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COLD CHAIN AND LOGISTICS ASSESSMENT/TECHNICAL ASSISTANCE PREPARATION OF THE NATIONAL IMMUNIZATION DAYS (NIDs) AND STRENGTHENING OF THE ROUTINE EPI

Democratic Republic of Congo

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ACRONYMS

BASICS	Basic Support for Institutionalizing Child Survival
EMSI	Electronic Mechanic System Industrial
EPI	Expanded Program on Immunization (PEV/LMTE)
HF	High Frequency (radios)
HZ	Health Zone (ZS Zone de Sante)
ICC	Inter-Agency Coordinating Committee
LIDs	Local Immunization Days
MAF	Methodist Aviation Fellowship
MOH	Ministry of Public Health, Social Affairs and Family
NGO	Non-governmental Organization
NCC	National Coordinating Committee
NIDs	National Immunization Days
OPV	Oral Polio Vaccine
PEV/LMTE	Programme Elargi de Vaccination et de Lutte des Maladies Transmissibles De l'Enfance (see reference EPI above)
SOW	Scope Of Work
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VVM	Vaccine Vial Monitor
WHO	World Health Organization

EXECUTIVE SUMMARY

USAID/BASICS is working closely in the Democratic Republic of Congo (DRC) with the MOH/PEV-LMTE, WHO and UNICEF to organize national immunization days and re-establish routine EPI services throughout the country

In October and November 1997, USAID/BASICS assisted the PEV/LMTE in conducting local immunization days (LIDs) in Kinshasa During the first round in October 1997, children 0-59 months of age received one dose of oral polio vaccine (OPV) and children 9-59 months of age received vitamin A supplementation During the second round, the same target group received a second dose of OPV Measles vaccine was also administered to children 9-35 months of age during the second round

The plan for 1998 is to organize NIDs against polio with a target population of approximately 10 million children To accomplish this task, more than 10,000 vaccination points will be established throughout the country The first round is planned for August 18, 19 and 20, 1998, and the second round for September 20, 21 and 22, 1998

In order to reinforce its technical assistance to the PEV/LMTE, BASICS has sent several consultants to Kinshasa within the last year A resident technical advisor and a local immunization technical consultant have been employed since January The BASICS team is working very closely with the PEV/LMTE team and the NCC for the organization of the NIDs as well as for the strengthening of the routine EPI

Bernard Fabre (in country May 29 - July 13, 1998) assisted the logistics committee (a sub-committee of the NCC) to plan and organize numerous activities for the NIDs (distribution, transport, storage, communications, etc) In addition to these activities, an assessment of the cold chain management was conducted at the PEV/LMTE in Kinshasa The reception of cold chain equipment in Kinshasa and its distribution to the provinces required close collaboration with UNICEF and WHO

BASICS Resident Technical Advisor Dan Nelson and Bernard Fabre had the opportunity to work together for two weeks before Nelson's departure for leave on June 12, 1998 The week from June 15 to 20, Fabre worked with the logistics committee in the organization of the NIDs

Fabre's contract was extended for a few days in order to wait for Dan Nelson's return to Kinshasa This facilitated communication and continuity of services and avoided a disruption in the work of the logistics committee at a critical moment

Purpose of the Visit

Bernard Fabre was sent to Kinshasa to help the EPI team (PEV/LMTE) prepare for the NIDs and to facilitate the organization and institutionalization of the logistics committee

The logistics committee is playing a key role in the organization of the NIDs, not only in the distribution and delivery of the cold chain equipment, but also in the preparation and distribution of all materials required for the NIDs One of the most essential tasks was to finalize the cold chain equipment distribution plan, in collaboration with UNICEF and WHO

Bernard Fabre also assisted in organizing and planning the installation of the HF radio sets provided by UNICEF, including the budget proposal, installation schedule, and training of technicians in charge of the installation and procedures

The BASICS consultant had the opportunity to evaluate and assess the cold chain needs in terms of training, long term use of the cold chain equipment, and maintenance of the cold chain facilities at the central level (PEV/LMTE)

The BASICS team facilitated training sessions for the Congolese EPI field team (*chefs d'antenne, medecins-chef de zone* and *medecins inspecteurs*) who were brought to Kinshasa by WHO for an AFP seminar During the BASICS-led training sessions, discussions were held on the practical problems regarding the cold chain and its management (routine EPI) and of the organization of the NIDs

Summary of Activities

The distribution plan for vaccines and cold chain equipment was revised in collaboration with UNICEF by integrating the transport cost for each health zone as well as the distribution routes from Kinshasa to the EPI antennas (*antennes PEV*) and to the health zones (distribution by air, train, road or boat) The original distribution plan did not differentiate whether the equipment was ordered by WHO or UNICEF This is important because these equipment orders arrived in Kinshasa at different times via different suppliers The new plan (Appendix A), though using the same information from the original one, gives details about the origin of the equipment and its repartition among the EPI antennas and health zones

Besides its responsibilities regarding the distribution of equipment and vaccines, the logistics committee is also in charge of coordinating the printing and distribution of documents approved by the technical committee These materials include guidelines for the NIDs, tally sheets and reporting forms, as well as management tools such as distribution receipts, radio log books, and stock management registers (for equipment and vaccines)

UNICEF is providing the PEV/LMTE with 30 HF radio sets to be installed throughout the country at the EPI antennas level The logistics committee was responsible for writing a budget and proposing an installation schedule to be submitted to UNICEF

Fabre also focused on cold chain management issues at the central level, including stock management (equipment and vaccines), maintenance of the facilities as well as its structure, and

its role within the PEV/LMTE The BASICS consultant was able to discuss the matter with the head of the Service d'Intervention department, which is in charge of the cold chain management

On July 3, 1998, after the end of the WHO seminar, the BASICS team conducted discussions with the EPI field team on the routine EPI and the NIDs and the practical problems faced by the *chefs d'antenne* and the *medecin-chefs de zone* (district medical officers) throughout the country

PURPOSE OF THE VISIT

1) Assist the MOH/PEV in the organization and institutionalization of the logistics committee to

   - Emphasize the operational aspects
   - Assist the PEV-LMTE in creating management tools to facilitate accurate and timely feed-back from the field (*antennes-PEV*)

2) Conduct preliminary discussions on cold chain program needs with the MOH/PEV, WHO logisticians and BASICS field staff Primary topics include

   - Distribution, condition, and availability of equipment,
   - Approaches to strengthen cold chain and logistics management,
   - Plan for activities to maintain and repair cold chain, and
   - Training needs for cold chain and safe vaccine handling for routine EPI (to integrate cold chain into the rehabilitation plan)

