our emotion let it be political, social or economic, so that the forum will take peacefull, quite, joyfull and conducive environment. Gret, Aya and IDF wish you good luck. »

Mr Pélissier, GRET

« That you are all present today is of high importance because the objectives of this forum on water and drainage issue is actually to share our vision and experiences on these essential question that concerns all of us.

First, the origin of this idea is to be explained: IDF and Gret are involved for more than 2 years in a programm called Fourmi. This urban development programme was launched in May 1995 by European union, supports social infrastructure projects set up by groups of inhabitants in their quarters and this in five cities in Cameroon.

Actually, these projects, among which 25 for Bamenda's town, answer priority needs and absolute majority of the deals with water and drainage problems. These projects improve living conditions but step by step we already understand that inhabitants by themselves, despite their involvement and their energy cannot solve by themselves all the problems. Some of them need the participation and collaboration of severals actors. This understood, the French cooperation engaged in a research programme in West and central Africa entitled « Water and drainage issue in peri-urban and small center in Africa ». So we got in touch with its promoters to propose the study of Bamenda site. After acceptation, we started to work in Bamenda and launched officially the programme in October 1996.



Mrs Oussematou Dameni, President of IDF

« You are very welcome in this forum of water and drainage.

IDF is a local NGO created in 1994 ; its goal is to promote a holistic approach to sustainable development, emphasizing on spiritual value, through interdiscipli-

to the government technical departments, the Bamenda Urban Council through its technical and sanitation services for all the support and encouragements they have given to IDF. Thanks to Atuzaire Youth Association, in particular to host this event.

The result of the research will be given to you during this forum. This result is

This investigation benefited from the help of several organizations and other very competent people today present among us. And Gret want to warmly thank them for their contribution.

Among other activities, we led a household survey in all Bamenda about water and drainage. This allowed us as well to set up computerized maps certainly useful for the town. Secondly, after these investigations, two main ideas come out:

1) Water and drainage are very complex issues because several dimensions must be taken in charge. It is a public service because of sanitation and urban environment. It is a social service necessitating equity among the citizens in their access to this resource. It is an institutional and financial subject. It is an economic service with the possibility of income generation.

2) A lot of participants are concerned by this question of water and drainage. The problem will only find its complete solution by inciting the participation and collaboration of several actors wether public or private. The authorities at the state level are responsible of the legislation framework, but also for the global investments and planning of this issue. The involvement of the city is essential in the local strategy. And of course, the inhabitants are those who know their needs best and are able to imagine innovative solutions. Everyone has then his own and specific part to play.

According with these two ideas, we are convinced that to contribute to the improvement of water and drainage conditions in the city, a jointed effort of both, public and para-public organisations, municipality on the one hand and population on the other hand is very necessary.

The know how means of the first will complete the energy and involvement of the second. That is why we have imagined this forum so as to know each other and above all to understand better your experience and your point of view, you, Bamenda's people specifically concerned by the subject.

That is why we have prepared some informations, visits, exhibitions, activities in order to launch discussions and reflections.

Our best wish would be at the end of the forum to decide together the setting of a consultation body involving repre-



sentatives of civil society, technical operators and institutions around the topic of water and drainage.

This body would establish a concertation on the hierarchy of the most urgent and essential actions to be undertaken with the help of your contribution and your collaboration. We invite all of you to stay with us during these four days. I wish you the most fruitfull debates. »

Representative of the Governor, North-West Province

« It is with real pleasure that I have the honor, on behalf of the Governor of the North-West province, who is unavailable, to preside at this important forum on water and drainage.

First of all, permit me to acknowledge the present of the distinguished personalities here present who have forgone other pressing commitments to honor this occasion. I also wish to welcome all the participants and the facilitators to this forum whose presence is indicative of the interest and concern they have on development issues affecting their locality.

Your presence here today is high testimony of the interest and vision that you have in order to improve on water, our daily unavoidable commodity as well as our drainage problem which has often preoccupied the local authorities in par-

ticular and the city in general.

You are welcome to our scenic beautiful city of Bamenda which is at the same time the provincial capital and the gateway into the famous North-West. You will find as conductive elements for your forum, a suitable mild climate, a warm and receptive people and the utmost attention from the administration to enable you individually to gain just the best your stay here in Bamenda.

Ladies and gentlemen, I would straight away express the governor's appreciation to the Gret through its programme Fourmi which has been operating in five towns of Cameroon since 1995 in collaboration with IDF the prime contractor of the participating action research on water and drainage to organize a forum of this magnitude.

This is the fruit of government's liberalism policy as advocated by the head of state, President Paul Biya in a relentless effort to encourage all positives toward development.

Talking about development, we cannot loose sight of the necessity to have a healthy environment which to me is the basis of any progress.

As such, IDF and Gret two NGO's, have so act ed in time and in context to lay the ground work for the development of Bamenda city. They are striving for good water and drainage in a city of over 200,000 inhabitants whose efforts in the above domains have remained diversified

**POSE DE LA PREMIÈRE
PIERRE DU PONT
D'ATUAZIRE**

La cérémonie s'est clôturée par un acte hautement symbolique qui était la pose de la première pierre du pont d'Atuazire. Ce quartier qui nous accueillait pour le forum s'était engagé depuis longue date dans ce projet et avait traversé de multiples difficultés pour définir le projet et rassembler les cotisations des habitants.

Ces étapes franchies, ils étaient aujourd'hui prêts à démarrer les travaux tout comme les participants au forum à entrer dans le vif du sujet.

Ces deux actions devaient être mises sous la protection non seulement du quartier hôte par le président de AYA mais surtout du « père du ciel » comme le pasteur Njaah devait nous le rappeler.



phase which is the building of the bridge, we received a generous donation from the Fourmi programme to the sum of 1,520,640 FCFA and the quarter needed to contribute a token of 380,160 FCFA which we have done. The second phase has come and Fourmi has again promise almost 2,000,000 FCFA on condition that we contribute only 700,000 FCFA, isn't it easy for us?

This is to build gutters in the quarter to check drainage. I hope and I believe that our spirit of thinking together for the benefit of our quarter will last for evermore. Amen.

Long live Atuazire. Long live Gret & IDF. Long live Cameroon. »

**Pastor Njaah Peter Toha,
Executive Secretary of Eypic**

« If the Lord does not built the house, the work of the builder is useless, if the lord does not protect the city it is useless for the sentries to stand garde. It is useless to work so hard for a living getting up early and going to bed late, for the Lord provided for those he loves, while they are asleep.

Our heavenly father, we humbly bow our heads with raised hands to thanks you for making it possible to meet here. You are a God of love who bring people together, so that with jointed efforts, they can together for the betterment of humanity.

We thank you for providing the European union and French cooperation with the wisdom and means to extend help to our Bamenda municipality. Thank you for encouraging the effort of IDF and Gret in creating a possibility wherein all related NGO's could work together as a forum on water and drainage. Bless our efforts and accompagny us we begin continuous and implement decisions of this forum.

Father with these words of psalmist, we want to commit this foundation stone into hands and protection. Protect the builders, encourage NGO's as well as the villagers, so that we can be able to complete the work.

We thank you once more for the European union and French cooperation for their humanitarian gesture, bless them in the name of Jesus Christ. This we pray through Jesus Christ your son our lord. Amen. » ■

and idolated. I will equally praised the lasting French cooperation mission in Cameroon and the European union whose financial contributions toward Fourmi and the pilot action have been quite determining.

To the participants, I would call on you individually to maximise any opportunity given you in this forum to seek ways of improving on our water and drainage problems in the city of Bamenda. To the best of my knowledge, the organizers of the forum are quite experienced and have been researching on water and drainage in this city since June 1996. They certainly have a lot in stock for you to exploit within these four days and beyond.

Do not leave any stone unturned as well as do make you own for the betterment of our environment. We also have one aspect to praise in this endeavour. It is the fact that IDF the prime contractor of this programme is headed by women. This is worth encouraging as it is often said that « what a woman wants, is what God wants ».

I would end here calling on all our international friends to be our ambassadors in their various countries and to remem-

ber us when ever necessary. I now declare open the four day forum on water and drainage in Bamenda.

Long live the bilateral and multilateral cooperations. Long live in Cameroon. Thanks for your kind attention. »

**Mr. Musa Oumar Numvi,
President of Atuazire Youth
Association (AYA)**

« This is Atuazire and you are welcome. The laying of the foundation stone of this bridge linking 'T' Junction and Atuazire is a significant event to the inhabitants of Atuazire and the Bamenda population at large evident in your presence here today.

The generous donation of Fourmi programme and the lovely participatory spirit of Gret and IDF can not be expressed here today. We are happy because through Gret, IDF and Fourmi programme we are able to realise 8 (eight giant projects in the quarter within a short time i.e five bridges and three projects concerning water and drainage).

The first phase of these projects has come and it is almost through. In this

IN ORDER to enable participants at the forum to look at the data collected during the preliminary phases of the project, we prepared an exhibition in two parts.

The first, comprising mainly maps, offered a global view of some useful elements to help know the town and understand the debates we were about to carry out in the workshops. We displayed the maps in the hall where the sessions were going to take place.

The second was made up of the key persons operating in the water sectors, both institutional and private, who at various levels, had a specific message to pass on to the participants at the forum. Various stands were displayed at Atuzaire and these were visited by important personalities, prominent among whom was the representative of the Governor of the North-West following the opening ceremony.

Pour donner aux participants du forum la possibilité de visionner un certain nombre d'informations collectées dans les phases préalables, nous avons préparé une exposition en deux composantes.

L'une, constituée essentiellement de cartes, permettait d'avoir une vision globale, à l'échelle de la ville, d'un certain nombre d'éléments utiles à sa connaissance et aux débats que nous allions avoir au sein des ateliers de travail. Nous avons donc disposé ces cartes dans la salle où devront se tenir ces séances.

L'autre constituée par des acteurs importants dans le domaine de l'eau, qu'ils soient institutionnels ou privés et qui chacun à leur manière avait un message spécifique à adresser aux participants du forum. Ainsi, divers stands avaient été disposés dans le quartier d'Atuzaire, qui ont été visités par les personnalités et en particulier Monsieur le représentant du gouverneur de la province du Nord-Ouest à l'issue de la cérémonie d'ouverture.

Drawing of maps

Updated map of new infrastructures

Carte actualisée des nouvelles infrastructures

L'actualisation des fonds de carte de la ville de Bamenda a constitué notre première tâche. Les seuls documents de base existants se résument à neuf planches au 1/5000 (données de 1981) et une carte au 1/10000 (données de 1985).

Il est évident que la ville s'est depuis étendue et que l'habitat s'est modifié (type, densité). Il n'était pas nécessaire d'envisager une actualisation exhaustive de ces cartes. Nous avons opté pour une solution qui suggère cette expansion par le repérage d'éléments structurants du paysage (bâtiments importants, rocade).

Certaines de ces infrastructures constituaient des points de repères pour la ville mais n'existaient sur aucune carte. Ainsi, avec une équipe de géomètres topographes ces éléments ont été levés. La plupart de ces données ont été reportées sur un fond de carte. Sur cette carte ont également été matérialisés les voiries urbaines et les cours d'eau.

Ce document constitue aujourd'hui une base de travail très utile qui est une première au Cameroun, puisqu'il s'agit de la première carte numérisée réalisée sur une ville du pays.

Relief map of Bamenda town

Carte du relief de la ville de Bamenda

L'étude du drainage dans un environnement nécessite la connaissance du relief de la ville. Aussi les courbes de niveaux ont été isolées à partir du contre-calque de la carte de la ville de 1982 obtenue au Minuh.

L'équipe des techniciens d'IDF s'est mobilisée pour renseigner les courbes de niveau dont les altitudes et les points de repère n'avaient pas été numérisés. À partir de ces informations reportées sur le fond de carte actualisé, il est possible d'avoir une idée précise du relief de la ville et de la spécificité de chaque bassin versant. Cette carte devrait permettre de matérialiser une première approche du bloc diagramme, c'est-à-dire une forme de

vue perspective du relief qu'il est sans doute difficile à appréhender par les seules courbes de niveau pour les non-initiés.

Map of public and Snec taps

Carte des bornes-fontaines communautaires et Snec

L'étude de l'eau potable dans les petits centres urbains tels que Bamenda nécessite la connaissance du mode d'approvisionnement en eau.

Ainsi l'un des modes les plus commodes à Bamenda est l'approvisionnement à la borne-fontaine. Par conséquent l'ensemble des bornes-fontaines existantes (Communautaire et Snec) ont été repérées sur le terrain (août 1996) et reportées sur le fond de carte.

Map of the town showing the boundaries of the various networks (Snec, public, Mankan, Nkwen and Mendakwe)

Carte de la ville en délimitant les différents réseaux (Snec, Communautaire : Mankan, Nkwen et Mendakwe)

De même, il était important, de faire ressortir les réseaux d'eau de la ville puisqu'ils sont nombreux et constituent l'une des particularités de la ville et que même les acteurs concernés par ces



réseaux privés ne disposent d'aucun outil fiable pour les connaître avec précision, ce qui handicape leurs actions.

Map showing the boundaries of

Map showing the boundaries of the neighbourhoods

Carte des limites de quartiers

La bonne connaissance des quartiers (noms et limites) est indispensable à la gestion locale tant pour les autorités (chefs de quartiers ou BUC, et délégués du gouvernement) que pour les habitants eux-mêmes.

Pourtant, il n'existait aucun document exact sur ce point de telle sorte qu'il n'était pas rare d'avoir des renseignements contradictoires.

Ainsi les éléments d'information ont été recueillis, notamment auprès des chefs de quartier et ont été cartographiés.

Cela a abouti à la réalisation d'une carte qui est sans doute celle qui est la plus attrayante dans la mesure où elle apporte des informations vitales aux différents acteurs en mettant un terme à certains litiges par une parfaite délimitation, et en faisant revivre les noms authentiques des quartiers.

Enlarged map of the Atuzaire neighbourhood

Carte à grande échelle du quartier d'Atuzaire

Ce quartier a servi de site d'accueil au forum Eau et assainissement à Bamenda. Cette carte permettait de le situer par rapport aux quartiers voisins.

Map of the water route

Carte du chemin de l'eau

Étant bien conscient que les problèmes sont plus facilement perceptibles à travers des exemples concrets, nous avons décidé de les illustrer par des visites de projets qui chacun était une sorte de réponse à des problèmes de vie quotidienne rencontrés par les habitants.

Nous en avons choisi parmi l'ensemble des projets Fourmi plusieurs qui avaient la particularité non seulement d'être illustratifs des problèmes sur lesquels nous voulions mettre l'accent, mais également qui se situaient sur un même cours d'eau et donc un même bassin versant.

Nous avons appelé ce parcours pédagogique « le chemin de l'eau ». Il part d'Atuzaire et va jusqu'à Ntanka en passant par Azire B, Ntarikon, Musang et Mulang.