3) Liaise with MOH/PEV, WHO, UNICEF, and BASICS in the receipt of equipment ordered for the 1998 NIDs, organize the distribution and disbursement of that equipment, and plan for its short-term and long-term use

4) Discuss practical problems encountered in the field with routine EPI and cold chain maintenance with appropriate EPI staff

5) Optimize the radio network being installed for NIDs and routine EPI, including reporting procedures and coordination of training for technicians in charge of the installation

6) Debrief with BASICS and USAID

BACKGROUND

The Democratic Republic of the Congo is currently facing acute problems in its public health services Health facilities are crippled at all levels by civil unrest, shortage of supplies, inadequate communication systems, and lack of trained personnel In addition, civil servants of

the Ministry of Health are not paid for months and motivation is, therefore, negatively affected As a result, immunization activities have decreased dramatically over the last decade

The national vaccination coverage for the eight target diseases defined by WHO is estimated to be less than 20 percent Polio outbreaks in 1995 (Eastern Kasai) and in May 1998 (in three health zones in the Equator province) highlighted this difficult situation In this context, local immunization days (LIDs) against polio were conducted in 1996 in nearly 40 cities, including Kinshasa A joint team consisting of PEV/LMTE, USAID/BASICS, UNICEF, and WHO also met in August 1997 to assess the immunization situation and design the EPI Revitalization Plan

The objectives of the plan were to conduct local vaccination days in selected cities (including Kinshasa), to organize and conduct national immunization days in August and September 1998 and to revitalize the routine EPI activities throughout the country USAID provides considerable financial contributions through UNICEF WHO, and BASICS to support these efforts

In this scope, several BASICS consultants were sent to Kinshasa between August 1997 and June 1998 Moreover, BASICS has had a resident technical advisor and a local immunization technical consultant since November 1997 based in Kinshasa, who provide the PEV/LMTE with technical expertise for the rehabilitation of routine EPI services in the country

The BASICS consultant traveled to Kinshasa May 25 - July 16, 1998, to assist with the NIDs organization and to conduct a preliminary assessment of the long-term cold chain needs for the routine EPI His contract was extended for a few days in order to avoid a gap in logistics technical assistance between the departure of Fabre and the return of Dan Nelson on July 13

TRIP ACTIVITIES

Organization and Institutionalization of the Logistics Committee

Role

The logistics committee is responsible for all the logistical aspects of the NIDs, including

- Creating a distribution plan and the delivery of the cold chain equipment throughout the country,
- Distributing printed materials (technical and management tools) as well as the social mobilization equipment (megaphones, banners, posters, etc),
- Receiving and distributing the OPV to be used during the NIDs,
- Organizing the installation of the 30 HF radio sets ordered by UNICEF,

- Coordinating the procurement and distribution of fuel by the Congolese government, and

- Working with the different partners (transport companies, UNICEF, WHO, NGOs) to ensure the receipt, storage and distribution of the vaccines and the cold chain equipment

The logistics committee is meeting twice a week The meetings are attended by EPI cold chain managers and logisticians, and UNICEF and WHO logisticians Representatives of the transport companies are also attending

Organization

The logistics committee is organized into three sub-committees supply, distribution and communications The supplies sub-committee is responsible for the receipt and storage of the cold chain equipment and vaccines in Kinshasa

The communications sub-committee is responsible for gathering information from the appropriate field level regarding the distribution circuits (equipment and vaccines delivery by air, road, train, and boat) as well as information on the cost of transportation within each province (between the EPI antennas and the health zones) The communication committee is working with one of the WHO logisticians to outline distribution circuits on individual provincial maps Most of this information was transmitted to Kinshasa by HF radio and activities are coordinated with the distribution sub-committee

The distribution sub-committee is primarily responsible for ensuring that all cold chain equipment, vaccines and materials arrive at their appropriate destination The communications sub-committee communicates information regarding the distribution circuits and the cost of transportation within the provinces (*antennes PEV*/health zones) to the distribution sub-committee It is then entered into a spreadsheet, which contains the cold chain equipment distribution and repartition plan This plan has been designed through extrapolation of information gathered during the micro-planning sessions The distribution sub-committee is also working with the transport companies (mainly airlines) to organize the transport of vaccines and cold chain equipment to the provinces

Issues

One of the initial problems encountered was the lack of coordination between the communications and the distribution sub-committees in transmitting information The role of the BASICS consultant was to help define the responsibilities of the individuals involved in these sub-committees and to establish a link between the various actors

Another concern was the difficulty communicating between the provinces and Kinshasa The only means of communication was through HF radio Since the majority of the EPI field sites do not have MOH radio equipment available to them, staff frequently use local private radio

resources This hinders the communication process Despite all the problems mentioned above, the logistics committee was showing progress

The logistics committee was also responsible for printing and distributing the forms and documents to be used by the vaccination team during the NIDs These included documents from the technical committee (registration sheets, guidelines manuals, report forms, etc), as well as those prepared by the logistics committee (management tools such as cold chain equipment receipts, stock management log book, radio log book) The logistics committee was responsible for presenting a financial proposal to UNICEF to have the documents printed and copied Note that the printing and copying represent several thousands of pages The most delicate and time-consuming task was to prepare a package of documents for each of the 10,000 vaccination points

UNICEF is funding this operation by providing the logistics committee with materials such as paper and ink to print part of the material at the PEV/LMTE and by paying a printing company for the bulk of the materials The logistics committee is then responsible for compiling packages for each of the 306 health zones

Cold Chain

Distribution of the Cold Chain Equipment

The distribution plan and the allocation of the cold chain equipment have been coordinated by BASICS Technical Resident Dan Nelson and Mr Lukadi (the cold chain manager at PEV/LMTE) They have processed and analyzed the information from the micro-planning sessions and allocated the equipment ordered by UNICEF and WHO Note that this plan did not show the origin of the equipment

Included in this plan is the cost of transportation of the equipment and vaccines from Kinshasa to each *antenne PEV* as well as from the *antennes* to the health zones The transport cost from Kinshasa to the *antennes* has been calculated according to the information provided by the airlines For the transport between the *antenne* and its health zones, mainly by road or by boat, the figures have been provided by the *chefs d'antenne* and *medecin-chefs de zone* Note that the transportation cost for deliveries within each province, is an estimate and it is likely that the real cost will be higher

Regarding the cost of transportation, the figures have been calculated globally for each *antenne*, without differentiating between UNICEF and WHO equipment In fact, the difference has been made by considering the weight of the equipment globally, the proportion is respectively two-thirds for UNICEF and one-third for WHO for a total estimated transport cost of US$350,000

The distribution sub-committee has also contacted several organizations (churches and NGOs, see Appendix B) working in Congo to inform them about the NIDs and to request assistance for the transport and distribution of vaccines and equipment

Although it was important to contact the different NGOs in Kinshasa, most of the NGOs are helping the EPI teams in the field Due to the difficulties with communication, it is preferable to let the EPI field staff deal directly with the NGOs and churches at the local level, rather than trying to coordinate everything from Kinshasa

Cold Chain Management

Overall cold chain management supervision, at the central level, is under the responsibility of the Service d'Intervention The head of this department, besides his responsibilities regarding the cold chain, is also in charge of training activities for PEV/LMTE, of estimating national needs for vaccine drugs and equipment, and of centralizing and harmonizing the microplans He is, therefore, involved in a variety of activities, many of which are not directly linked to the cold chain

Management of the cold chain is under the responsibility of the *chef de section* He assists the head of the Service d'Intervention in the vaccine stock management, the maintenance of the cold chain facilities and in the distribution of the vaccines to the *antennes PEV*

The Technical Department (Services Techniques) also plays a role in the cold chain This department is managing the stock of cold chain equipment and is supposed to assist the Service d'Intervention in the maintenance of the cold chain facilities More specifically, the Technical Department has the task of supervising the work of Electronic Mechanic System Industrial (EMSI), the company in charge of the cold rooms' maintenance, by assessing the quality of its work Unfortunately, the level of collaboration between the Technical Department and the Service d'Intervention is less than desirable

Central EPI Cold Chain

Storage Facilities

The cold chain facilities at the central level are equipped as follows three cold rooms (two positive, one negative) and three deep freezers for icepacks

The vaccine storage facilities at the PEV-LMTE in Kinshasa are overwhelmed by the massive arrival of OPV The negative cold room is completely full Some of the OPV (doses which are ready to be shipped to the provinces) had to be stored in the positive cold room It was therefore impossible to make an inventory

A new cold room is planned and its construction should start in the second half of July It should be completed before the end of August It is hoped that the work will not disrupt the distribution of the vaccines for the NIDs The installation of the new cold room will be done by the EMSI company, which is also carrying out the maintenance of the three current cold rooms

Maintenance

A maintenance contract was signed between UNICEF and EMSI on August 6, 1996, followed by an agreement signed by EMSI, the PEV/LMTE, and UNICEF on June 24, 1997 The maintenance contract was renewed on July 3, 1997

EMSI is in charge of the preventive/routine maintenance (twice per month) of the cold rooms, as well as intervention within two hours in case of breakdown EMSI must inform the PEV/LMTE if the technicians need more than 12 hours to fix the problem EMSI must also carry out a monthly inventory of the spare parts

The PEV/LMTE is responsible for providing UNICEF with a quarterly report on the scheduled preventive/routine maintenance conducted by EMSI PEV is also responsible for managing the spare parts stock, alerting EMSI as quickly as possible in case of breakdown, and ensuring that the vaccines are stored in a safe place if EMSI is unable to intervene quickly and the quality of the vaccines is at stake

UNICEF is in charge of providing the PEV/LMTE with a stock of spare parts for the cold rooms as well as for the generator, including gas-oil and motor oil UNICEF is also responsible for paying EMSI for its scheduled preventive/routine maintenance (every three months) based on a standard price UNICEF is also responsible for paying EMSI in case of intervention needed due to a major breakdown

Several problems which have been identified include

1 Delays when EMSI has requested UNICEF's approval to proceed on preventive maintenance on the equipment This could lead to an accumulation of defects and therefore a possible breakdown

2 Despite its commitment (following the signature of the maintenance contract in August 1996), UNICEF has thus far been unable to provide the PEV/LMTE with a stock of spare parts for the cold rooms

3 Payment to EMSI by UNICEF has sometimes been delayed, even for its preventive work This has contributed to financial difficulties for EMSI It has also had repercussions on quality of service provided, as EMSI could not buy the spare parts needed

4 UNICEF procedures can create complications when an emergency arises which needs to be tackled quickly For instance, if a compressor needs to be replaced, EMSI will have to inform UNICEF and submit a written request for the procurement of a new compressor UNICEF then needs to contact three vendors and choose the cheapest one This procedure takes time and therefore can put the vaccines in real danger A mechanism to speed up this process would be beneficial

5 The individuals responsible for the cold chain do not attend assessment meetings, which are supposed to take place every six months When the meetings do take place, follow up on the actions to be taken is poor

6 There is no involvement from the PEV/LMTE specialists (Technical Department/Services Techniques) because of personality conflicts between the Services Techniques and the Service d'Intervention

Although no vaccines have yet been affected, the problems noted above could one day lead to a serious problem with the cold chain

Cold Chain Training Needs

There is a draft document at the central level in Kinshasa entitled, "Plan de Relance de la Logistique du PEV en RDC" (Appendix C), which details a plan for the rehabilitation of the routine EPI in DRC and more specifically for logistics This plan discusses cold chain monitoring and logistics, but there is no specific mention of cold chain training

The following points therefore need to be addressed and incorporated into the existing plan

1) A general assessment of the cold chain situation in the field at the health zone is needed This assessment would provide recommendations for cold chain training at this level These recommendations would then be discussed with senior EPI officials at the central level in Kinshasa, in order to integrate the proposition for cold chain training into the rehabilitation plan

2) A strategy to conduct the above training and to determine the participants needs to be devised The best mechanism would be to organize a training for trainers, with trainers then dispatched to the field to train the cold chain users Emphasis could be placed on preventive maintenance and more specifically on the maintenance of the equipment working with petrol (absorption) because it is more delicate and subject to problems than the equipment working with electricity (compression)

3) Individuals to be trained as trainers need to be carefully selected The original WHO plan is to dispatch 11 logisticians throughout the country (one for each province) For the moment, only four have been hired, and funding is still needed for the seven others These 11 people could be used in the field, however, their responsibilities are not limited to the cold chain Therefore, more people would be needed Given that a primary objective is to strengthen the routine EPI and that the WHO logisticians are to be dispatched for only one to two years, it is necessary to reinforce the capacity of the PEV-LMTE staff This would involve providing them with cold chain training

Cold Chain Equipment Delivery/Distribution

WHO equipment was delivered to the PEV/LMTE warehouse on June 23 The eight containers included 154 refrigerators/freezers RCW42/FCW20 EK (absorption type, working with petrol), 298 cold boxes RCW25, and 36 refrigerators/freezers TCW1990 (compression, electricity) The WHO shipment has been stored at the PEV/LMTE