DEVELOPMENT ANIMATION COMMITTEE (DAC)

CAD	PROJET TOTAL	MONTANT DES HABITANTS	CONTRIBUTION
Sisia IV	Pont	0	0
	Ponceau I	1 912 605	382 521
	Ponceau II	1 176 977	235 395
	Adduction d'eau	4 596 001	1 149 000
Ndzah Nkwen	Ext. PMI	12 314 972	3 448 193
	Avenant	790 000	0
Total CS3		20 790 555	5 215 109
Alamatou	Pont	976 350	146 455
	Source	1 278 700	255 740
Menka	2 ponts	2 169 000	542 250
	2 ponts	2 439 000	609 750
	1 pont	1 219 500	243 900
Ntambessi	Pont	3 709 152	727 788
Ntahmban	Adduction d'eau	1 412 320	197 735
New Bell	Pont	4 647 820	1 161 955
Sisia III	Source	2 029 750	507 440
Ntamulung 2	Matériel curage	496 000	49 600
Total CS4		20 377 592	4 442 613
Sisia II	Pont	3 930 000	982 500
Njumanbuah	Pont buse	990 000	148 500
Atuzaire	Pont + assainist	1 900 800	380 160
Musang/Mul	Pont	6 979 350	2 093 805
Alakuma II	Pont	4 493 220	1 123 305
Chinde	Source	1 745 000	349 000
Ntamulung 2	Buses	748 463	112 270
Ntamulung 1	Matériel curage	500 000	50 000
Ntamulung 3	Pont	3 488 000	872 000
Total CS5		24 774 833	6 111 540
Nkwen	Équip. lits & mat.	1 986 000	397 200
Mankateken	Adduction d'eau	4 997 810	1 249 453
Atuzaire	Amén. caniveaux	2 796 000	699 000
Ntanka	Pont	4 099 550	1 024 890
Ntarikon II	Pont	4 296 100	1 074 025
Buthah	Reconstruction pont	2 160 000	540 000
Total CS6		20 335 460	15 350 893

Map of Fourmi projects

Carte des projets Fourmi

Depuis son lancement, vingt-cinq projets ont été réalisés dans le cadre du programme Fourmi. Ils représentent un montant de 24 774 833 FCFA. L'ensemble de ces projets ont été repérés sur un fond de carte avec un numéro renvoyant à une liste explicative. ■



Presentation of some exhibition stands at Atuazire

CIPCRE (Centre international pour la promotion de la création)

EXAMPLE OF SOLID WASTE DISPOSAL IN BAFOUSSAM TOWN

By Mary Mbafor

Summary of poster exposition

In 1986/87, the economic crisis hit Cameroon. This crisis intensified as the years went by. The consequence for the town of Bafoussam was that youth unemployment was on the rise. Another dramatic consequence was that the council was not able to dispose of the household refuse. Everywhere in town (markets, roads, paths, etc) mountains of garbage rose making the town very dirty. Most roads were completely blocked making it

difficult for vehicles or pedestrians to use the roads.

CIPCRE, an NGO for environmental protection and sustainable development, could not remain indifferent to this situation. Something had to be done. A project known as the decentralised compost project for household refuse in Bafoussam was put into place. This project is being in five quarters of Bafoussam town.

The objective of the project is to contribute to urban youth employment and to improve on the sanitation of the town through the collection and treatment of household refuse.

Half drums, one painted green and another painted red are placed in many points in the quarter. The inhabitants have been sensitized to put biodegradable garbage into the green containers and non-biodegradable garbage into the red containers. The compost makers (male and female youths), then collect the drums and push in trucks to the compost site every day except Sunday. Here the garbage is selected and put into heaps 1.5 m high. These heaps are turned over from time to time. They are also watered if necessary (i.e when it is dry). From 3-4 months, the refuse is transformed into a darkening product called compost.

The manure compost is dried, ground sifted and bagged into 50 kg bags which are then put at the disposal of farmers who use it in their gardens, food crops and perennial crops. This compost can replenish poor soils, improve yields. The compost can also be used to start lawns or to keep them evergreen.

Since 1994 when the project was launched, the results have been very positive. Many youths have been employed. The quarters are cleaner and healthier than they were before the project started. Many tonnes of compost have been produced which have helped to improve the fertility of the soils in the West and North-West provinces.

Our exposition will be twofold. There will be a poster that shows the fabrication and use of compost. There will be the compost product.

The purpose of this exposition will be to show the Bamenda public an alternative method from the waste disposed which blocks drainage and pollutes water courses. It is also very interesting because it reduces pollution and produces a by product which is very useful to farmers.

Recycling of garbage, the example of CIPCRE compost project

(cf. the figure « Sketch for the production of compost » p. 12)

Household refuse if not properly disposed can lead to a very unhealthy environment. It blocks gutters causing drainage problems such as flooding. When thrown into the stream, it pollutes water and becomes a danger to public health.

The objective of this exposition is to show that:

- ♦ garbage can be recycled to produce an ecologically useful product called compost;
- ♦ this product helps farmers obtain higher yields without using chemical fertilizers which in the long run degrades the soil and pollutes the environment.

LISTE DES EXPOSANTS

De nombreuses organisations avaient bien voulu répondre à notre offre d'exposition :

- ♦ CIPCRE (Cercle international pour la promotion de la création)
- ♦ Cominsud
- ♦ Délégation de la santé
- ♦ Fourmi Eco (miel par Georges Tabifor, toilettes locales par Tabifor Martin Atanga)
- ♦ Magson International
- ♦ Ministère de l'Environnement et de la Forêt
- ♦ SNEC (Société nationale des eaux du Cameroun)
- ♦ Town Planning & Housing (ministère de l'Urbanisme et de l'Habitat)

Cominsud

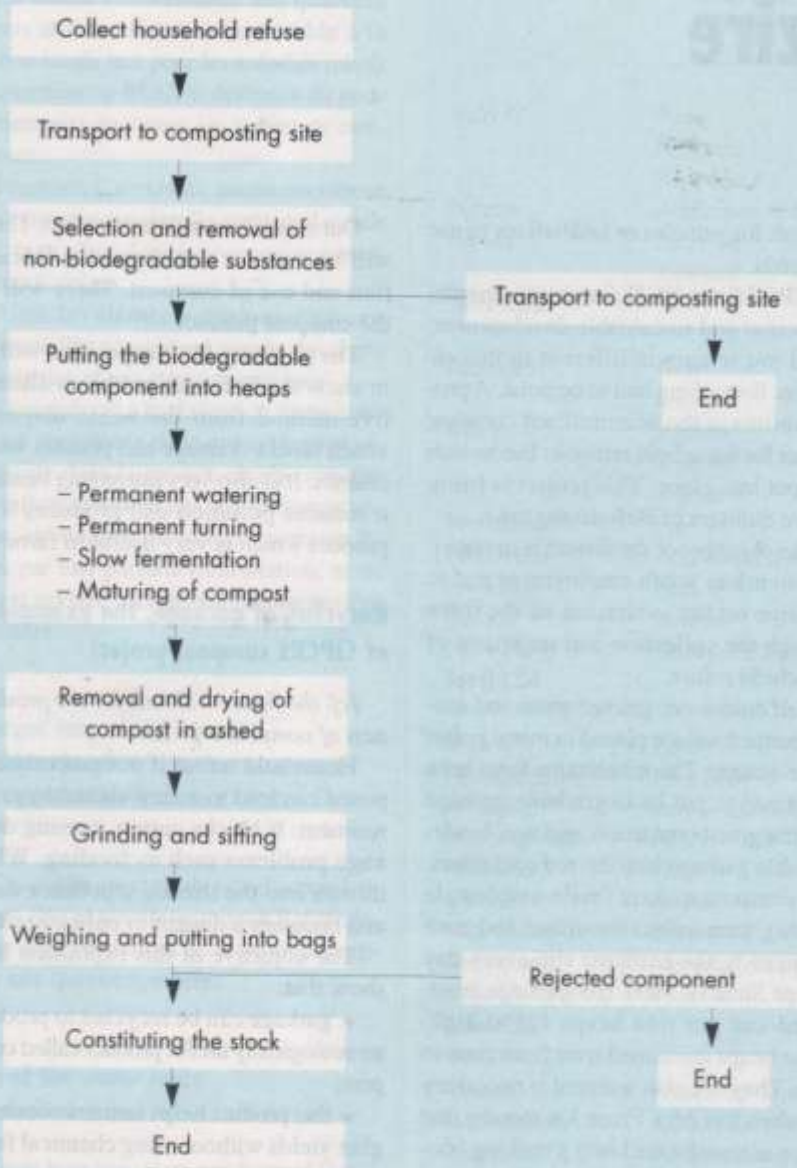
REPORT ON THE PHOTO, EXHIBITION BY COMMUNITY INITIATIVE FOR SUSTAINABLE DEVELOPMENT

By Fon Soh

Problem identified

Cominsud identified that there was indiscriminate waste dumping in streams and open-drains. This blocks the free flow

SKETCH FOR THE PRODUCTION OF COMPOST



14

of run off leading to flooding and water pollution.

This results to the lost of live and property during floods and water borne diseases when people consume the polluted water. This exhibition therefore had an objective.

Objective of the exhibition

Educate and sensitize the population on the negative consequences of indiscriminate waste dumping in streams and open-drains and to propose solutions.

Method of exhibition

It constituted of a display of photographs on a cardboard placed on a board. The photographs were divided into two groups those that illustrated the consequences of waste dumping in streams and those that illustrated the possible solutions. Those on the consequences, they were four in number: The first one indicate a drainage that was blocked by dumped garbage. The second one showed stagnant water held back in an open drain by garbage. The third represented surface water

that has been polluted by run off from garbage. The fourth picture showed burring heaps of garbage; this pollute rain water making it bad for drinking. Those on the solutions, they were three in all: The first showed someone who was putting his garbage into a dust-bin provided by the council. The second showed heaps of compost that were composed from decomposable material from garbage. The third represented household utensils produced from recycled aluminium materials. In short, the solutions were out to encourage the people to recycle biodegradable material and to dump the rest in dust-bin to be collected by municipal authorities.

There was someone who did not hesitate to explain to the population what the photographs were all about and answered questions that were asked. Each photograph had a short message written under it. The message explained what the photograph illustrated.

Public reaction

People were quite enthusiastic watching the pictures and asking questions. They requested Cominsud to do every thing possible within a short time to assist them apply what they saw and read. Visiting the stand, the Representative of the Governor of the North-West province requested Cominsud to rapidly go down to the quarters and begin to implement what he saw. He assured Cominsud of the support of the administration as it gets out to realise its goals which to him will go a long way to solve the water and drainage problem in Bamenda.



Conclusion

At the end of the forum, Cominsud realised that the photo-exhibition had been very necessary given the public's interest in it. Cominsud to do more next time the opportunity arises and within the means available.

Minef

MINISTRY OF ENVIRONMENT AND FORESTRY

By Sallah Ngong, Chief of Bureau Studies and Extension

Objectives of the Provincial Delegation

As concerns Drainage, Water and Garbage: Law n° 96/10 of 5th August 1996 on the Management of the Environment, deliberated and adopted by the National Assembly and promulgated into law, by the President of the Republic.

◆ **Water**

- Section I, articles 2(2), 4 (c,e,j).
- Section II, articles 25-30.

All natural resources, air, water, land, trees, plants and animals are the property of the state. (A healthy population is more productive hence an asset to the nation).

- Pollution of water and sanctions on special papers, chapter IV, articles 42-50.
- The population is expected to participate in keeping the environment clean. Sanction against (articles 79-85).

◆ **Drainage**

- Section V, articles 39 (1), (2) - 4.

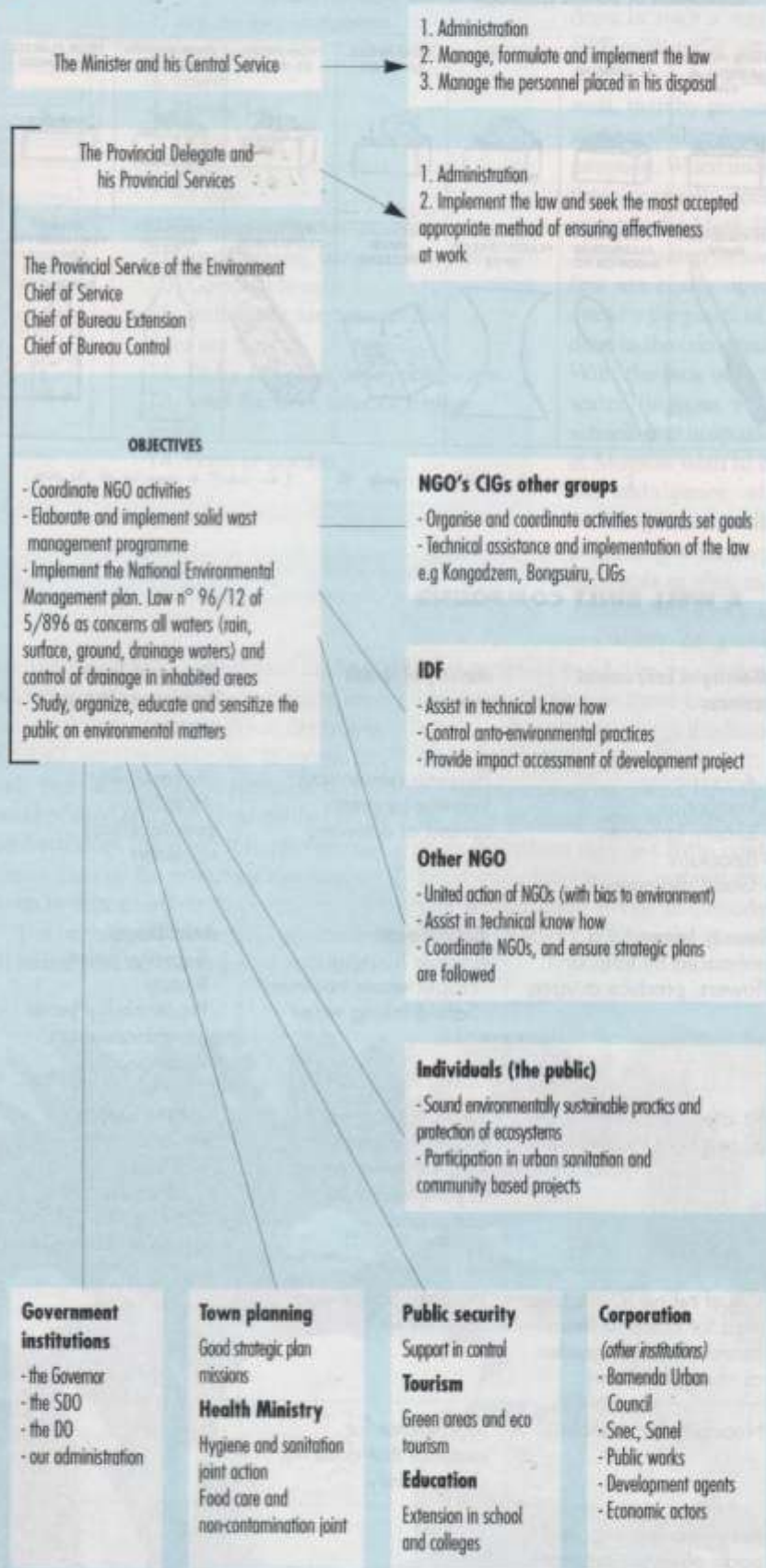
Urban sanitation (to be ensured through collaboration with other institutions, NGOs, corporations and other Government Ministries). Protection of human habitation (settlements).

◆ **Garbage**

- Polluting substances.

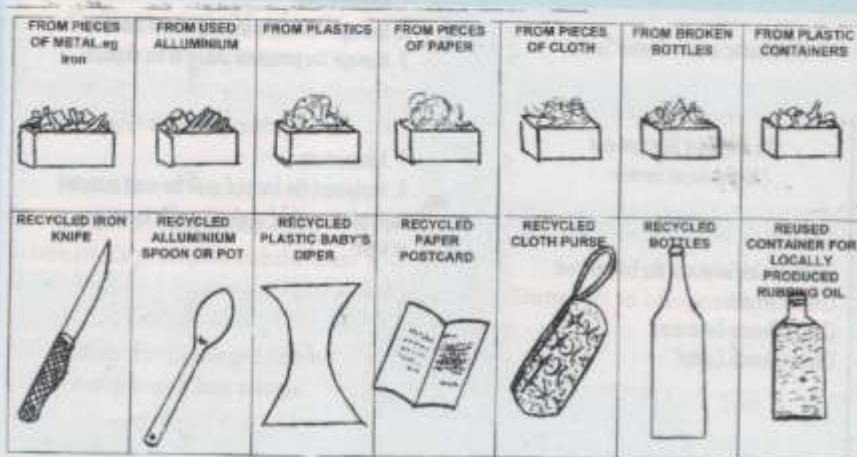
Handling, treatment, sanctions against. Special paper, chapter IV. Articles 42-50 sanctions. Article 72. Public participate in keeping the environment clean.