UNICEF equipment arrived in Kinshasa on the weekend of July 4, 1998 The following items were received 58 refrigerators, 12 freezers (for icepacks), 450 cold boxes, and 9500 vaccine carriers (5500 disposable, 4000 long range)

UNICEF also has a stock of cold chain equipment which was originally intended for routine EPI services, but has not yet been delivered to the provinces UNICEF prepared an allocation plan for this equipment before the information gathered through the micro-planning sheets was available This stock comprises the following 12 freezers, 27 absorption refrigerators (Sibir type), 77 long-range cold boxes, 109 vaccine-carriers, and 4,500 icepacks Apart from this cold chain equipment stored in Kinshasa, 13 motorcycles are available in Boma

UNICEF has rented a warehouse where all the equipment is stored These storage facilities are offering a lot of space as well as security and will allow excellent working conditions

NIDs and Routine EPI

From June 24 to July 3, 1998, WHO organized a seminar in Kinshasa on epidemiological surveillance The meeting was attended by the EPI field staff (*chefs d'antenne, medecins chef de zone*) as well as by WHO sub-office representatives Although one day of the WHO seminar focused on the NIDs, the BASICS team, with support from WHO, organized sessions on the practical aspects of the NIDs as well as of the routine EPI The themes discussed during this meeting are described below

NIDs

- Follow-up activities at the health zone level, identification of the provinces with UNICEF sub-offices

- Cold chain equipment distribution to examine the allocation plan with the *chefs d'antenne* and make the necessary changes, where necessary, to discuss options for delivering the equipment and, more specifically, to identify the health zones with a functioning airstrip

- Budgetary aspects of follow up and distribution review the current situation (what is available from UNICEF/WHO/government) and identify procedures to facilitate rapid disbursement of the necessary funds

Routine EPI (Appendix D)

- Define a functional *antenne PEV*, a functional health zone, and a functional health center, equipment requirements (cold chain, means of transportation, printing materials),
- Identify *antenne PEV* staff training needs,
- Determine *antenne PEV* roles and responsibilities,
- Discuss assessment and evaluation of *antenne PEV* (what is needed),
- Propose a supervision system and the role of the *chefs d'antenne* and of the EPI coordinator

The *chefs d'antenne* received a copy of their cold chain equipment repartition plan as well as the information regarding the transport cost per health zone They were asked to give comments on both documents and to write down any changes, if necessary (especially for the repartition plan) Since it was impossible to satisfy everybody regarding the cold chain equipment (it would have been necessary to order more equipment), priority was given to the most difficult areas Moreover, each participant was asked to give information about airstrips in their area which could be used to deliver equipment and vaccines using small planes (Appendix E)

The end of the day was spent discussing the needs for cold chain training (usage and maintenance) It is difficult to determine the amount of training that is needed However, it seems that, since the *chefs d'antenne* and *medecin-chefs de zone* have other responsibilities besides cold chain, some external resources are needed to improve the quality of the cold chain and its maintenance

Radio Network

UNICEF has ordered thirty HF radio sets to be given to PEV/LMTE These radios will be installed throughout the country (at the *antenne* level), which should allow better communication between the field and the central level for the routine EPI

Due to the importance of the radios for the routine EPI, their installation must be carefully planned The technicians to be dispatched to the *antennes PEV* must be familiar with the equipment in order to train the users The solution proposed was to organize training for the technicians Missionary Aviation Fellowship (MAF) was contacted and asked to organize the training The next step was to write a proposal to be presented to UNICEF to finance the installation The Technical Department (Service Technique) of the PEV/LMTE was in charge of this task

The office in charge of writing the proposal (PEV/LMTE Services Techniques) has so far been unable to do so to the satisfaction of UNICEF A major concern in the discussion is the amount

of the per-diem budget requested for the radios PEV reduced the number of technicians from fifteen to eight, but the draft budget was still too high The total cost in the proposal was US$40,000, when the initial installation budget was US$33,000

When the BASICS consultant left on July 13, 1998, the radio equipment had not yet arrived in Kinshasa

RESULTS AND CONCLUSIONS

Several events have disrupted the work of the logistics committee On June 25, the WHO seminar on epidemiological surveillance began at the Nganda Center (in a Kinshasa suburb) This meeting brought together many of the actors involved in EPI and the NIDs, including EPI staff from the entire country as well as UNICEF and WHO field staff However, the timing was not the most appropriate given the need to finalize preparations for the upcoming NIDs The seminar ended on July 2

During this period, all of the PEV/LMTE executives spent the majority of their time at the seminar The logistics committee therefore did not meet for almost two weeks Nevertheless, one day of the WHO seminar was devoted to the NIDs (June 26) BASICS, with WHO support, was able to organize a separate workshop on July 2, after the official closing of the WHO seminar This day focused exclusively on the NIDs and routine EPI Important information was gathered and the EPI field staff had the opportunity to give their point of view and concerns on the NIDs and routine EPI

The second event was the departure of Mr Lukadi to Cuba (by direct order of the MOH) Mr Lukadi is in charge of the cold chain at the PEV/LMTE, and more importantly, he is in charge of the follow up for the distribution plan Mr Lukadi returned to work on July 13 The committee was able to finalize the distribution plan and to transmit it to WHO and UNICEF, but it was unable to present a delivery schedule and timetable because the committee did not have the necessary information regarding the arrival dates of the cold chain equipment supplied by UNICEF

Cold chain equipment supplied by UNICEF arrived in Kinshasa on the weekend July 4, 1998 The distribution and delivery of the equipment (both from UNICEF and WHO) could have started the following week (July 6, 1998) The operation was delayed, however, for an additional week because it was not clear who was going to pay for the transport of equipment supplied by WHO The WHO and UNICEF supplies are complementary, for instance, the OPV vaccine supplied by UNICEF is shipped in cold boxes supplied by WHO

The distribution of the cold chain equipment started the week of July 13, 1998, one month before the first round NIDs The transport between Kinshasa and the provinces should occur fairly rapidly The distribution from the *antennes PEV* to the health zones, however, is more

problematic and it is likely that the equipment destined for certain areas will arrive too late for the first round It is difficult to evaluate where there will be delays because conditions vary widely from one place to another

The request for funding to prepare the printed materials was submitted to UNICEF on June 26, 1998 Because the application was not complete, the release of funds was delayed for more than a week The people responsible for the follow-up were also not available because of the WHO seminar It is very likely that certain zones will not receive the printed materials in time for the first round