OBJECTIVES OF THE SERVICE (MINEF)



SOME EXAMPLE OF RECYCLED PRODUCTS

Demonstration of sorting of garbage into different parts, exhibition of sorted garbage in five wooden boxes



à gauche et à droite page 16 (en haut à gauche de la page)

A WELL BUILT COMPOUND

Ministry of Environment concerns	Ministry of Health concerns	Ministry of Town Planning and Housing concerns
<ul style="list-style-type: none"> - Accessibility - Ventilation - Beauty (amenity) - Spacious - Good drainage 	Hygiene (sanitation) Tidiness (prevents spread of diseases)	<ul style="list-style-type: none"> - Accessibility - Habity (practicability) - Comfort
Beauty (amenity) is enhanced by trees and flowers, produce oxygen	Additions <ul style="list-style-type: none"> - Livable housing - Proper waste treatment - Safe drinking water 	Additions <ul style="list-style-type: none"> - Security/Safety - Beauty - Practicability (ease of displacement) - Functionality
Pit toilet away from well or neighbour's own well	Walls, toilets, wells should not interfere with the environment in your neighbours compound	<ul style="list-style-type: none"> - Water supply network - Lighting - Suck away tanks - Drain pipes - Clean water supply
Use of refuse from kitchen yard for compost heap (manure used in garden as cheap fertilizer)	Well positioned and covered well	
Necessity for dust-bin	Incrinerator for material that does not decay easily	
Avoid leaving exposed pools of water, prevent breeding of mosquitoes and flies		

The Minef is not the only Ministry to be concerned with drainage. Two other Ministries are also concerned with this question : the Minuh and the Ministry of Public Health that all have particular messages to convey to the population as far as house building is concerned (see table and drawing « A well built compound », p. 14-15).

Magson International

WELL CONSTRUCTION PROCESS

By Sallah Ngong, Chief of Bureau Studies and Extension

Water is life; so the saying goes, we at Magson International buy this concept and have been putting our resources together to supply potable water to institutions groups and individuals alike.

This we have been able to do successfully because we make it a point of duty to work closely with the beneficiary from the inception of a project through completion; we do not only do that, we train and able care taker committee democratically elected by the beneficiary and equip them with the basic tools necessary for minor repairs of the installations while we strongly recommend that any major problems, if any should be reported to us immediately for prompt action to arrest the situation.

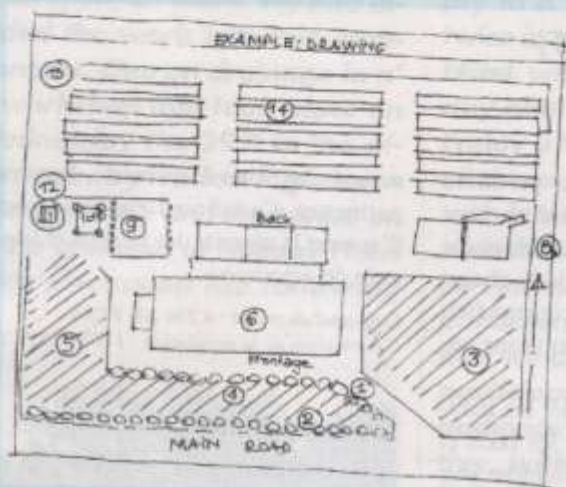
The simple philosophy behind this system of operation is that the beneficiary is committed to the project from the beginning and by the time it is finished, they would have become possessive and this simply leads to the natural tendency to protect what there have therefore guaranteeing the security of the installations and consequently sustainability.

We supply water in three major ways:

- by gravity (water schemes);
- wells: powered pump, manually operated pump.

By gravity this is only possible when we have to adduct a spring at an elevated point from the point of distribution and this is done by the construction of a catchment filtration tank and storage tank from were all the connection for distribution to the consumers one made. This method is initially very expensive as it involve many phases which are all capital intensive but the long term effect is that the

A WELL BUILT COMPOUND



1. Access into compound
2. Hedge or wall
3. Lawn
4. Flower bed
5. Grass lawn
6. Building
7. Pit toilet
8. Drainage channel
9. Garden (using compost manure)
10. Compost heap
11. Incinerator for material that does not decay
12. Pit for throwing decayable waste
13. Well (far from toilet or suction tanks)
14. Farm or garden

1. Architectural or settlement planning
2. Environmental planning

for the installation of slabs onto which the pump is installed. The construction of the opening is also done in such a way that surface water is not allowed to flow back into the well, thereby preventing any possibility for contamination. When installed, these manually operated pump India Mark II and Volanta pump to name a few are easily operated even by the youth of children in the community. With the lack of potable water in most villages schools and hospitals, we at Magson wish to crave the indulgence of the founding bodies while appreciating what they are been able to offer this organisations to look at the possibility of giving at

overall cost is cheaper; since pumps and the cost of running the pumps is eliminated.

When we construct wells, the customer have the choice of using an electrically powered pump or a manually operated one for small communities and individuals alike. We recommend the usage of manually operated pumps as their cost is moderate, the cost of maintenance is very low and therefore running cost is the lowest. All these advantages will make the pump to be in usage for a reasonable time.

Magson International construct two kind of wells bore-holes and Man-holes (manually dugged out well). Bore-holes are often very deep and the bore reaching up to 300 mm (ø) in diameter maximum and goes down to 100 m deep. This makes it difficult to install large rings for the retention of the walls of the well, but screens are installed here for swallow well. These well are dugged manually up to a depth of 25-30 m with a diameter ranging from 0.9-2.5 m.

These wells as swallow as they are, we installed rings to reduce deshydration, this equally control surface water from contaminating the water in the well. When this is done, we put in some clean gravel on top of a layer of fine sand (5 mm diameter). These gravel and sand constitute

the filtration system put in place to check silt being pull up into the pumping mechanism during section. When digging is finished, we installed rings to retain the wall from collapsing. A filtration bed is made of sand and gravel carefully laid at the bottom of the well; this prevent silt from entering the pumping mechanism when in operation.

The opening of the well is constructed all round with stones to give a solid base

least a cup of good drinking water to a child some where in these communities school or hospitals through the founding of these micro water schemes.

Through this you would have spared the lives of many who are slowly dying from infections they get from contaminated water like cholera, typhoid, etc. and you would have given somebody the chance to start living again as water is life. ■



Les CAD du chemin de l'eau

Présenté par Ernest Yombo, technicien en Génie civil (IDF)

PARMI LES PROJETS RÉALISÉS dans le cadre du programme Fourmi, chacun illustre un problème spécifique lié à la mauvaise gestion de l'eau. Dans le cadre du forum, nous avons voulu attirer l'attention des participants sur des questions simples et sur lesquels ils peuvent agir. Pour cela, nous avons retenu l'idée de cheminer le long d'un bassin versant, sur lequel se situait plusieurs projets Fourmi. Cinq projets en cours ou prévus avaient été retenus pour la valeur explicative qu'ils présentaient.

Pour chacun d'entre eux, nous avons voulu attirer l'attention des participants en formulant un message simple et compréhensible par tous, indiquant sur quoi il était utile de porter l'effort pour améliorer la situation. Des petits panneaux avaient été préparés par le Minef et IDF et avaient été disposés à l'emplacement de chacun de ces projets visités.



Atvazire

Il s'agit d'un des quartiers situés à l'extrémité de l'« Avenue Commerciale ». Ce CAD est animé par un groupe de jeunes dénommé Aya. Le projet consiste en un ponceau venant remplacer un passage de buse existant (Ø 80) qui a été réalisé sans étude et sans respect de norme technique.

Aussi, cet ouvrage n'a pas résolu les problèmes d'assainissement et de traversée des véhicules.

Dans le cadre du programme Fourmi, après la demande de Aya, une étude technique a été réalisée. Le projet devra être

mené en deux phases : la première consiste en la construction d'un pont d'une largeur de 1,5 m ; la seconde phase consiste en l'élargissement de la chaussée, son renforcement et la construction des ouvrages de drainage (caniveaux notamment).

Une fois le projet terminé, les habitants de ce quartier verront les taxis et autres modes de transport atteindre leur quartier.

Atvazire I :

Coût total : 1 900 800 FCFA.

Contribution de la population : 380 160 FCFA.

Atvazire II :

Coût total : 2 796 000 FCFA.

Contribution de la population : 699 000 FCFA.

Ntarikon

Il s'agit d'un grand quartier de la ville dont les habitants ont présenté au programme Fourmi un projet prioritaire pour améliorer leurs conditions de vie. En effet, la passerelle existante est faite de matériaux locaux qui sont souvent emportés après de grandes pluies paralysant ainsi le mouvement entre ce quartier et le centre commercial.

Dans le cadre du programme Fourmi, une étude technique appropriée a été faite pour la construction d'une passerelle de 12 mètres de portée en béton armé, avec des murs de soutènement en pierres

maçonnées. Une fois réalisé, l'ouvrage permettra d'assainir l'environnement, d'assurer la sécurité des usagers et le passage de « pousse ».

Coût total du projet : 4 296 100 FCFA.

Contribution de la population : 1 074 025 FCFA.

Musang / Mulang

Ce sont deux quartiers qui se sont unis pour réaliser un pont. Il s'agit du passage le plus court pour joindre les deux quartiers au centre commercial. En saison des pluies, le pont existant, fait de matériaux

« Attention! Dig pit latrines far from the water channel »

locaux (bois), devient dangereux pour les usagers compte tenu du volume d'eau drainé. Dans le cadre du programme

Four-mi, une étude technique a été faite pour la réalisation d'un pont de 7 mètres de portée, une hauteur et une largeur de 5 mètres chacune.

La réalisation de cet ouvrage va déclenclaver les deux quartiers, les populations pouvant ainsi se rendre en toute sécurité vers les écoles, les collèges, les marchés et les hôpitaux.

Coût du projet : 6 979 350 FCFA.

Contribution de la population : 2 093 805 FCFA.

Ntamulung

Ce quartier est situé en bordure de la rivière qui traverse le cœur de la ville. En saison des pluies, il connaît des inondations fréquentes et l'obstruction de ses caniveaux. Quand les eaux se retirent, le quartier est envahi par les ordures de tout genre laissées par les eaux.

Les habitants du quartier, réunis au sein d'un groupe, ont sollicité l'aide financière de Fourmi pour se procurer le matériel de curage qui leur permettra de redresser le

« Stop! No garbage dumping here Use your garbage as compost manure in garden »

« This stream is polluted, it is not suitable for drinking »

« To avoid floods and provide good drainage Do not obstruct the channel of this river »

ACTIVITIES IN WORKSHOPS took up the major part of the forum since 4 half-days had been spent on them. We had divided the work into two components. One on drainage in n° 1 workshop that took place on Wednesday the 29th in the afternoon by following the « Water route » and then went on in the premises of Holiday Hotel with discussion the following



lit du cours d'eau et ainsi de limiter les inondations, d'effectuer le curage des caniveaux et le ramassage des ordures laissées par les eaux, et ainsi de rendre leur environnement plus salubre.

Coût total du projet : 450 000 FCFA.

Contribution de la population : 45 000 FCFA.

Ntankah

Ce quartier est situé en bordure de la rivière Mezam. Il y a six ans, la population de ce quartier

« Respect town planning regulations It is very dangerous to build here »

s'est mobilisée pour redresser le lit de la rivière afin de limiter les inondations, et construire un pont en pierres maçonnées avec un tablier

en bois. Aujourd'hui, ce tablier est endommagé et devient dangereux pour les usagers. Le projet actuel consiste en la reconstruction d'un tablier en béton armé. Une fois le projet réalisé, le flux de la circulation des véhicules de la zone rurale vers la ville va augmenter, les conditions de sécurité des usagers seront améliorées, les populations pourront emprunter des taxis pour se rendre dans leur quartier et les inondations seront réduites.

Coût total du projet : 4 099 550 FCFA.

Contribution de la population : 1 024 890 FCFA.

day in the morning, that is on Thursday, the 30th of October. The other on drinking water supply in n° 2 workshop that sat twice in the premises of Holiday Hotel, with one session on Thursday afternoon and the other on Friday 31st, in the morning. Each of these sessions was opened with introduction papers by personalities whose main ideas will be summarized here before we put down the major conclusions that we drew in discussion with participants. In both cases the audience was massive and active, with DAC representatives being the most important group. These sessions were rounded up with a working lunch on Friday evening in which all the participants took part and was chaired by pastor Njaah. In a warm and friendly atmosphere, this was the time to make a synthesis of two day discussions and debates and to draft some resolutions that would be read in the closing ceremony.

Les travaux en ateliers ont occupé une grande partie du forum puisque quatre demi-journées leur ont été consacrées. Nous avons réparti le travail en deux composantes. L'une concernant l'assainissement au sein de l'atelier n° 1 qui s'est tenu le mercredi 29 octobre dans l'après-midi par le parcours du « chemin de l'eau » et s'est ensuite tenu dans les locaux du Holiday Hôtel pour les débats le matin suivant, c'est-à-dire le jeudi 30. L'autre concernant l'approvisionnement en eau potable au sein de l'atelier n° 2 qui s'est répartie en deux séances dans les locaux de Holiday Hôtel. L'une le jeudi après-midi et l'autre le vendredi 31 au matin.

Chacune de ces séances a été introduite par des exposés de personnalités dont nous allons ici redonner les grandes lignes avant de retranscrire l'essentiel des conclusions auxquelles ont conduit les débats avec les participants. L'assistance a été nombreuse et active. Dans les deux cas, ce sont les représentants des CAD qui ont constitué le groupe le plus important.

Ces séances seront clôturées par un dîner-débat le vendredi soir avec l'en-

Workshop 1

Sanitation

• **Moderator** : Mr James Mbah (Ministry of Environment and Forest).

44 persons took part in this workshop, of which 12 representatives of administration or local authorities (27 %) ; 11 NGO representatives (25 %) ; 16 DAC representatives (35 %) and other participants from various origins.

• Papers :

1. Illustration of the problems of town drainage through the water route. By Jean-Baptiste Djia, IDF Technical official. 2. Social impact of inadequate drainage on population. By Mr Babila, the Provincial Delegate of the Ministry of Social and Women's Affairs. 3. Town drainage problems. By Mrs Tatah, Buc.

ILLUSTRATION DES PROBLÈMES D'ASSAINISSEMENT PAR LE CHOIX D'UN BASSIN VERSANT APPELÉ LE CHEMIN DE L'EAU

Par Jean-Baptiste Djia, responsable technique à IDF

Introduction

La ville de Bamenda a un relief qui peut être considéré comme les marches d'un escalier avec en prime deux grands plateaux décalés par une altitude d'au moins 80 m et séparés par un front de faille très prononcé. Le palier supérieur est la partie du village de Mendankwe qui

est dans le centre urbain de la ville de Bamenda : c'est la partie communément appelée *Up Station*. Ce plateau a le privilège d'avoir une pente très constante et acceptable pour permettre un écoulement normal des eaux.

Le palier inférieur constitue le gros de la ville de Bamenda. Cette partie est naturellement désavantagée du fait de sa planitude (pente " 0 %) ce qui entraîne des redoutables problèmes de drainage dans la ville de Bamenda.

Hydrographie de la ville de Bamenda

Le réseau hydrographique de la ville de Bamenda prend sa source dans deux villages situés au sud. Trois sources de Mendankwe et une source de Ndzah traversent la ville de Bamenda ; elles constituent les quatre bassins versants de la ville. Le bassin qui prend sa source à Ndzah côtoie les abords du centre urbain et constitue l'exutoire des trois autres qui passent en plein dans la ville et est appelé *Mezam River*.

Le deuxième bassin versant, qui semble être le plus important des trois autres du fait de son débit et de sa vitesse d'écoulement, est celui qui part du front de faille au niveau du quartier Sisia, passe par Mougheb et atteint la Mezam par Bayelle.

Le troisième bassin versant est celui qui traverse le centre ville commercial en encadrant l'axe principal de la ville par ses deux confluentes qui se rencontrent sur le prolongement nord de l'Avenue Commerciale en constituant la limite à trois quartiers : Azire A, Ntamulung et Musang. Ce bassin se verse dans la Mezam par le quartier Mulang.

Le quatrième bassin versant est celui qui côtoie la ville plus à l'ouest en passant par Ntatu et atteint la Mezam en constituant la limite entre Uper Ngomgam et Alakuma.

Choix du chemin de l'eau

Le chemin de l'eau est pour nous le bassin qui devait permettre d'illustrer les problèmes de drainage dans la ville. L'espace urbain étant quadrillé par quatre bassins versants, il était assez difficile d'étudier sur tous les bassins à la fois.

• Critères de choix

Le forum devait déboucher sur une fête populaire, ainsi il fallait choisir un bas-

sin versant qui donne un maximum d'attraction à la population.

Géographiquement il fallait choisir le bassin qui passe par le plus grand nombre de quartiers.

Le programme Eau et Assainissement est complémentaire au programme Fourmi, ainsi il fallait choisir le bassin où il y a le plus grand nombre de CAD, ceci pour montrer que Fourmi est le bras actif en matière d'eau et d'assainissement à Bamenda.

Enfin, il fallait choisir le bassin versant le plus au centre de la ville.

• Choix du bassin

En recoupant ces critères, notre choix s'est porté sur le troisième bassin versant de la ville. Mais il s'est posé un problème : ce bassin versant a deux confluentes et il fallait en choisir un seul, heureusement l'un des confluentes tombait sous le coup du critère de sélection Fourmi, expliqué plus haut.

Ainsi on a choisi le confluent qui se trouve à l'ouest et part d'Atuazire à la Mezam en passant par Holiday Hôtel - Fish Pond - Musang - Mulang.

Problèmes d'assainissement sur le chemin de l'eau

Le véritable problème d'assainissement vient du fait que le relief de la ville dans le palier inférieur est trop plan ainsi les cours d'eau de la ville partent de leur source et pendant leur cours prennent de la vitesse qui devient maximale en traversant le front de faille, puis immédiatement tombent sur un terrain plat c'est-à-dire que la très faible pente réduit considérablement l'écoulement. On assiste alors à un télescopage entre une masse d'eau qui vient avec une vitesse initiale assez élevée et une autre qui s'écoule à peine, d'où le fait que la moindre pluie crée l'inondation dans la ville.

À ce problème naturel s'ajoute beaucoup d'autres problèmes artificiels que nous allons décrire sur le chemin de l'eau :

• *l'érosion* : ici on assiste à la destruction de certaines maisons, particulièrement à Atuazire, derrière la Cathédrale. Ce problème est dû au glissement de terrain ;

• *l'obstruction du lit du cours d'eau* : par la construction des habitations carrément sur le lit du cours d'eau, la construction de murs de soutènement dans le lit majeur pour augmenter la propriété ; ceci

a cours surtout dans les quartiers Atuazire et Azire B autour du pont « Dordrecht Bridge » ;

• *la pollution* : elle se manifeste ici par les dépotoirs sauvages à certains points le long du cours d'eau à Atuazire et à Fish pond ; la vidange des fosses septiques et des puisards des toilettes dans le cours d'eau à Holiday Hôtel et ses environs ;

• *la construction des fermes* pour petit élevage au-dessus du cours d'eau, ceci a cours presque partout le long du cours d'eau ; le drainage des eaux usées dans le cours d'eau ;

• *les zones maraîchageuses* : à partir du nouveau pont de Fish Point jusqu'à l'exutoire de la Mezam, la pente est quasiment nulle ; ceci se manifeste par un grand maraîchage ;

• *le mauvais calibrage des ouvrages de franchissement* (ponts, ponceaux, dalots et buses) : le mauvais calibrage vient du fait qu'à l'origine, lors du dimensionnement des ouvrages, on n'a pas tenu compte de certains facteurs comme la déforestation rapide en amont et l'occupation anarchique des zones non constructibles (front de faille). À ceci s'ajoute beaucoup d'autres ouvrages de franchissement à construire pour solutionner les problèmes de drainage.

Conclusion

Les problèmes d'assainissement dans la ville de Bamenda ne peuvent être résolus que dans le cadre d'un plan global car à un point donné, pour entreprendre une action, il faut savoir ce qui se passe en amont et les répercussions de l'ensemble en aval.

THE SOCIAL ASPECTS OF POOR DRAINAGE ON THE POPULATION

By Mr Babila, the Delegate Minascof North-West Province

Introduction

The geological location of Bamenda town which places it in a valley closely bordered by a steep relief, makes it a water basin with no outlets that provokes a lot of water stagnation leading to easy inondation due to poor drainage. The Bamendakwe hill, actually without any forest and the absence of heavy drinker

trees like eucalyptus provides room for uncontrol torential rain water flow, with all the erosion that it produces.

In the same vien, the lack of a good plan for the town that takes care of good drainage provisions before any construction work, has increased the drainage problems leading to slumps and swampy areas where disorderly building has favoured swampy areas leading to the destruction of houses, other social infrastructures, the lost of human lives and retarded development in our town.

Psychosocial aspect

Besides, the lack of potable water as a result of poor drainage has led to increase misery owing to the evolution of water borne and water related diseases. The polls of standing water has become permanent breeding areas of mosquito. Disease like typhoid, malaria, diarrhea behazia and onchochicosis are on the increase.

The manifestation of typhoid in children and the eventual death after leads to family problems like divorce, abandonment of the home and children, who in turn become delinquences and prostitutes alongside child labour and all other social problems.

The reason is simply because one of the family member as in Cameroon is often accused of taking the life of the person through witch craft or famla'a. But

the accused person is water owing to poor drainage. Furthermore, owjng to poverty and the lack of knowledge many people take patients to traditional doctors instead of going to the hospital. But most of these water related diseases cannot be treated here. The immediat consequence is the lost of life.

People also faced the problem of water shortage in town. Since most of Bamenda town is not covered by Snec Water as in the Suburban areas, coupled with the fact that Snec water itself is expensive to the average and lower class North-Westerner, many families depend on streams and springs during the dry season some have to cover great distances on foot to fetch water. These activities have the adverse effect of early ageing on the population. This is also time consuming and thus reduces the vital time that should have been kept aside for revenue generating activities.

This situation is one of the factors that provock auxiety in persons. This in turn leads to tension which can cause hypertension.

As a matter of fact, the presence of floods in swampy quarters causes a lot of emotional damages to the person concerned. In some cases, the situation can push pregnant women to premature delivery. Examples of children who have become psychotic or who have lost speech after watching relatives taken away by floods abound.

Socio-economic consequences

The geomorphological landscape of our town under study facilitates erosion and enclavement. Erosion has been taking place for long now in Mendankwe, the region considered to be our water shed in the town. The lack of forest owing to serious deforestation in search of farmland and wood has made it easy for too much water flow down the valley which is our town; thus produces swampiness and destruction of farmland.

As a consequence, many farms lands are eroded while down the valley most of them are over flooded leading to the lost of crops and the reduction of cultivable farm land. Famine and poor health becomes the end result. It is today rather surprising that even plantains and most of our food stuff is being imported.

Due to poor drainage, enclavement results for during the rainy season some quarters in Bamenda may be cut off for more than a day. This blocks economic activities food crop evacuation from the farm becomes difficult and the result is lost of revenue and under development. Parents who depend on these crops as revenue may go without it and the consequences on their childrens health and education is indicative for many are unable to send them to school.

Proposition

In terms of suggestions, I will like first to draw the attention of the Department of Town Planning and Housing to come out with a good plan for new quarters in town that do respect sanitation, communication and servage standards, such as in the sic quarters in Yaounde, Maroua and Douala, etc.

Carry out serious sensitisation program over the public and private media aim at discouraging people from building in slumps and in swampy areas. The construction of pit latrines far away from streams and springs that can serve as sources of drinking water to other people.

That the Department of Mines, Water and Energy in collaboration with Snec to devalue the present rate of water, to make it more accessible to the common man in order to reduce the rate of water related diseases. This department should also re-launch its campaigns of water for all by the year 2000 and to educate the popula-



tion on the dangers they run in drinking water from brookes, streams and from springs, which they often share with domestic animals especially in the dry season. Many people in Bamenda do believe that water does not kill. It should be our place to make it clear to the population that water related diseases have killing many of the people we claim are killed by witch craft.

As to what concerns NGOs working in the domain working in close collaboration with the target population, and allowing them to participate actively in the choice of their needs in this domain is very important. The history of *Scan* water is an example. The provision of modern less costly wells can be better than *Scan* water because of its maintenance costs.

The NGOs should also play the role of teaching the population of how to fetch good water and how to preserve it. Traditional methods of conserving water should be relaunched, and purification methods should be explained to the population like boiling, sifting and preservation in good containers.

In conclusion, poor drainage equals poor drinking water because of slumps, floods and the swampiness of the regions concern. The slumps are not only the houses of diseases, but the conjugals conflicts, divorce, etc. In fact, it is in these areas that social problems reach its apex and most often than not the causes are looked for else where.

WATER AND DRAINAGE IN BAMENDA AND ROLE OF THE BAMENDA URBAN COUNCIL

By Mrs Elisabeth Tatah Shinyuy,
Hygiene and Sanitation Service,
Bamenda Urban Council

Introduction

Water is a vital element in human life. It occurs naturally on the surface of the earth. Its uses cannot be emphasized as you all know them. Its uses can be briefed as follows: **Domestic** - cooking, drinking and laundry. **Industrials** - agricultural and in transportation.

Although water is important, it may likely create a nuisance in our environment if not properly controlled.

Drainage is a means of allowing water to flow away freely. This may be: natural following the physical nature of the terrace; artificial by construction of gutters to drain surface or underground water.

Identification of water track and problems

◆ Sources

From Atu - Azire - Holiday Hotel - Fish pond - Musang - Mulang - to Mezam river.

◆ Problems identified along the water track

- *Erosion*: A collapsed building (site: Atuzaire behing cathedral hall).

- *Obstruction*: By construction of a new house, embarkment, farming (site: Atuzaire). Building in water both side (site: left side of Dordrecht bridge from central town).

- *Pollution*: Dumping of refuse (site: Atuzaire, Holiday Hotel). Sewage drainage into water from broken pit latrine, animal farming (pig style), drainage of waste water into stream (site: Fish pond bridge, small Mankon, Musang, Mulang).

- *Swampy areas*: (site: Fish pond - small Mankon, Musang, Mulang river). Abandoned Hotel (site: Dordrecht bridge right from central town).

◆ Consequences of drainage obstruction

Flooding leading to loss of life. Destruction of property. Displacement. Accumulation of water in marshy areas. Breeding of mosquitoes. Pollution of surface and underground water leading to water borne diseases or water related diseases such as diarrhea, cholera, typhoid, dysenteries.

Role of urban hygiene service

Water and drainage is one out of our many functions carried out in the municipality; our main role is to ensure that the population have portable drinking water and to enhance proper drainage around their environment.

◆ Activities of Urban Hygiene Service

The above objectives are achieved through :

- health education during our routine house to house inspection and advising landlords to provide soak-away pit for used water to proper drainage for surface water;

- creating awareness in the community to avoid dumping of refuse in streams, to avoid building in swampy areas, advising not to construct or drain latrine or drain used water (waste) into water;

- advising on the protection of water source.



◆ **Solutions**

- Water tracks should be cleared and widened by the council and where necessary the council should involve the community especially those living along the streets.
- Building of culverts, bridges and gutters where necessary involving the community and the council giving assistance.
- Planting adapted species of trees in erosion or swampy areas.
- Intersectorial co-operation should

be intensify.

- Re-enforcement of building rules and regulations by the authorities concern.
- Clean up campaigns should be intensified with community participation and proper supervision.
- There should be strict application of laws on defaulters by the council.
- Council should get opinion leaders together and a committee set up for water and drainage problems.
- Individuals should clear banks of

water track nearer their homes and stop narrowing water track.

Conclusion

Although our target of track visit concentrated only on one track from Atuazire through Holiday Hotel, food market, Musang, Mulang to Mezam river, the water and drainage problems affect almost all parts of the Bamenda municipality. ■

SUMMARY OF PROCEEDINGS OF WORKSHOP N° 1

Identified problems (natural, artificial)	Causes (natural, artificial)	Consequences	Potentialities	Distribution of responsibilities
Erosion - Flooding - Landslides - Erosion - Silting - Humidity - Diseases Floods, humidity, diseases, restriction of water channel. Collapse of house, poor farming method, meandering water courses. Pollution of water, dumping of refuses.	Poor farming practises (Downslope, slack, bury and burn ankoa). Farming close to stream courses. Over-grazing. Poor location of houses. Deforestation. Road construction. Building and farming on fragile. Ecosystem/site, e.g. station hill. Population pressure on a limited lang resource. Non respect of legislation. Dumping of resource in or close to water courses. Meandering of water channels. Narrow water beds. Relief and rainfall. - Topography - Seasonal variation - Poor town planning - Soil texture (silting) - Dumping of refuse - Rapid population growth	- Floods - Meandering water courses - Erosion - Landslide - Blockage of drainage channels - Restriction of water channels - Pollution of water - Collapse of houses - Destruction of crops - Destruction of buildings	Reafforestation. Widning. - Straingthening - Depening of water channels - Channelling and canalisation - Health committees Urbanisation. Farming method (permanent farming systems, AS). Canalisation. No dumping of refuses. (Sensitization) - Recycling - Institutional collaboration - Council indiciary forces of L+O - Population control - Ranch management - Functional health committees - Regular garbage collection - Community mobilization - NGOs - Effective planning	BUC/Public Health Town Planning Minef Minagri Mineduc Minascof Minuh Ministry of Health NGO CIG CAD Population Mass Education

Whatever the case, there is an imperative need for: intersectorial/institutional collaboration between various actors to solve the problem of poor drainage in Bamenda. These various actors are: Town Planning, BUC, Minef, Minascof, Minagri, Livestock, NGOs and CIG, Community, Public Health.

Workshop 2

Water supply

• **Moderator** : Peter Teh (Helvetas)

47 participants to this workshop with 11 representatives from administration or local authorities (24 %) ; 9 NGO representatives (19 %) ; 17 DAC representatives (36 %) and 10 other participants from various places.

• **Papers** : Thursday afternoon session :

1. Pilote action summary. By Patrick Pélissier. **2.** Drinking water in Bamenda town. By Mr Nukuna (Ministry of Public Health). Friday morning session : **3.** National water policy in city area by the Provincial Delegate of the Ministry of Mines, water Resources and Power. **4.** Experience of Nkwen Water Community. By Mr Marck Afuoti, the project originator and coordinator in IDF. **5.** A comparative example to illustrate the problem of management and maintenance of built water sites in cities and periurban areas, the case of Kigali in Rwanda. By Mrs Oussematou Dameri, the IDF President.