The thirty HF radio sets, being supplied by UNICEF, were scheduled to arrive in Kinshasa on July 14 or 15 However, the Technical Department (Service Technique) was unable to provide the logistics committee with an acceptable and reasonable proposal for the installation of the radios If the radio equipment arrives after mid-July, it will be very difficult to carry out effective installation before the first round

Because the new cold chain equipment has been allocated according to the needs for the routine EPI, it is obvious in many rural areas that the NIDs will be conducted with insufficient cold chain equipment For instance, if a health zone received one absorption freezer/refrigerator (producing 4-6 kgs of ice per 24 hours) and if this zone has to supply 30 vaccination sites for the NIDs (1 vaccine-carrier per site = 2 kgs of ice), it means that they will have to produce at least 60 kgs of ice

Vaccinators and program managers will need to be able to tell if the vaccine is still viable when the cold chain has been very poor or non-existent The vaccine vial monitor (VVM) will therefore play a very important role when the cold chain is unreliable Each vaccinator, confronted with this kind of problem, will be able to tell by properly reading the VVM whether he or she still can administer the vaccine Instruction on the use of the VVM was given during the July 2 meeting with the representatives expected to train the local staff upon their return to the provinces Information on the VVM is included in the printed materials to be distributed to each site

RECOMMENDATIONS

Cold Chain Management

Discussions concerning the reorganization of the cold chain management should start as soon as possible Activities regarding the vaccine stock, cold chain equipment management and the distribution of the vaccines and equipment to the *antennes PEV* should be regrouped under the responsibility of one department (service) This department should concentrate its efforts on the technical and logistics aspects of the routine EPI It should also initiate training the users and the managers of the cold chain at the field level

The maintenance contract for the cold rooms needs to be reviewed and the roles and responsibilities of UNICEF, EMSI, and the PEV-LMTE redefined More autonomy should be given to the PEV/LMTE and its cold chain section to manage the preventive and curative maintenance of the cold chain equipment A more flexible system should be set up in order for UNICEF to pay the contractor (EMSI) in a timely manner Based on current contracts, spare parts should be provided by UNICEF to the PEV/LMTE, as they are needed

The technicians from the PEV/LMTE Technical Department (Service Technique) should be involved in the assessment of the work quality of the contractor in charge of maintenance It is recommended that the PEV/LMTE cold chain section have its own technician(s) As the cold chain section refocuses on routine EPI work, systematic preventive maintenance (cleansing, defrosting, etc) should be carried out as soon as possible on the cold chain facilities at the PEV/LMTE The storage inside the three cold rooms should be reorganized and shelves should be installed

Training Needs

An evaluation of knowledge and practices of the cold chain users should be conducted at the field level, especially concerning preventive maintenance and training needs A representative sample of the different *antennes PEV* and health zones (functional/not functional) should be chosen when conducting the evaluation Such field assessment could also be a good opportunity to evaluate the impact of the NIDs, either between the two rounds or after the second one The training should be integrated into the rehabilitation plan of routine EPI logistics

The overall objective of WHO, UNICEF and USAID/BASICS is to strengthen the PEV/LMTE and the routine EPI Part of this action should be to reinforce its capacity to tackle problems without resorting to external resources The training of trainers (staff of the PEV/LMTE) could be a good way to achieve part of this objective Of course, outside assistance, such as the WHO logisticians, should be involved

All matters regarding this training and its organization should be discussed among the ICC partners, especially WHO, UNICEF USAID/BASICS, and the PEV/LMTE

FOLLOW-UP ACTION

Within the next two weeks, emphasis must be placed on the distribution and delivery of the cold chain equipment, in collaboration with UNICEF Equipment must be dispatched by complete batch to each destination (*antenne*) without differentiating between UNICEF and WHO equipment

The UNICEF equipment which was allocated to the routine EPI must be integrated into the distribution plan and, more specifically, allocated to the most difficult areas

The following destinations must be served in priority Equateur, Maniema, Province Orientale and Sankuru (Lodja)

Emphasis must be placed on coordination with UNICEF for preparation of the shipments Someone from the PEV/LMTE has to be designated to each storage place at the PEV/LMTE and UNICEF warehouses The person present at the UNICEF warehouse will make sure that the shipment prepared at the PEV/LMTE is ready on time The critical point will be communication and transportation between the UNICEF warehouse and the PEV/LMTE

The proposal for the installation of the HF radios must be finalized and submitted to UNICEF Priority areas need to be determined according to strategic importance and difficulty of access Wherever possible, local technicians must be used in order to speed up the process