PREMIERS COMMENTAIRES DES RÉSULTATS DE L'ENQUÊTE MÉNAGE

Par Patrick Pélissier, Gret

Nous sommes en mesure d'isoler les résultats qui reflètent les difficultés éprouvées au quotidien par les habitants de Bamenda en matière d'eau et d'assainissement.

Un premier panorama de la situation est donc proposé ci-après, qui tient compte de la catégorisation des questions de l'enquête.

Dans la mesure où l'un des objectifs de l'enquête ménage était de mettre en évidence une corrélation spatiale des résultats, nous nous attacherons à souligner les résultats éclairant la situation particulière de certains quartiers type de la ville et de dégager une hiérarchie des priorités des habitants de la ville en matière d'eau et d'assainissement.

L'approvisionnement des ménages en eau

L'approvisionnement des ménages en eau s'effectue en premier lieu par le réseau Snec pour 38 % d'entre eux. La moitié possède des branchements individuels, l'autre moitié utilise les bornes-fontaines publiques. 18 % s'approvisionnent à des sources (non aménagées à 70 %) et 14,4 % à des puits. L'eau de pluie est un mode d'approvisionnement considéré par 22,3 % des ménages de la ville.

Ces différents modes ne reflètent pas totalement la variété des possibilités d'approvisionnement car Bamenda, de par l'abondance d'eau dans son environnement naturel, a vu s'implanter plusieurs réseaux parallèles à celui de la Snec, notamment d'origine gravitaire (réseau communautaire de Nkwen, ancien réseau d'origine coloniale...). Notons que cette diversité contrarie le monopole de la Snec et fait l'objet de conflits d'intérêts importants.

Cependant, les résultats reflètent largement la situation des ménages résidant dans le centre urbain de Bamenda. Alamatou, situé en zone périphérique et Sisia III, IV implantés en « zone verte » déclarée non constructible ne connaissent pas le mode d'approvisionnement Snec et, notamment à Sisia IV, 22 % des habitants doivent utiliser l'eau des rivières qui le traversent comme eau de boisson...

50 % des quartiers ont une desserte Snec à plus de 50 % (Alating, zone de résidence administrative, est la mieux équipée avec 72 % de ménages « Snec » dont 75,6 % de branchements individuels).

À noter le pourcentage élevé de ménages déclarant s'approvisionner avec l'eau de pluie (généralement recueillie dans des fûts de 200 litres). Ce résultat peut être considéré comme biaisé dans la mesure où ce n'est qu'en saison des pluies que cette pratique s'avère possible (4 à 5 mois). Compte tenu de la possibilité in-

constante de s'approvisionner de la sorte, y aurait-il une forme d'appel de la population à considérer de plus près leur situation ?

Il semble en effet clair que la Snec, quelque soient les polémiques dont elle est l'objet, possède une légitimité « sanitaire » certaine : 75 % des ménages déclarent être certains de la potabilité de l'eau qu'ils consomment car « elle vient de la Snec », et la sensibilité des ménages au caractère potentiellement dangereux de l'eau (98 % d'entre eux estiment qu'elle peut rendre malade) renforce ce résultat.

Aussi est-il permis de dire que « toute chose étant égale par ailleurs », les ménages souhaitent idéalement avoir la Snec chez eux.

Malgré les difficultés éprouvées pour 64,7 % des ménages en matière d'approvisionnement en eau, il faut noter que seul 18 % déclarent avoir changé de mode durant les cinq dernières années. Si 20 % ont abandonné leur abonnement Snec, 24 % ont eu la possibilité d'y souscrire. En fait, les conditions d'accès à la Snec nécessitent un capital de départ difficile à réunir pour la moyenne des ménages (le tarif du branchement pouvant inclure le prix d'extension du réseau jusqu'au domicile prohibitif et non assumé par la compagnie nationale).

Cette question du prix est la raison principale du mécontentement de la population vis-à-vis d'elle (42 % des 75 % de mécontents de la Snec invoquent les tarifs pratiqués, les pratiques de piratage et du système de compteurs divisionnaires étant d'ailleurs de notoriété publique).

Mais la tendance à vouloir améliorer ces conditions d'équipement en eau passe de manière encore incontournable par l'abonnement à la Snec (d'ailleurs, 18 % des ménages mécontents de la Snec ne disent-ils pas qu'en tout cas ils « n'ont pas le choix » que d'en accepter les imperfections).

Ce qui entraîne les ménages à ne pas changer de mode d'approvisionnement

changer de mode d'approvisionnement dans un contexte de crise économique, c'est d'une part un contrôle de l'eau à l'intérieur du ménage (on ferme certaines arrivées d'eau dans la maison pendant la journée, y compris les chasses de certaines toilettes, on mixe les modes d'approvisionnement (9 % des ménages), mais également l'accès gratuit à l'eau potable des bornes-fontaines publiques de la ville. L'enquête ne révèle d'ailleurs pas que les habitants de Bamenda utilisent un service payant de transport de l'eau à domicile qui épargne notamment à ceux qui se trouvent éloignés des bornes-fontaines (50 %) une attente parfois longue aux heures de pointe (début de matinée et de soirée). En moyenne, le coût de ce service est de 100FCFA.

L'existence de ce service peut être en particulier compris au constat des 50 % de ménages du quartier Alamatou, totalement exclu du réseau Snec, mais qui précisent que l'eau qu'ils consomment est potable puisque justement elle en provient.

Ainsi, à Bamenda, la proportion de la population desservie en eau potable constitue une large majorité sans affirmer pour autant que le niveau d'approvisionnement est suffisant (en moyenne, la quantité d'eau quotidienne par personne est estimée à 24 litres, loin des 45 litres reconnus nécessaires par les institutions sanitaires internationales)

Il n'empêche que ce thème de l'approvisionnement en eau potable est l'objet de passions qu'attisent donc en particulier la contrainte économique imposée par l'accès à la Snec, l'absence de politique commerciale de cette société (31% de ménages insatisfaits de la Snec pour « service mal rendu ») que d'aucun peuvent interpréter comme un chantage sur un bien abondant par un service public en situation de monopole, mais également par une mauvaise information et connaissance des populations concernant le prix de l'eau (les habitants ne « reconnaissent » pas les charges diverses qui forment le prix moyen de 265 FCFA/m³ pratiqué par la compagnie).

De surcroît, la perception de la Snec comme institution francophone représentant un État devenu unitaire en 1972, dans un milieu héritier du mandat britannique (et de ses pratiques), ajoute au souhait de la population d'opter pour des systèmes d'adduction d'eau communautaire (36,7 % des réponses en faveur d'un tel mode, volonté d'autonomie

exprimée comme première solution alternative à la situation actuelle dans 9 quartiers sur 10). Les ménages ne seraient pas récalcitrants à payer pour de telles installations y compris à travers le système fiscal puisque 23,8 % des réponses sont favorables à l'idée de la mise en place d'une taxe locale dont l'objectif serait d'augmenter le taux de desserte des ménages en eau.

On peut conclure de prime abord qu'en dépit de la gratuité du fait de l'approvisionnement collectif en eau contrôlée (le non paiement de l'eau aux bornes-fontaines est un cas demeuré unique au Cameroun depuis leur privatisation en 1994, et seuls 15 % des ménages de Bamenda reconnaissent que c'est à l'habitant de payer l'eau aux bornes-fontaines au Cameroun !), et de la somme modique nécessaire pour l'acheminer jusqu'au domicile des ménages, les populations restent influencées par le système d'approvisionnement autonome et communautaire.

Les exemples alentours de la possibilité d'implantation de tels réseaux, notamment gravitaires, font que cette solution satisfait à la fois le souci d'économie des habitants (un droit d'accès, même et surtout au niveau d'un raccordement privé, à de tels réseaux « d'abondance » n'atteindrait jamais le montant nécessaire au branchement et à l'utilisation de la Snec) et la revendication politique des natifs du Nord-Ouest à un relâchement de ce qu'ils considèrent comme une néo-colonisation du Cameroun francophone.

Pour séduisantes qu'elles apparaissent, les conséquences d'une telle solution en particulier sur le plan de la gestion et de la maintenance des réseaux, sont-elles clairement appréhendées par la population ? Une exploitation plus poussée des résultats, renforcée par des investigations au sein des comités de gestion des systèmes d'adduction communautaires en place, devrait nous éclairer sur la viabilité d'une telle option.

Les chiffres recueillis traduisent en tout cas que la population de Bamenda est plus « gênée » par le système de desserte en eau actuel que réellement dépourvue de modes d'approvisionnement. Sensible à la qualité de l'eau proposée par la Snec, elle aspire cependant à un approvisionnement étendu que sa non-identification culturelle et politique à la société nationale lui laisse entrevoir dans l'implantation de réseaux communautaires

autonomes.

Il s'avère ainsi nécessaire de favoriser les rencontres au minimum entre usagers et responsables de réseaux communautaires, responsables de la santé de la commune et techniciens du MINMEE et de la Snec pour, dans un premier temps dépassionner le sujet de l'eau potable et surtout discuter sur les atouts et carences techniques (traitement inclu) des solutions d'approvisionnement alternatives à la Snec (problème d'amortissement des réseaux communautaires, condition d'aménagement des sources dans le quartier...).

Cela peut se réaliser sous l'égide des associations de développement impliquées dans l'appui à des projets d'adduction d'eau sans penser pour autant à formaliser complètement ces rencontres. Il faut habituer les gens à se connaître avant que les organisations de tutelle ne soient contactées et impliquées difficilement dans une plus large concertation.

Provincial Delegation of Health Bamenda and Bamenda Urban Council

DRINKING WATER IN BAMENDA URBAN TOWN

By Alfred Nukuna, Principal Health Technician, Provincial Chief of Bureau Hygiene and Sanitation

Introduction

There is a range of environmental problems facing Bamenda Municipality. These problems include: waste disposal problems, drainage problems, water pollution problems, housing problems, diseases problems, high population pressure problems, lack of awareness of the community problems. All of these constitute health problems. We agreed that water is life.

Which water is life? Potable water of course...

The public Health through its preventive and curative measures takes care of the health of the population. Consequently, it has one of its duties to see to it that potable water is made available to the population to reduce those health hazards associated to contaminated water. In the light of the above, we have to examine the sources of water supply in Bamenda Urban town.

Sources

In Bamenda Urban town as in any other Urban town in Cameroon, her source of water supply is the Sniec treated (potable) water but unfortunately this potable water does not reach or is not accessible to all the people. Consequently, the people are bound to turn to other sources for their drinking water e.g.

- Springs - Abangoh and Atuazire.
- Streams - Runs through several quarters / towns Ayaba water, Mezam River, behind Travellers.

- Well - (contaminated with faeces from latrines). Mostly found in the old town.

- Rain water - Polluted air, collection may be done in dirty containers and collection from dirty roofs.

Water that is collected from these sources are unsafe and calls for a need for some measures to be taken to reduce the health risks.

Causes of contamination

• Human activities such as:

- construction of buildings on the water bed;

- farming along the water side, which causes not only water pollution but also erosion;

- poor methods of water collection, handling and preservation in the home;

- refuse disposal in streams (dead animals sewage);

- bathing in streams, urinating and some time pass out excreta;

- animal husbandry at the source.

• Consequences of drinking contaminated water

The following diseases may be contacted through drinking contaminated water although unwashed fruits could be a contributing factor:

- diarrhoea: frequent watery stools;

- dysentery: mucoid stools mixed with blood (stomach ache);

- typhoid fever: persistent fever, stomach ache, frequent stools.

Some table over leaf for some data about Water Born diseases collected from two (2) health units, in Bamenda Urban Municipality for the periods of three months in 1996 and same three months for 1997.

The rising rate of the diseases seem to suggest that Sniec treated water has

STATISTICAL DATA FOR WATER BORNE DISEASES OF TWO HEALTH UNITS IN BAMENDA MUNICIPALITY FOR 1996/1997

Health	Diseases	Deaths	January	February	March	April
COM	Diarrhoea	-	38	15	12	15
Bamenda & Provincial Hospital Bamenda	Typhoid	-	34	-	-	-
	Dysentery	-	11	4	3	-

SAME FOR 1997

- do -	Diarrhoea	13	27	18	16	-
	Typhoid	2	38	48	51	51
	Dysentery	-	14	7	7	-

not reach more of the people of the community or high population pressure or high water bills which some of the people can not afford are all contributing factors.

Lack of awareness of the community on their negative attitudes towards environmental practises of hygiene and sanitation is indispensable. Therefore some measures need to be taken to reduce the health from contaminated or suspected water.

Measures

- Good sanitation to be maintained at the water supply source (no human habitation).

- Protect source from stray animals, children and men.

- The top of well should be constructed in a way to prevent inlet of any sort of surface water.

- Boiling is imperative in a clean container for at least 20 minutes duration.

- Seive using a clean piece of cloth. Be careful during this process to avoid introduction of new germ into the water.

- Provide drinking water utensils with well fitted covers in the households.

- Wash these containers and change water frequently.

- Keep aside a clean cup for distribution of potable water.

Conclusion

Boiled, water reduces the risk of infection, save time, money and lives.

NATIONAL POLICY ON POTABLE WATER ROLE OF THE DELEGATION OF MINES, WATER AND POWER IN IMPLEMENTING THIS POLICY

By the Provincial Delegate by interim of Mines and Power

One of the prime objectives of government is the provision of potable water to the population. Obviously one would like to know how the government organises itself to realise this objective.

Government has put into place organizational structures: the Central Administration, the Ministry of Mines, Water and Power.

The potable water policy of our government is elaborated and implemented by Minmee. The departments of Water and Rural Hydraulics elaborate government policy pertinent to the provisions of potable water to urban and rural areas.

These include:

- formulation of policies and strategies on the supply of potable water in urban and rural areas;

- management of water resources;

- supply of potable water to urban and rural areas.

To achieve its objectives, the Department of Water has been sub-divided into departments.

- *Section for studies and normalization which is in charge of:* elaborating legal texts governing the sector; elaborating plans, programs and projects on water supply schemes; defining and publishing

norms on the quality of water; assisting in studies for the fixing of price of water.

♦ **Sub-department of management of water:** inventory and protection of water resources; technical control of exploitations of concessions; control of the respect of rules and regulations on the usage of water; fixing prices of water for non-domestic use.

♦ **Sub-department in charge of water supply schemes:** apply programs for water supply schemes in urban areas; apply programs for rural hydraulics; control and maintenance for water supply installation.

♦ **The Provincial Delegate of Minnee:** he implements the potable water policy elaborated by the departments of Water. To this effect each provincial delegation of Minnee has a service that oversees the implementation of the governments potable water policy at the Provincial level.

The service of water is charged with :

- the collection of basic data necessary for the establishment of all water supply programs to towns and villages;

- supervision of the construction of water supply schemes in towns and villages that have benefited from relevant government funding;

- technical control of the exploitation of rural water supply schemes with a production capacity of at least 5 m³ / hr that have been constructed by third parties;

- the evaluation of the quality of potable water.

- provincial section of Rural Hydraulics which is charged with the execution of all Minnee's rural potable water supply programs at the level of the province, and the control of the construction of rural potable water supply schemes that are funded by government.

To this effect, the Provincial Section for Rural Hydraulics carries out studies on rural supply schemes, which studies culminate in the production of technical drawings and cost estimates (bill of quantities).

These studies are done at the request of village communities. Such studies could either be forwarded to Minnee for incorporation into its annual rural water programs, or used by the respective village communities to apply for aid from funding agencies.

To render the provincial Section operational, it is sub-divided into:

- the implantation, development and testing brigade.

- brigade for the construction of well, bore holes and other types of rural potable water supply schemes;

- brigade for the installation and maintenance of pumps and relevant works.

♦ **Urban water supply schemes:** these schemes have been built under government supervision and paid for by the government, quite often with obtained from donor government. Sniec is the State company that manage these urban schemes.

The Provincial Service controls the exploitation of these schemes, which belong to government, but are operated by Sniec. The purpose of control is to insure proper maintenance of equipments and to ensure that the quality of the potable water found in urban areas meets international norms.

♦ **Divisional Services of Mines, Water and Power:** their function is to oversee the implementation of government policy at the divisional level, as directed by the Provincial Delegate of Mines, Water and Power. To this effect, such services may be requested to:

- effect feasibility studies on some rural water supply schemes;

- oversees the construction of some rural water supply schemes;

- oversees the exploitation of some rural water supply schemes;

- etc.

EXPOSER ON NKWEN WATER SUPPLY PROJECT ON THE OCCASION OF WATER AND DRAINAGE

By Mr Afuoti Mark, DAC Member

♦ Originality

The conception of the project was by a village son and at the same time a Community Development Worker in the area. Work actually began in 1990. Source of water supply was by gravity from Ndzah village, a neighbouring village to Nkwen.

♦ Contact

First contact was made by the initiator who met one Tamia Joseph Tala, who then involved Mr Zachary Suh Ndifor, Mr Tabé Awambeng Ngu Marcellus and Mombe John, who eventually formed an adhoc committee through the advice of the Community Development worker, in the person of Afuoti Mark. The second contact was now the Department of Community Development who was consulted for further advice as to whether the proposed project would be feasible or not.

♦ Community awareness

The strong man adhoc committee then went to the Nkwen Fon's Palace, where they contacted the Quifon and the Fon. These two important personalities then had to involve Traditionnal Council, the Village Development Committee and all the quarter heads for more publicity.



◆ *Water project committee*

The project committee which involved representatives from all the corners of Nkwen was put in place to careter for the smooth functioning of the project.

◆ *Project planning*

The planning for executive involved the CD Department, the Fon, the Quifon, the quarter heads and the Tekembeng.

◆ *Feasibility studies*

This was carried out from 1989 to 1990 by CD technicians.

◆ *Cost estimate for the project*

The total cost for the project stood at 40,000,000 (forty million) francs since it had to cover over six kilometers to reach the consumers. After the cost estimate the following levie contribution was arrived at: men = 5,000 frs and women = 2,000 frs.

◆ *Funding bodies assistance*

In order to realise the first phase of the project, the following funding bodies assisted with the below amounts:

- Mines and Power: 4,000,000 frs
- BUC: 4,500,000 frs
- Prodec: 4,000,000 frs
- Total: 12,500,000 frs

The balance of 27,500,000 frs was the people's contributions both kind and cash.

◆ *Problems*

Like any other project, Nkwen Water Supply Project is not left out. As a matter of fact, the below problems are encountered.

- no incentives to the caretaker;
- in proper functioning of the public Stand Taps;
- many quarters are not benefitting from the network.

With the able assistance of the Fourmi Programme now existing in Bamenda, there are hopes for future extension as the Fourmi, so far began in two quarters, namely Ntambang and Mankateken respectively.

◆ *Sustainability/maintenance*

In order to sustain/maintain the Nkwen Water Supply Project, the following maintenance levies were set aside to sustain the project:

- Private connection pay: 38,000 frs.
- Compound heads pay: 500 frs quarterly.
- Adults pay: 200 frs.

Individual connectors pay: 2,500 frs annually.

Primary school children pay: 25 frs.

Secondary school students pay: 100 frs.

Health centre pay: 10 frs/consultation.

Big Missions pay: 25,000 frs annually.

Other industries, to be determined in a general assembly meeting.

There is a Water Maintenance Committee (WMC) put in place to careter for the continuous flow of water.

MANAGEMENT OF HYDRAULIC WORKS IN URBAN AREAS AND ITS ENVIRONS, THE CASE OF KIGALI (RWANDA)

By Mrs Dameni Oussematou, founding President IDF

Introduction

We wish to share with you the experience of the dispositions taken by the authorities of Rwanda in order to alleviate their potable water supply problems. Four major problems were identified:

- an uncontrolled demographic growth not considered while putting in place the water network;
- a poor technical and financial management of the water supply network;
- a lack of maintenance;
- the unadapted institutional set-up.

We will see together the solutions that were taken based on the specific case of Kigali, the Rwanda Capital. Kigali is a city with 250,000 inhabitants in 1994 almost demographically matching Bamenda city with 200,000 inhabitants. We will concentrate on the institutional set-up given the limited time we have. However our offices remain opened to those of us who would want to know more about the topic.

Description of the water network in the urban and peripheric areas

◆ *Urban: Kigali*

There are two networks. The principal network comprises of:

- supply taken from source to treatment centre by gravitation;
- treatment centre equipped with sand sifter and accessories;
- a pumping system towards the distributing reservoir;

- principal out let to serve the neighbourhoods;

- secondary distribution system to individual and industries.

The secondary network gravitation integrated in the principal network.

- water captage?
- principal channeling of water towards the Tank;

- secondary distribution to individuals.

Harnesed sources and non-harnesed sources. Public water taps installed by the United Nations programme.

◆ *Peripheric*

The network covers eight localities or councils serving about one million inhabitants. This network comprises:

- source from lake mugesera;
- a pumping system up to the distribution centre;
- a treatment centre with sand sifter and connexe;
- pumping system up to the reservoir;
- principal and secondary outlet;
- public taps;
- few private connexion with special permission from the ministry in charge with the council.

A short history of the installation of water supply system/fonctioning body/working system

◆ *Peripheric*

During the colonial time, the Belgian Ministry put in place a Fund for the Well being of indigenes (FBI). This was to:

- supply the socio-sanitary centres with water;
- create water sources;
- dig wells in dry regions.

In 1964 the (FBI) was replaced by the AIDR (International Association for Rural Development) which was an NGO of Belgian legal framework. This was to:

- increase the network;
- continue the programme of creating water sources, wells;
- maintenance of the water supply system in the peripheric.

Water was free and the state paid it from its budget. All moneys made by AIDR was to pay the equipment, material, recruit and train personnel.

◆ *Urban area*

The Regideso (Water network) was charged with potable water supply in

urban centres during the colonial period up to 1973. It was also this state corporation that was charged with the distribution of electricity by 1966. Regideso extended its activities to Burundi and after independence in 1962, each of the two countries adopted its own unit.

In 1973, a corporation (Electro Gaz) charge with distributing electricity gaz and water was born. It enjoyed a monopoly in urban areas. This corporation inherited all the equipment and personnel from Regideso and benefitted from retroactive credits from the state. Their loans were of low interest equal to the donor conditions. Electro Gaz fixed its prices in consultation with the state.

♦ *Quality of the services rendered by Electro Gaz and AIDR*

Although the difficulties encountered by AIDR and Electro Gaz were exposed as time went on, it was in 1976 that the situation really went off-hand. Why so?

1. The water equipment had been increased in number and in extension and required a proportional increase in the functioning and production budget.

2. The population benefiting from Electro Gaz services suffered a demographic growth which was unparalleled to the strength of the corporation.

3. Water shortage was evident and worse still it came to the population untreated.

4. Water pumps were dilapidated water station and reservoirs broken down, the pipes and connections became unsustainable.

5. Trained staff being frustrated began to abandon work.

6. Electro Gaz, who was not receiving subventions from the State, became unable to recover its debts, its debtors fell bankrupt. The AIDR continued to receive State subvention late and reduced but continued to serve water free.

7. The stage became hostile for Electro Gaz as it could not meet up with its obligations.

In urban and peripheric milieu, no educational structure existed to inform people about the notion of common good and no punitive measure was taken to curb vandalism on the water network. In this situation, the population had to return to the streams with all the health risks. There was no new investment. In order to alleviate this problem, it was imperative to

conceive new ideas, acquire new equipment and new investment, new technical and financial management and a more adapted institutional management.

New orientation

Given the bitter experience and with the proclamation of the decade of potable water (1980-90), the Rwanda Head of State proclaimed the year 1981 as the *Rural Water Supply Year* in the whole of Rwanda whose objective was to supply water to all Rwanda before the year 2000.

In order to achieve this goal, two actions were carried out.

♦ *Clarification of the new orientation*

- Get population to participate in their water supply.

- Develop a spirit of solidarity among the beneficiaries of water services.

- Define clearly the role of each actor.

♦ *Sensitisation campaign*

- Seminars for all actors involved in water issues.

- Meetings with donors to get them support the new approach.

- Meetings of NGOs and others in the sector in order to adopt new strategies.

♦ *Contact results*

Recommendation and decisions of all meetings provided as follow.

♦ *Semi-urban milieu*

- *The State:*

The State has to create a service which must elaborate strategies and programmes for the water sector: management, supervision treatment and handling of water equipment. The State must go out for new

funding in order to create new infrastructure and renew old ones for the rural councils.

- *Council:*

All equipment in the semi-urban areas should belong to the councils territorially competent. The council should mobilise the population and offer them the framework to manage their own water.

- *Population:*

The population must participate financially or in kind in water supply management and maintenance.

- *NGOs:*

The NGOs and other operators must develop programmes to sensitise the population on the new water management approach.

♦ *Urban milieu*

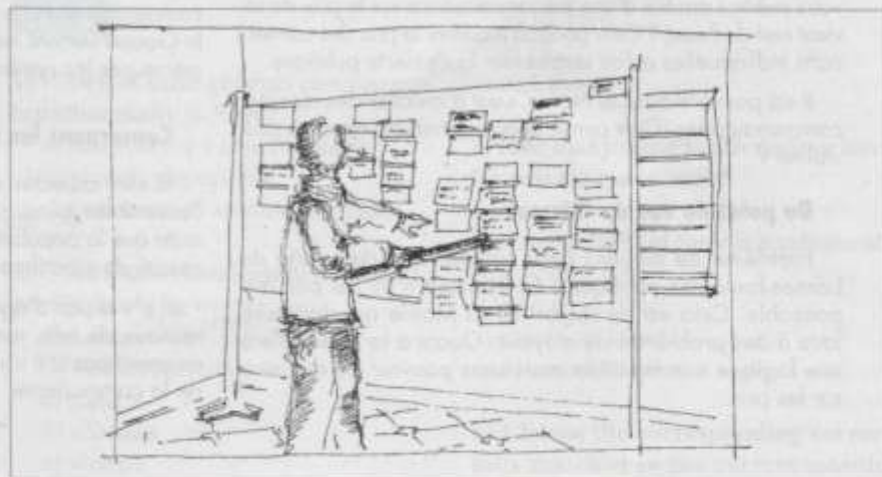
- *Electro Gaz:*

The Electro Gaz corporation must continue to serve the urban areas with water and adapt its rate to living standards and according to the reality of the milieu.

Conclusion

From the experience we have seen on failure in water supply, the Rwanda authorities were obliged to redefine the new water supply system involving especially the beneficiaries in the management of their own water. Equally, local authorities, private corporation, NGOs were involved.

It is a model which had not proven its worth but remained ambitious. It can inspire actors involved in the development of potable water sector but getting in their mind that socio-politico and economic constraints always require original solution. ■

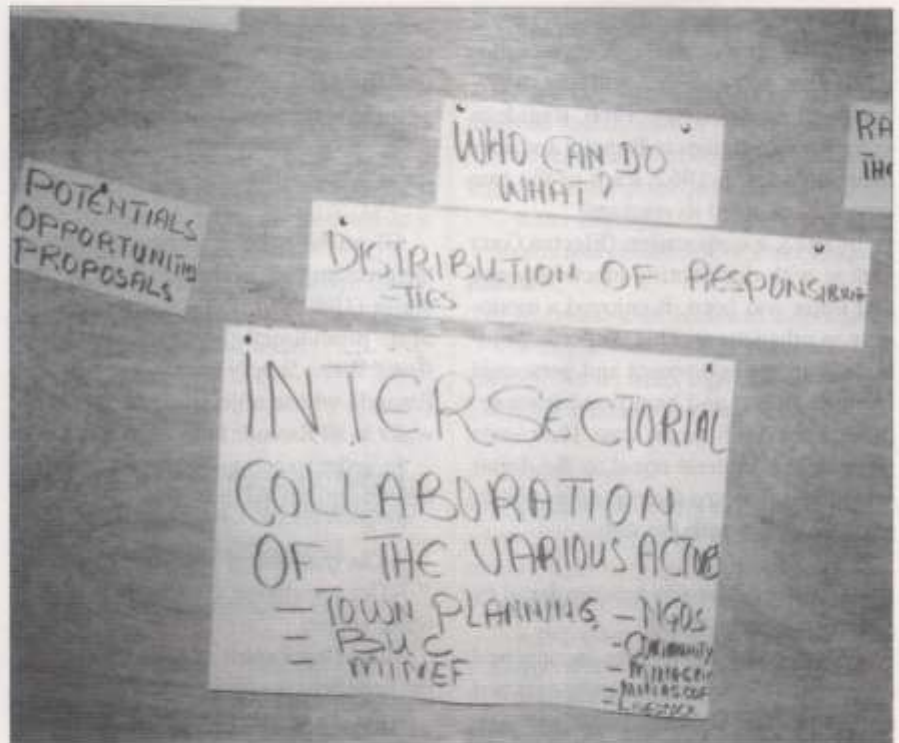


Dinner debate

AFTER THE RESTITUTION of the deliberations of the working group by the moderators, the participants bring some precisions, some complements or questions.

The following four recommendations are made:

- ♦ that a report on the forum activities, debates and conclusions should be set up by IDF and Gret dispatched to the participants;
- ♦ that the forum should be progressively institutionalized for instance as a permanent committee gathering repre-



sentative of all concerned actors;

- ♦ that below IDF, stimulation in collaboration with forum participants' sensitization of the masses and institutions should be organised regular meeting in

1998 to shape the objectives and running conditions of this committee on the mid term;

- ♦ that IDF should host in its office the planned meeting. ■

RÉSUMÉ DES DÉBATS DE L'ATELIER N° 2

Du point de vue des usagers

La politique globale de l'eau ne répond pas à la demande malgré un monopole de la Snec. Pourquoi ?

Pourquoi faudrait-il payer l'eau à un prix hors de portée des ménages alors que nous pensons que l'argent public existe (problème de confiance des usagers vis-à-vis des pouvoirs publics doublé d'une méconnaissance sur le prix de revient réel de l'eau) ? Cela pourrait modérer le prix des connexions individuelles et/ou augmenter la desserte publique.

Il est possible dans le Nord-Ouest d'installer des réseaux communautaires. Que pense le gouvernement de cette possibilité ?

Du point de vue du Minmee

Problème de moyens pour satisfaire la demande de bornes-fontaines publiques. Le Minmee n'en est pas responsable. Cela est du ressort de la Mairie qui doit faire face à des problèmes de moyens. Quant à la Snec, elle a une logique commerciale mais sans pouvoir de décision sur les prix.

Pour avoir une eau potable, cela demande des investissements qui ont un coût. L'État ne peut l'assumer seul. Il demande la participation des habitants (exemple de Scan water).

Le Gouvernement s'inquiète de cette possibilité d'approvisionnement privé qui ne tient pas compte de la nécessité de traiter l'eau surtout en zone urbaine. Il faut de plus éviter une compétition entre systèmes d'adduction en ville à moins que le Gouvernement ne décide d'attribuer des concessions lui-même par les systèmes alternatifs à la Snec.

Concernant les réseaux privés

Si des collectes sont réalisées selon un tarif décidé par l'assemblée générale dans le cadre des réseaux privés, il reste que la population n'est pas du tout sensibilisée à la nécessité de contribuer au paiement de l'eau.

Il n'y a pas d'agent du Minmee qui vienne inspecter les réseaux de telle sorte que le Minmee ne les connaît pratiquement pas et il n'y a pas non plus de demandes de la part de la communauté.