APPENDIXES

APPENDIX A
Distribution/Allocation Plan

M

PLAN DE REPARTITION DU MATERIEL CHAINE DU FROID OMS/UNICEF/ROTARY

7/23/98

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
PROVINCE		ZS	ID ZS	POP CIBL	VACC/PH	Nbre sites	glac UN	glac OMS	Total glac (accordees)	B I Sud Afr	B I Geostyle	B I IVC 9AF	Total B I UNICEF	B I Sud Afr Rotary	Total B I (accordees)	ACCU M 0 31	Energie	RCW FCW OMS	Cong MF3 04 + pieces Unicef	Refr MK074 Unicef	TCW 1990 OMS	Total Refr/Cong Compression
BANDUNDU	ANTENNE					0	0	0	0	5	2	0	7	3	10	120	Petrole	0	0	2	0	2
	BANDUNDU	Bagata	BN101	28734	37354	39	3	0	3	19	5	13	37	2	39	312	Groupe	1	0	0	0	0
		Bandundu	BN102	26200	34060	18	3	0	3	9	2	7	18	0	18	144	Elect	0	0	0	1	1
		Bokoro	BN103	27969	36360	39	2	0	2	19	4	13	36	3	39	312	Petrole	1	0	0	0	0
		Bolobo	BN104	31242	40615	38	2	0	2	19	4	14	37	1	38	304	Groupe	1	0	0	0	0
		Bosobe	BN105	24800	32240	41	3	0	3	20	4	13	37	4	41	328	Petrole	1	0	0	0	0
		Kikongo	BN106	20801	27041	31	0	3	3	15	3	13	31	0	31	248	Groupe	1	0	0	0	0
		Kwamouth	BN107	26400	34320	36	0	3	3	18	4	14	36	0	36	288	Elect	0	0	0	1	1
		Mimia	BN108	7700	10010	19	0	2	2	9	3	7	19	0	19	152	Groupe	0	0	0	1	1
		Mushie	BN109	18240	23712	22	0	2	2	11	2	10	23	0	22	176	Groupe	1	0	0	0	0
		Nioki	BN110	20245	26319	26	0	3	3	13	3	9	25	0	25	208	Elect	0	0	0	1	1
		Oshwe	BN111	17243	22416	29	0	3	3	14	5	10	29	0	29	232	Groupe	1	0	0	1	1
	S/TOTAL	11		249574	324446	338	13	16	29	171	41	123	335	13	348	2824		7	0	2	5	7
	ANTENNE																					
	KENGE				0	0	0	0	0	10	0	0	0	0	10	80	Petrole	0	0	0	0	0
		Kasongo Lunda	BN301	28440	36972	55	0	3	3	27	18	0	45	0	55	440	Groupe	1	0	0	0	0
BANDUNDU		Kenge	BN302	32000	41600	60	0	2	2	28	23	0	51	0	60	480	Petrole	1	0	0	0	0
		Kitenda	BN303	17979	23373	55	0	3	3	30	17	0	47	0	55	440	Groupe	0	0	0	0	0
		Masimanimba	BN304	25574	33246	20	0	2	2	10	10	0	20	0	20	160	Groupe	0	0	0	0	0
		Moanza	BN305	50000	65000	65	0	3	3	32	33	0	65	0	65	520	Petrole	1	0	0	0	0
		Panzi	BN306	34449	44784	0	0	2	2	0	0	0	0	0	0	0	Petrole	1	0	0	0	0
		Popokabaka	BN307	31834	41384	41	0	2	2	22	19	0	41	0	41	328	Petrole	1	0	0	0	0
	S/TOTAL	7		220276	286359	296	0	17	17	159	115	0	274	0	306	2448		5	0	0	0	0
	ANTENNE																					
	INONGO				0	0	0	0	0	5	0	0	5	5	10	80	Petrole	0	0	0	0	0
		Inongo	BN201	41881	54445	61	1	0	1	30	31	0	61	0	61	488	Petrole	1	0	0	0	0
		Kiri	BN202	29414	38238	49	2	0	2	24	25	0	49	0	49	392	Petrole	1	0	0	0	0
	S/TOTAL	2		71295	92684	110	3	0	3	59	56	0	115	5	120	960		2	0	0	0	0
	ANTENNE																					
	KIKWIT				0	0	0	0	0	10	0	0	10	0	10	80	Petrole	0	0	0	0	0
		Bulungu	BN402	10115	13150		2	0	2	12	13	0	25	0	25	200	Petrole	0	0	0	0	0
		Djuma	BN403	27068	35188	46	3	0	3	23	23	0	46	0	46	360	Groupe	1	0	0	0	0
		Feshi	BN404	32243	41916		3	0	3	20	20	0	40	0	40	320	Petrole	0	0	0	0	0
		Gungu	BN405	70545	91709	67	3	0	3	33	34	0	67	0	67	536	Petrole	1	0	0	0	0
		Idiofa	BN406	43573	56645	35	2	0	2	17	18	0	35	0	35	280	Petrole	0	0	0	0	0

PLAN DE REPARTITION DU MATERIEL CHAINE DU FROID OMS/UNICEF/ROTARY

7/23/98

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
PROVINCE		ZS	ID ZS	POP CIBL	VACC/PH	Nbre sites	glac UN	glac OMS	Total glac. (accordees)	B I Sud Afr	B I Geostyle	B I IVC 9AF	Total B I UNICEF	B I Sud Afr Rotary	Total B I (accordees)	ACCU M 0 3l	Energie	RCW FCW OMS	Cong MF3 04 + pieces Unicef	Refr MK074 Unicef	TCW 1990 OMS	Total Refr/Cong Compression
		Ipamu	BN407	33716	43831	36	2	0	2	18	18	0	36	0	36	288	Petrole	1	0	0	0	0
		Kahemba	BN408	43200	56160	42	3	0	3	21	21	0	42	0	42	336	Petrole	1	0	0	0	0
		Kajiji	BN409	35825	46573	46	3	0	3	23	23	0	46	0	46	368	Petrole	1	0	0	0	0
		Kikwit Nord	BN410	40583	52758	27	2	0	2	14	13	0	27	0	27	216	Petrole	1	0	0	0	0
		Kikwit Sud	BN411	25226	32794	20	2	0	2	10	10	0	20	0	20	160	Petrole	1	0	0	0	0
		Kingandu	BN412	27600	35880	46	3	0	3	23	23	0	46	0	46	368	Petrole	0	0	0	0	0
		Koshibanda	BN413	22643	29436	34	2	0	2	17	17	0	34	0	34	272	Petrole	0	0	0	0	0
		Mokala	BN414	36400	47320		2	0	2	15	15	0	30	0	30	240	Petrole	1	0	0	0	0
		Mosango	BN415	15550	20215	30	3	0	3	15	15	0	30	0	30	240	Petrole	1	0	0	0	0
		Mukedi	BN416	32500	42250	42	3	0	3	21	21	0	42	0	42	336	Petrole	1	0	0	0	0
		Mwela Lembwa	BN417	10516	13671	17	2	0	2	8	9	0	17	0	17	136	Petrole	1	0	0	0	0
		Vanga	BN418	36658	47655	61	3	0	3	30	0	0	30	31	61	488	Petrole	0	0	0	0	0
		Yasabonga	BN401	31278	40661	46	3	0	3	23	0	0	23	23	46	368	Elect	0	0	0	1	1
	S/TOTAL	18		575239	747811	595	46	0	46	353	293	0	646	54	700	5592		11	0	0	1	1
BAS CONGO	ANTENNE																					
	BOMA				0	0	0	0	0	10	0	0	10	0	10	80	Elect	0	0	0	0	0
		Boma	BC101	30192	39250	26	2	0	2	13	3	10	26	0	26	208	Elect	0	0	0	1	1
		Kangu	BC102	14718	19133	22	2	0	2	11	2	9	22	0	22	176	Petrole	1	0	0	0	0
		Kinkonzi	BC103	17320	22516	29	2	0	2	14	3	12	29	0	29	232	Petrole	1	0	0	0	0
		Kitona	BC104	12273	15955	9	1	0	1	5	0	4	9	0	9	72	Elect	0	0	0	1	1
		Kizu	BC105	11250	14625	17	2	0	2	8	2	7	17	0	17	136	Petrole	1	0	0	0	0
		Kuimba	BC106	13785	17921	37	3	0	3	17	5	15	37	0	37	296	Petrole	1	0	0	0	0
		Lukula	BC107	20012	26016	28	3	0	3	14	3	11	28	0	28	224	Petrole	1	0	0	0	0
		Muanda	BC108	14048	18262	19	2	0	2	9	2	8	19	0	19	152	Elect	0	0	0	1	1
		Tshela	BC109	10353	13459	16	2	0	2	8	1	7	16	0	16	128	Petrole	1	0	0	0	0
		Vaku	BC110	10150	13195	19	2	0	2	10	0	9	19	0	19	152	Petrole	1	0	0	0	0
	S/TOTAL	10		154101	200331	222	21	0	21	119	21	92	232	0	232	1856		7	0	0	3	3
	ANTENNE																					
	MATADI				0	0	0	0	0	10	0	0	10	0	10	80	Elect	0	0	0	0	0
		Boko-Kivulu	BC201	23628	30716	19	2	0	2	10	2	7	19	0	19	152	Elect	0	0	0	0	0
		Gombe Matadi	BC202	19039	24751	19	2	0	2	10	2	7	19	0	19	152	Groupe	0	0	0	0	0
		Kibunzi	BC203	30209	39272	25	2	0	2	12	3	10	25	0	25	200	Groupe	1	0	0	0	0
		Kimpangu	BC204	17546	22810	28	2	0	2	14	4	10	28	0	25	224	Groupe	1	0	0	0	0
		Kimpese	BC205	19026	24734	21	2	0	2	10	2	9	21	0	21	168	Elect	0	0	0	1	1
		Kimvula	BC206	26673	34675	17	2	0	2	8	2	7	17	0	17	136	Groupe	1	0	0	0	0
		Kisantu	BC207	31866	41426	26	2	0	2	13	4	9	26	0	26	208	Elect	0	0	0	0	0
		Kwilu Ngongo	BC208	24396	31715	19	2	0	2	9	2	8	19	0	21	152	Elect	0	0	0	1	1

PLAN DE REPARTITION DU MATERIEL CHAINE DU FROID OMS/UNICEF/ROTARY

7/23/98

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
PROVINCE		ZS	ID ZS	POP CIBL	VACC/PH	Nbre sites	glac UN	glac OMS	Total glac. (accordees)	B I Sud Afr	B I Geostyle	B I IVC 9AF	Total B I UNICEF	B I Sud Afr Rotary	Total B I (accordees)	ACCU M 0 31	Energie	RCW FCW OMS	Cong MF3 04 + pieces Unicef	Refr MK074 Unicef	TCW 1990 OMS	Total Refr/Cong Compression
		Luozi	BC209	11738	15259	16	2	0	2	8	2	6	16	0	16	128	Groupe	1	0	0	0	0
		Mangembo	BC210	13000	16900	14	2	0	2	7	1	6	14	0	20	112	Groupe	0	0	0	0	0
		Matadi	BC211	44558	57925	22	2	0	2	11	2	9	22	0	22	176	Elect	0	0	0	1	1
		Mbanza Ngungu	BC212	16370	21281	8	1	0	1	4	0	4	8	0	8	64	Elect	0	0	0	1	1
		Ngidinga	BC213	28826	37474	44	3	0	3	22	5	17	44	0	34	352	Groupe	0	0	0	0	0
		Nselo	BC214	15200	19760	24	2	0	2	12	3	9	24	0	24	192	Groupe	1	0	0	0	0
		Nsonapangu	BC215	19090	24817	22	2	0	2	11	2	9	22	0	26	176	Groupe	1	0	0	0	0
		Sekebanza	BC216	15223	19790	21	2	0	2	10	2	9	21	0	21	168	Elect	0	0	0	1	1
		Sona Bata	BC217	23298	30287	34	2	0	2	17	4	13	34	0	34	272	Elect	0	0	0	1	1
	S/TOTAL	17		379686	493592	379	34	0	34	198	42	149	389	0	388	3112		6	0	0	6	6
EQUATEUR	ANTENNE																					
	BOENDE				0	0	0	0	0	10	0	0	0	0	10	80	Petrole	0	0	0	0	0
		Befale	EQ101	29927	38905	21	3	0	3	10	2	9	21	0	21	168	Petrole	1	0	0	0	0
		Boende	EQ102	29933	38913	41	3	0	3	20	4	17	41	0	41	328	Petrole	0	0	0	0	0
		Bokungu	EQ103	54618	71003	29	3	0	3	15	3	11	29	0	29	232	Petrole	1	0	0	0	0
		Djolu	EQ104	259111	336844	40	3	0	3	20	4	16	40	0	40	320	Elect	0	0	0	1	1
		Ikela	EQ105	25687	33393	40	3	0	3	20	4	16	40	0	40	320	Petrole	1	0	0	0	0
		Monkoto	EQ106	54621	71007	23	2	0	2	12	2	9	23	0	23	184	Petrole	1	0	0	0	0
	S/TOTAL	6		453897	590066	194	17	0	17	107	19	78	204	0	204	1632		4	0	0	1	1
	ANTENNE																					
	BUMBA				0	0	0	0	0	10	0	0	0	0	10	80	Petrole	0	0	0	0	0
		Bumba	EQ202	80469	104610	45	3	0	3	0	0	0	0	45	45	0	Petrole	1	0	0	0	0
		Yambuku	EQ502	46000	59800	46	0	3	3	23	4	19	46	0	46	368	Petrole	1	0	0	0	0
	S/TOTAL	3		126469	164410	91	3	3	6	33	4	19	46	45	101	448		2	0	0	0	0
	ANTENNE																					
	GBADOLITE				0	0	0	0	0	10	0	0	10	0	10	80	Elect	0	0	0	2	2
		Bosobolo	EQ301	40790	53027	52	3	0	3	26	6	20	52	0	52	416	Groupe	1	0	0	0	0
		Businga	EQ302	31562	41031	37	3	0	3	18	5	14	37	0	37	296	Groupe	1	0	0	0	0
		Gbadolite	EQ303	25735	33456	21	2	0	2	10	4	7	21	0	21	168	Elect	0	0	0	1	1
		Loko	EQ305	23382	30397	32	2	0	2	16	3	13	32	0	32	256	Groupe	1	0	0	0	0
		Wapinda	EQ306	27628	35916		2	0	2	17	4	13	34	1	35	280	Groupe	0	0	0	1	1
	S/TOTAL	6		149097	193826	142	12	0	12	97	22	67	186	1	187	1496		3	0	0	4	4
	ANTENNE																					