IN THE SAME TIME AS WORKSHOPS, we had envisaged a certain number of game or sporting activities that could in their turn unveil aspects of information or sanitization in a different way on water and drainage topics.

Snec had prepared for us several quizzes made up of a series of quite touchy questions so as to simulate competition aimed at helping participants to acquire useful knowledge in order to better tackle these topics afterwards.

Local DAC or NGOs had come together to create shows (sketch or play), entirely written and performed by themselves in view of transmitting ideas that seemed significant in the fields of water and drainage. A drawing competition had been organized in many local schools still on the same topics in order to incite massive participation of pupils and their teachers who had kindly accepted to take part in this pedagogical practice. Finally, a foot-ball match between two DAC teams had given the opportunity to seal solidarity among players in a friendly competition.

En parallèle avec les travaux en ateliers, nous avons prévu un certain nombre d'activités culturelles ludiques ou sportives qui devaient apporter des éléments d'information ou de sensibilisation de manière différente sur les thèmes de l'eau et de l'assainissement.

La Snec avait préparé plusieurs quizz composés de questions assez pointues, devant aider les participants à acquérir des connaissances utiles pour mieux aborder ces sujets par la suite.

Les CAD ou les ONG locales s'étaient regroupés pour créer des spectacles entièrement écrits et interprétés par eux, pour faire passer les messages qui leur paraissaient importants concernant l'eau et de l'assainissement. Un concours de dessin avait été organisé dans plusieurs écoles de la ville sur ces mêmes thèmes, pour susciter la mobilisation des enfants et de leurs maîtres qui avaient bien voulu se prêter à cet exercice pédagogique. Enfin, un match de football entre deux équipes de CAD a eu lieu pour sceller la solidarité des joueurs dans une compétition amicale.

Quizz

N° 1

- 1) The water meter from Snec is:**
 - a) the customer's property
 - b) the public property
 - c) rented by Snec to customer
- 2) How many days do you have after delivery to pay your water bill?**
 - a) 5 days
 - b) 10 days
 - c) 15 days
 - d) 1 month
- 3) A social tariff of Snec is a volume of:**
 - a) < or = 15 m³
 - b) < or = 10 m³
 - c) > or = 15 m³
 - d) > or = 20 m³
- 4) Choose the corresponding correct bills matched to the correct months below:**
 - 96120 = February 1961
 - 97120 = December 1997
 - 95010 = October 1995
 - 96020 = February 1996
 - 93020 = March 1992

5) Choose two chemicals below used to purify drinking water:

- a) fodine
- b) aluminium sulphate
- c) alcohol
- d) chlorine
- e) vinegar

N° 2

- 1) Which of these charges can you pay installmentally to Snec?**
 - a) cost free for a new connection
 - b) security deposit fee
 - c) settlement of accumulated bills

2) Choose two chemicals below used to purify drinking water:

- a) fodine
- b) aluminium sulphate
- c) alcohol
- d) chlorine
- e) vinegar

3) What actions below can be undertaken on your water meter?

- a) report any dirty meter to Snec office
- b) break the glass of meter to read well
- c) any body can intervene on the meter for repairs

4) How many Snec water treatment station or plants are there in Bamenda?

- a) 1
- b) 2
- c) 3
- d) 4

5) The water meter from Snec is:

- a) the customer's property
- b) the public property
- c) rented by Snec to customer

N° 3

1) What actions below can be undertaken on, your water meter?

- a) read your meter monthly
- b) report any dirty meter to Snec office
- c) break the glass of meter to read well
- d) any body can intervene on the meter for repairs

2) The water meter from Snec is:

- a) the customers property
- b) the public property
- c) rented by Snec to customer

3) How many days do you have after delivery to pay your bills?

- a) 5 days
- b) 10 days
- c) 15 days
- d) 1 month

4) How many water tariffs do Snec have for private consumers?

5) A social tariff of Snec is a volume of:

- a) < or = 15 m³
- b) < or = 10 m³
- c) > or = 15 m³
- d) < or = 20 m³

6) Choose the corresponding correct bills matched to the correct months

below:

- 96120 = February 1961
- 97120 = December 197
- 95010 = October 1995
- 96020 = February 1996
- 93020 = March 1992

7) Choose two chemicals below used to purify drinking water:

- a) fodine
- b) aluminium sulphate
- c) alcohol
- d) chlorine
- e) vinegar

8) Give two differences in the purification of water between Snec pipe borne water and alternative source of water

9) Give the name of two locations of Snec water reservoirs in Bamenda

10) Give two causes for the coloration Snec pipe borne water

11) What is the percentage of consumption through public Stand Taps of Snec water production in Bamenda Town?

12) In which of the two towns below in the North-West province, consumers pay to collect water at the stand tap:

- a) Jakiri
- b) Nkambe
- c) Batibo
- d) Mbengwi
- e) Bamenda

13) Which of these charges can you pay installmentally to Snec?

- a) cost free for a new connection
- b) security deposit fee
- c) settlement of accumulated bills

14) How many Snec water treatment station or plants are there in Bamenda?

15) Give the name of the location of the former treatment station run by the Delegation of Mines, Water and Energy in Bamenda before the arrival of Snec

16) Give the name of the Water Dam which supplies water for treatment in Bamenda

17) Name the rural water schemes

around the Bamenda urban area

18) Who is in charge for the payment of the water bills for the Public Stand Taps in Bamenda?

19) How many Pay Stand Taps are operational in Bamenda at the moment?

20) Where on the Snec meter can you find the meter number?

21) What is the most important information on a Snec water bill?

22) To pay the security deposit to:

- a) cover your unpaid bills during cancellation

- b) cover your application as a Snec customer

23) What can cause shortage of water supply to customers?

24) How many meters can be installed on a diameter 20 mm connection?

25) How many (maximum) water meters can be installed on a diameter 40 mm pipeline connection?

26) Snec bills' tariffs are:

- a) uniform all over the national territory
- b) different at various areas of the National Territory ■

Sketch

Presented in pidgin English so as to attain the widest target population, the play seeks to point out the consequences of indiscriminate waste disposal.

It is a bright morning shortly after a clean-up campaign. The streets are clean but for heaps of garbage dotting street corners. Two friends, Innosabi (Gizlu) and cleanman (Nyanga boy), comment on the clean-up campaign and observe that clean-up campaigns should be organised quarter by quarter so that council trucks can be mobilized to effectively clear whatever garbage that is gathered.

The two meet a market girl and buy bananas from her. While Nyangaboy puts his peelings into a waste basket provided by the market girl, Innosabi throws his on the road and the gutter. Despite Nyangaboy's rebuke and plead that Innosabi pick the peelings, the latter refuses and insists that it is the duty of the council to sweep the streets and clear the drains. He later turns down an invitation to attend a lecture on water borne diseases and malaria. Nyangaboy leaves for the lecture. Innosabi stops a taxi. As he moves to board it, he slips on a banana peeling and falls sustaining bruises and a sprain on his right hand.

The taxi driver is taking Innosabi home and arrives at an earth road which has po-

tholes and gullies running across it at several points. The driver notices that the drains by the sides of the road have been blocked by garbage. The bridge getting into Innosabi quarter is poorly constructed with rotten planks. He advises Innosabi on what his quarter can do to solve the drainage and bridge problem. He talks about the Fourmi programme, Gret and the IDF.

Two days later, we find Innosabi in bed seriously sick. His sister -Shenoknow (Bongfen) brings in a native Doctor -Mallam Okwab. The Mallam divines that Innosabi has stepped on a dangerous medicine because he is going out with another man's wife. He demands 350,000 frs as fee for him to treat Innosabi. As he leaves promising to start work when the money is paid, Nyangaboy comes in and question why Innosabi has not been taken to hospital instead. He goes and brings Dr. Sani. Dr. Sani diagnoses Innosabi for malaria and high fever. He observes that the stagnant drains around Innosabi's house provide good breeding ground for mosquitoes which transmit malaria.

He questions how a bad medicine stepped on instead cause a sprain on somebody's hand. The only other source of water apart from the contaminated streams are poorly constructed wells. This water problem, Dr. Sani observes account for

the rampant cases of typhoid and other water borne diseases prevalent in the area. Innosabi wonders how something as small as a banana peeling could bring him so much suffering. Dr. Sani once more talks of Gret, IDF and the Fourmi programme which can help the quarter solve some of its water and drainage problems. He cites the PMI Nkwen as one of the numerous achievements of Fourmi programme through Gret he acknowledges that something as insignificant as a banana peeling can cause ones death.

Of course, the lesson has been learnt the hard way. The message goes through and to follow Dr. Sani's advice and give their quarter a face lift. ■



SKETCH

ACTEURS

Innosab Tighi Fon Christian Ndeh
 Cleanman Nganga Boy Christopher Ngang
 Schenoknow Bonfen Prudence Saningong Neh
 Market Girl cos Salley Maforchi Mboumien
 Taxi Man Yulius Mfone
 Mallam Okwab Zama
 Dr. Sani Fon Nsoh

AUTEUR Christopher Ngang

METTEUR EN SCÈNE Christopher Ngang

STRUCTURE Cominsud
 (Community Initiative for Sustainable Development)

Théâtre « Witch Wata »

PROLOGUE

Enter two town criers:

1st town crier: Make wona hear. Make wona hear for wona ear make i no go down for wona belly pass throw wona shit hole. Make wona hear for wona ear make i enter wona belly climp for wona head.

2nd town crier: Frog no di run day time except something dey for i back.

1st T.C.: One hand no fit tie bundle.

2nd T.C.: Na condition make jaga i back bend.

1st T.C.: Them no di tell mumuh the time wey market di close.

2nd T.C.: Pot wey i dirty no di stay for burn chop.

1st T.C.: Na belly wey i bad di tie gas.

2nd T.C.: The thing wey i di smell no fit lack fly.

1st T.C.: If snake no bit you, you no fit see i canda di run.

2nd T.C.: When house fall, no ask wether i fall with roof.

1st T.C.: Frog like wata but nobi time wey i di boil.

2nd T.C.: The thing wey i do coffee na hi di do kaka.

PART ONE

Head quarters' residence.

Pa Ngong:

The things that are happening in this quarter now are beyond my control. There were not like this during my father's reign.

Mr Elias:

I hear rain has done it again on them. The story in the quarter today is different. The whole of down quarter is inside the sea.

Pa Ngong:

One may just not sleep today (becoming angry)... Soon the whole house will be

THÉÂTRE

ACTEURS

Mr Koti Emmanuel / Pa Ngong Head quarter (Njah Dac)
 Mr Tah Alfred / Mr Elias Landlord (Sisia II Dac)
 Mr Tamsi Alfred / Pa Andre Landlord (Sisia II Dac)
 Mr Moris / Madam Pauline Tenant (Sisia II Dac)
 Mr Tening / 1st Town (Atuakom New Bell Dac)
 Mr Eseke Sema / Mr Pius Officer (Aya Dac)
 Mr Nanh Christ / Stage Manager Aya Dac
 Mr Musa Oumaru Director (Aya Dac)

AUTEUR Musa Oumaru

METTEUR EN SCÈNE Musa Oumaru

STRUCTURE Aya Dac Atuazire

filled with complaints as if the head quarter is the council or town planning and housing. What a people! You di talk man no di hear? This pallaval water, dirty, mosquitoes na things wey, we don nak head there for long. Aha any thing can happen now. I am tired.

Mr Elias:

Tired!!!... (laughing) so you mean to say that dirt will be thrown anywhere now in this quarter, toilets dung on roads, on the water channel completely blocked. I mean if we do not take good care of these water channels to see that dirt is not thrown there, then I am sure that this quarter will be drown one day by flood.

Pa Ngong:

Do you know that some people even drink water from these channels.

Mr Elias:

Ech... don't mention. That thing you call water is toilet drain.

leaves, used condoms, napkins used in cleaning mensis... oh. And you say people boil that type of concoction and drink.

Pa Ngong:

I was told last week when the stream over flooded and entered the carpenter's house that the whole house was filled with dead things. The wife is said to have seen things that cannot be mentioned in the public. Oh township.

Terrible things that were buried are now dumped in the gutters for rain to pass and carry.

A knock at the door.

Enter Pa Andre.

Pa Andre:

So the whole quarter is in trouble and you sit here drinking your toboli eh.

Mr Elias:

Is that supposed to be a new form of greetings.

Mr Elias:

Is he the cause of the rain or is it from him that you obtained your plans to construct carelessly alone the water channel. Is drainage problem in this quarter the sole responsibility of the quarter head.

Pa Andre:

Shree!!! Somebody is crying outside.

Enter mammy pauline.

Madam Pauline:

Water oh, water oh. Water don killy me with my family. The whole house na inside water oh. I don die finish.

Pa Ngong:

Wait madam. Wait now.

Madam Pauline:

I no go wait. All my cargo don go. Na so I go di soffa any year? I beg oh.

Mr Elias:

Madam this problem water na natural calamity no man no make water say water i flow come for you house.

Pa Andre:

Look Mr Elias. You like supporting things that you know. The problem of drainage in this quarter have been caused by us. This woman is right to accuse the authority in this quarter.

Pa Ngong:

She has not accused any authority. Water has entered her house because of the heavy rain today and she is asking help. She is not the only one, many people are suffering this flood every year. So if we can help her, it is our place to decide.

Pa Andre:

By doing what?

Mr Elias:

You like asking foolish questions. Water is in her house and not only water. The dirt things that you dumped in the gutters have all been pushed by rain into her house. The help...

Pa Andre:

Don't be stupid. Do you have a garbage can in your compound? Last week did I not see you with plantain leaves pushing them into that stream.



Pa Ngong:

Yes if you cannot afford to buy Sniec water, the only thing is to carry from down stream and perhaps boil and drink.

Mr Elias:

You mean boil excreter and drink. Not even excreter God forbid. Do you know the things that are thrown in that stream... dead rats, aborted children, plantain

Pa Andre:

Greetings eh. Greetings indeed why would not you talk about greetings. Yes inside here is quite cold and good for toboliquo. But outside there is a boiling pot. I mean a boiling pot. The whole of down quarter is inside a sea. Property has been damaged and households of people flying on water. Yet the head quarter finds peace in drinking white-stuff.

Mr Elias:

But what is bad in that I empty my dirt directly inside the stream not inside the gutters as you do.

Pa Andre:

This man is a dull « bush man » it is those plantain leaves that have narrowed and blocked the water channel. One of the major causes of this flood.

Pa Ngong:

This woman is in trouble. What do we do is the problem?

Mr Elias:

Lets go there and see if we can send the water out.

Pa Andre:

That is a temporary solution. When there is a problem, the first thing is to identify the causes and from the causes we can find befitting solutions which are concrete and long lasting. If not every day that there rain in this quarter, we will have to go out doing one and the same job.

Pa Ngong:

I am tired of this job. The head quarters' work is not to remove dirt and water from houses.

Pa Andre:

That is why we need a good solution to the problem such that the head quarter can have a rest. Look we have three serious and related problems in this quarter. There is the problem of drainage due to the uncontrolled deposition of dirt in the quarter. There is also the problem of poor drinking water especially to the poor and the problem of mosquitoes causing poor health.

Mr Elias:

We have already identified these things but it has not stopped water entering houses.

Pa Andre:

Listen. Identifying problems is not solving them we can not stop this flood in this quarter if we do stop dumping dirt carelessly in the gutters. Again the manner in which people construct houses around water channels is so poor. The channels have been narrowed by walls such that the free flow of water is impossible.

Pa Ngong:

Identifying these problems is easy. The problem is how to solve them. Since the council and town planning have been chopped by bribery and corruption who then will stop people from building carelessly. Oh what a people, what a land, what a generation. Look at that house there near the water channel which have been constructed and the water track directed. What has the council or town planning done? All is to get their red paint to frighten the man and then go back to their offices and wait for more bribe.

Madam Pauline:

Why do we not try this Fourmi programme? I hear they are very much interested in drainage problem and dirt deposition in urban areas.

Pa Andre:

I don't think that Fourmi programme can help us in any way because...

Pa Elias:

Pa Andre allow this women to talk. She has not finished explaining who Fourmi is and you jump up to say it cannot work, what do you know about Fourmi?

Pa Andre:

Me I no dey like you. I dit read and di waka. Fourmi programme can only assist to provide what is necessary to check drainage and dirt deposition. But the actual management depends on the inhabitants of that quarter. I think that what is important is first to sensitize the population about the consequences of flood due to poor drainage system, poor dirt treatment and bad drinking water.

Madam Pauline:

It is true... because if you have a garbage can in you compound and do not use it well, it will empty that the work of Fourmi is of no use. And Fourmi programme cannot come to carry dirt from houses to dump them in garbage cans.

Pa Ngong:

That is another serious problem how to educate and force these people to use garbage cans.

Pa Andre:

We have to form a strong body to take care of this. Any body who goes against

the laws of this body will be sanctioned. Nobody in this quarter can pretend that he is not touched by the poor drainage system. One cannot sleep in the night because of mosquitoes from dirt heaps in the quarter. I think enough is enough. Something must be done now or never.

Pa Ngong:

If that is the case, we will send for somebody from the Fourmi programme to come and enlighten us; we will also form a strong body to take care of drainage, dirt deposition and water contamination in this quarter. This must be done immediately.

PART TWO

Market square (the town people are gathered).

Enter two town criers to inform the people about the arrival of the quarter head and his entourage.

First town crier:

Make wona hear. Make wona ear make i no go down for wona belley pass throw wona shit hole. Make wona hear for wona ear make i enter wona belly climp for wona head.

Second town crier:

Frog no di run for day time except something dey for i back.

Enter Quarter and his entourage facing the town people.

Pa Ngong:

My people, we gather here today for find solution for the problem wey we all know. Many things them don go wrong and today we di suffer from flood, bad drinking water, mosquitoes because of dirty inside quarter. We wata don become na witch wata wey i want chop all man for down quarter. So we invite some people them wey the fit help us from problem. Na people them from Fourmi programme. We go hear for them first.

Mr Pius:

Well I thank wona so much but one good thing wey wona get for know be say Fourmi no get na a magical solution for wona problem. So make person no talk say Fourmi programme don come for my

quarter, my problem i don be solved. You problem can only be solved if you accept it. So Fourmi can only function if you accept it. So the first thing Fourmi encourages is the spirit of togetherness in solving common problems. The second one is participation. The quarter must participate. For example, if Fourmi programme provides a bridge or garbage can and you fail to use it well, it means the garbage can is of no use. So when Fourmi programme provides you must be ready to use it well. If wona accept say make Fourmi programme i come, wona must accept wona own part of the work. Be it financial contribution, maintenance of the project or what. The Fourmi go help wona build bridges, culverts, provide garbage cans and good drinking water. But how does this Fourmi programme function? Fourmi mean Fund for Organizations in Urban areas and Micro-Initiatives. This

money is provided by the European Union. The implementation of its policy is carried out by another group called Gret. That is Groupe de Recherche et d'Échanges Technologiques. This body function through other intermediary organisation such as the IDF - Integrated Development Foundation and others. So it is a whole chain. I thank wona.

Pa Ngong:

Thank you officer Mr Elias too has something to say.

Mr Elias:

Well there is a saying in English that you can take a horse to the stream but you cannot force it to drink water. In this can Fourmi programme has taken us to the stream and we have all accepted to drink water without any exception. To make sure that everybody enjoys this pro-

gramme for the benefit of all; we have to form a strong body called Environmental watch group. The work of this body is to check you and me. If I see you throw dirt into the gutters, I make sure you are reported to the group for immediate sanction. If you see me doing so you make sure I am reported. The body shall ensure that all compounds maintain garbage cans, suck away pit for contaminated water and a drainage system. Any person who wants to construct along the water track must seek approval from this body without which the quarter will not let the house stand. I thank wona.

Pa Ngong:

I think wona don hear and na so i go be.

END

Match de football

Présenté par M. Salifou, ingénieur Génie civil

LE CÔTÉ FESTIF du « Forum Eau et Assainissement » du 29 octobre au 1^{er} novembre 1997 de Bamenda prévoyait une rencontre de football devant opposer les jeunes des CAD avec un trophée en compétition. C'est dans ce cadre que les jeunes des CAD Aya et Feuzong se sont retrouvés au stade de la mission catholique de Big Mankon le 1^{er} novembre à 9 heures pour livrer un match de football.

Tout commence à 9 heures avec l'arrivée de M^{me} Isabelle de Boismenu (Gret,

Paris) qui présidait la rencontre. Après la présentation des équipes, le coup d'envoi est donné à 9 heures 30 minutes.

Les jeunes se lancent dans la conquête du but. Les assauts répétés dans les deux camps conduiront Aya, après une défaillance d'un défenseur de Feuzong, à l'ouverture du score de la partie à 9 heures 40 minutes. Quelques minutes plus tard, les jeunes de Aya vont creuser l'écart en inscrivant le deuxième but de la partie. Mais les jeunes de Feuzong ne vont pas

Concours de dessin

Compétition dans six écoles situées le long du chemin de l'eau. Trois gagnants sur 21 dessins présentés.



se laisser faire. Au moment où on croyait les carottes cuites pour eux, ils obtiennent le chemin des buts par un tir tendu de leur capitaine qui foudroie le gardien du camp adverse, réduisant le score à 2 buts contre 1, score à la mi-temps.

La deuxième partie démarre belle avec un enjeu de taille ; les uns voulant rattraper le score et gagner et les autres cherchant à conserver les acquis et faire plus pour sécuriser la victoire. C'est ainsi qu'à la quinzième minute, Feuzong égalise à 2 buts contre 2. La fatigue se ressent déjà avec beaucoup de maladresses dans les jambes des deux côtés. Mais au moment où on pensait aux tirs aux buts, Aya cloue les jeunes de Feuzong sur le gazon en inscrivant l'ultime but de la partie et c'est à ce score de 3 buts contre 2 que Aya gagne la rencontre contre Feuzong.

Il est à noter que compte tenu des impératifs de temps, la rencontre s'est jouée en deux fois 30 minutes en présence de plus de 400 spectateurs. ■





Le représentant du gouverneur de la Province du Nord-Ouest, empêché, arrive à 11 heures, marquant le début de la cérémonie. Le président de AYA Atuzire prendra la parole, souhaitera la bienvenue aux invités et remerciera GRET et IDF pour leur action d'amélioration des conditions de vie des populations dans la ville de Bamenda et du quartier Atuzire en particulier.

M^{me} Dameni Oussematou, présidente de l'IDF, va dans son discours remercier

tous ceux qui ont contribué à la réussite du « Forum Eau et Assainissement » et inviter les populations à s'unir pour promouvoir le développement de leur quartier qui de ce fait va améliorer leur cadre de vie.

Elle a ensuite fait la restitution des résultats des quatre jours du Forum sur l'eau et l'assainissement à Bamenda où les populations ont fait du problème de drainage leur priorité, ainsi que la restitution du résultat des assises du forum où tous les participants sont arrivés unanimement au fait qu'il fallait une concertation entre les acteurs.

Tous ces discours étaient entrecoupés des présentations très attractives des groupes de danses, rivalisant d'adresse.

Après la remise des prix aux différents lauréats des différents jeux, y compris le trophée de football, le représentant du gouverneur présidant la cérémonie va déclarer clos le « Forum Eau et Assainissement » de la ville de Bamenda qui se termine par un rafraîchissement et une remise des cadeaux au gouverneur, le sous-préfet et Fons à Holiday Hôtel.

THE CLOSING CEREMONY of Bamenda « Water and Drainage Forum » took place at atuzaire bridge on the 1st of November 1997. With nice weather, animation was at top year thanks to some traditional dance groups invited for the event and to the vibrations of modern music. We should note the significant presence of the Director of Alliance Franco-Camerounaise with his wife.

The Representative of the Governor of the North-West Province, who could not come, arrived at 11 h to launch the ceremony.

The President of AYA Atuzire took the floor to welcome the guests and thank GRET and IDF for their action aimed at improving living conditions of people in Bamenda town and of Atuzaire neighbourhood loved in particular.

Mrs Oussematou Dameni, the IDF President, in her address, thanked all those who contributed to the success of the « Water and Drainage Forum » and asked the populations to unite in order to promote the development of their locality that in turn would improve their environment. She recalled the

results of four days' forum on water and drainage in Bamenda where people had established drainage as their priority and the result of the session of the Forum whereby all participants agreed that consultation should exist among actors. All these addresses were followed with very attractive shows of challenging groups of dance.

After the distribution of prizes to different winners in various competitions,

of which the foot-ball trophy, the Governor representative, as the Chairman of the ceremony, declared closed the « Water and Drainage Forum » in Bamenda town that ended with a drinking session and the distribution of gifts to the Governor, the subdivisional officers and to Fons in Holiday Hotel.

La cérémonie de clôture du « Forum Eau et Assainissement » de Bamenda a eu lieu au pont à Atuzaire le 1^{er} novembre 1997. En temps beau, l'animation bat son plein grâce à quelques groupes de danses traditionnelles invitées à l'occasion et les sons de la musique moderne. Notons la présence remarquée du directeur de l'Alliance franco-camerounaise et de son épouse.

A speech by the Economic Adviser to the Governor of the North-West province, Mr Mbamba A Firam William Alphonse

On the occasion of the closing ceremony of the « Water and drainage forum », on the 1st November 1997

- The senior Divisional Officer Mezam,
- The Government Delegate Bamenda Urban Council,
- The Representative of the European Union,
- The Representative of Foreign Agencies,
- Royal Highnesses,
- Distinguished participants,
- Ladies and Gentlemen,

ONCE AGAIN, it is a great pleasure for me to be honoured to preside over the closing ceremony of the « Water and Drainage Forum » which for the past four days, has brought together in the capital city of the North-West province, expert, resident in the province and those from all other corners of Cameroon, as from other countries overseas, to share their rich experiences pertaining to the water and the draining problems in a test locality such as the town of Bamenda.

After four days of intense activity and deep reflexion, we can surely conclude without fear that the outcome is fruitful.

Factually, for four goods, we have not only scrutinised the problems and difficulties likely to be encountered by the

population in an expanding town such as ours, concerning water and drainage, but have likewise, stimulated possible solutions, or, at least raised an alarm to the most crucial ones.

By due consideration of the different categories of the identified problems, it will be worthwhile to duly notify, not only public enterprises and the concerned population, but also other interested parties such as NGOs or international cooperation.

pected solutions. You will agree with me that, once a problem is diagnosed, the remedy follows immediately.

Ladies and Gentlemen,

Come together, like this are useless if they cannot raise the hopes and likewise, meet up with the expectations of our populations. Effectively, in a population where misery is persisting and cannot shun from all the defence mounted against it, in a social context where long



Consequently, I will not hesitate to particularly mention my satisfaction for the great job that has been accomplished in such a record time during these discussions from which the greatest outcome, as I can see has been the diagnostic of current existing problems than the ex-

forgotten diseases seem to be taking vengeance, to be elaborate at the dawn of the third millennium, where at times in the same body typhoid competes from championship with either tuberculosis, malaria or worms, while purchasing power is falling and even vanishing, only solidarity

or precisely, complementary, and the union of all efforts without discrimination with regards to country, race, colour political or religious tendencies, can render more meaning to life such that it could be sound and even for all.

Really, threatened by contamination due to handling, usage or intake of impure or polluted water admits the insecurity danger due to ever mereasing promiscuity insalubrity in our urban localities caused by ignorance or insufficiency of adequate drainage mechanisms, there is no doubt that we are preparing and advancing unrelentingly and slowly, towards a serious disaster which might seriously ruin the harmony in our towns, and as consequence, alter the well being our population, if nothing is done immediately to remedy the situation.

I am here by calling upon the organisers, the experts and personalities here present, to the sponsors and all the participants to activate everything so as to safeguard all what has been transpired amongst you during the sitting, by respecting whole heartedly, to the letter, the outline of the dialogue and discussion so long.

This can only be possible by the strict implementation of the adopted resolutions by a close follow-up and effective presence permanently on the field, by a dialogue which is candid, sincere and without prejudice and by a regular exchange of acquired experiences.

Whatever the circumstances, Ladies and Gentlemen, you can now and henceforth be assured that, the New Deal Government, faithfull to its social and sanitation policy, put it place at the down of the year 1982, which in other words has shown the self-evident truth that man is the alpha and the omega of all development processes, will always be by your side, and you, so as to render water supply and drainage a major preoccupation of our country.

Ladies and Gentlemen,

With regards to the fact that main points that have been treated in the course of this forum shall leave everlasting traces in our city and shall mark the beginning of a new stride, and while wishing you very happy and safe journeys back to your respective destination.

I declare closed, the works of the « Water and Drainage Forum » organised by the non governmental organisations, GRET and IDF, in the town of Bamenda.

Long live international cooperation,
Long live the North-West province,
Long live Cameroon. ■

An address presented by the President of Aya

- Your excellency the Governor of North-West province,
- The senior Divisional Officer Mezam,
- The sub-divisional Officer Mezam,
- The Government Delegate Bamenda Urban Council,
- The Chairman Bamenda Urban Council,
- Honourable Members of Parliament,
- His Royal Highnesses, the Fons,
- Ladies and Gentlemen,

IN BEHALF of the people of Atuazire, I wish to thank you for the tremendous work which you have done during this forum. We all know that Water and Drainage forum has gone into history and

we are proud. Proud because we have identified good solutions towards solving this major aspects of life in other to better our living conditions.

Talking about the closing of the forum today, I prefer to call it the better start of the forum. This is because it is now that we have to put all the identified solutions arrived at during this forum into principal use. Hence this forum should be considered as a means to an end and not an end in itself.

Long live Atuazire,
Long live Cameroon. ■



SYNTHÈSE DE LA RÉALISATION DES PROJETS FOURNI

CS N°	Nombre de projets	Montant	Montant moyen par projet	Nombre de projets	Montant	Nombre de projets	Montant	Nombre de projets	Montant
CS N° 1	21	58 643 251	16 176 100	8	19 542 653	13	39 100 598	0	0
CS N° 2	29	57 577 386	9 742 540	3	14 676 000	25	35 969 144	2	6 932 242
CS N° 3	32	82 870 170	18 536 407	10	34 525 260	22	48 345 495	0	0
CN N° 4	51	177 473 499	16 261 355	10	82 231 992	14	24 319 290	27	70 922 217
CS N° 5	38	101 726 991	12 679 502	6	35 115 298	3	2 916 735	29	63 694 958
CS N° 6	54	194 852 711	20 000 868	0	0	0	0	54	194 852 711
Total	225	673 144 008#	2 991 751	37	186 091 203	77	150 651 262	112	336 402 128

Soit 27,65 %

Soit 22,38 %

Soit 49,97 %



Slogans imprimés sur les tee-shirts du forum

***Come together, water is the matter
Too much water needs drainage
I was there***

Prix : 500 FCFA

ORGANISATEURS DU FORUM

• **AYA**

Musa Omarou Munvi

• **IDF**

Oussématou Dameni
Djia Jean-Baptiste
Yopa Clémentine
Yiagnigni Salifou
Tanken Alphonse
Yombo Ernest
Afouti Mark
Bessen Hilaria
Ngassam Laure
Talla Samuel

• **GRET**

Philippe Acha
Patrick Pélissier
Christophe Hennart
Isabelle de Boismenu