PLAN DE REPARTITION DU MATERIEL CHAINE DU FROID OMS/UNICEF/ROTARY

7/23/98

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
PROVINCE		ZS	ID ZS	POP CIBL	VACC/PH	Nbre sites	glac UN	glac OMS	Total glac (accordees)	B I Sud Afr	B I Geostyle	B I IVC 9AF	Total B I UNICEF	B I Sud Afr Rotary	Total B I (accordees)	ACCU M 0 3I	Energie	RCW FCW OMS	Cong MF3 04 + pieces Unicef	Refr MK074 Unicef	TCW 1990 OMS	Total Refr/Cong Compression
	GEMENA				0	0	0	0	0	10	0	0	10	0	10	80	Petrole	0	0	0	0	0
		Karawa	EQ304	68208	88670	92	3	0	3	46	15	31	92	0	92	736	Elect	0	0	0	1	1
		Bangabola	EQ401	28551	37116	41	0	3	3	21	4	16	41	0	41	328	Groupe	1	0	0	0	0
		Bokonzi	EQ402	43742	56865	43	0	3	3	22	4	16	42	1	43	344	Petrole	1	0	0	0	0
		Budjala	EQ403	28148	36592	32	0	3	3	16	2	14	32	0	32	256	Groupe	1	0	0	0	0
		Bwamanda	EQ404	46328	60226	53	0	2	2	26	7	20	53	0	53	424	Groupe	0	0	0	0	0
		Gemena	EQ405	62474	81216	42	0	3	3	21	4	17	42	0	42	336	Groupe	1	0	0	0	0
		Libenge	EQ406	53317	69312	38	0	3	3	19	3	16	38	0	38	304	Groupe	0	0	0	1	1
		Mbaya	EQ407	26653	34649	23	0	2	2	11	2	10	23	0	23	184	Petrole	1	0	0	0	0
		Tandala	EQ408	77565	100835	50	0	3	3	25	6	19	50	0	50	400	Groupe	1	0	0	0	0
		Zongo	EQ409	18938	24619	13	0	2	2	7	1	5	13	0	13	104	Elect	0	0	0	1	1
	S/TOTAL	9		385716	501431	427	3	24	27	224	48	164	436	1	437	3496		6	0	0	3	3
	ANTENNE																					
	LISALA				0		0	0	0	10	0	0	10	0	10	80	Elect	0	0	0	1	1
		Lisala	EQ501	34642	45035	30	0	2	2	15	3	12	30	0	30	240	Elect	0	0	0	1	1
		Binga	EQ201	26124	33961		3	0	3	0	0	0	0	35	35	0	Elect	0	0	0	1	1
		Pimu	EQ203	84528	109886	40	3	0	3	20	1	0	21	19	40	166	Petrole	1	0	0	0	0
	S/TOTAL	2		145294	188882	70	6	2	8	45	4	12	61	54	115	486		1	0	0	3	3
	ANTENNE																					
	MBANDAKA				0		0	0	0	10	0	0	10	0	10	80	Petrole	0	0	0	0	0
		Basankusu	EQ601	36320	47216	18	0	2	2	9	1	8	18	0	18	144	Petrole	0	0	0	0	0
		Bikoro	EQ602	36300	47190	26	0	3	3	13	2	11	26	0	26	208	Groupe	0	0	0	0	0
		Bolenge	EQ603	9035	11746	10	0	2	2	5	0	5	10	0	10	80	Petrole	0	0	0	0	0
		Bolomba	EQ604	31045	40359	23	0	2	2	12	2	9	23	0	23	184	Elect	0	0	0	1	1
		Bomongo	EQ605	19893	25861	26	0	3	3	13	2	11	26	0	26	208	Elect	0	0	0	1	1
		Ingende	EQ606	27077	35200	23	0	2	2	11	2	10	23	0	23	184	Petrole	1	0	0	0	0
		Lukolela	EQ607	16021	20827	18	0	2	2	9	2	7	18	0	18	144	Groupe	1	0	0	0	0
		Mbandaka	EQ608	19721	25637	11	0	2	2	6	1	4	11	0	11	88	Petrole	1	0	0	0	0
	S/TOTAL	8		195412	254036	155	0	18	18	88	12	65	165	0	165	1320		3	0	0	2	2
	ANTENNE																					
	KANANGA				0		0	0	0	10	0	0	10	0	10	80	Petrole	0	0	0	0	0
		Bena leka	KO101	20400	26520	21	2	0	2	11	2	8	21	0	21	168	Groupe	1	0	0	0	0
		Bilomba	KO102	9573	12445	11	2	0	2	6	1	4	11	0	11	88	Petrole	1	0	0	0	0
		Bunkonde	KO103	13200	17160	23	2	0	2	11	2	10	23	0	23	184	Petrole	1	0	0	0	0
		Demba	KO104	21173	27525	35	3	0	3	17	4	14	35	0	35	280	Petrole	1	0	0	0	0

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PLAN DE REPARTITION DU MATERIEL CHAINE DU FROID OMS/UNICEF/ROTARY

7/23/98

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
PROVINCE		ZS	ID ZS	POP CIBL	VACC/PH	Nbre sites	glac UN	glac OMS	**Total glac. (accordees)**	B I Sud Afr	B I Geostyle	B I IVC 9AF	**Total B I UNICEF**	B I Sud Afr Rotary	**Total B I (accordees)**	ACCU M 0 31	Energie	RCW FCW OMS	Cong MF3 04 + pieces Unicef	Refr MK074 Unicef	TCW 1990 OMS	Total Refr/Cong Compression
		Dibaya	KO105	25202	32763	28	3	0	3	14	3	11	**28**	0	**28**	224	Petrole	1	0	0	0	0
		Kananga	KO106	23001	29901	18	2	0	2	9	2	7	**18**	0	**18**	144	Petrole	1	0	0	0	0
		Katende	KO107	20201	26261	44	3	0	3	22	3	19	**44**	0	**44**	352	Petrole	1	0	0	0	0
		Katoka	KO108	31619	41105	16	2	0	2	8	2	6	**16**	0	**16**	128	Petrole	1	0	0	0	0
		Lubondayi	KO109	22871	29732	21	2	0	2	10	2	9	**21**	0	**21**	168	Petrole	1	0	0	0	0
		Lukonga	KO110	37908	49280	23	2	0	2	11	3	9	**23**	0	**23**	184	Petrole	0	0	0	0	0
		Mikalayi	KO112	20485	26631	22	2	0	2	11	3	8	**22**	0	**22**	176	Elect	0	0	1	0	1
		Mwetshi	KO113	26292	34180	20	3	0	3	10	2	8	**20**	0	**20**	180	Petrole	1	0	0	0	0
		Ndekesha	KO114	18575	24148	30	3	0	3	15	3	12	**30**	0	**30**	240	Petrole	1	0	0	0	0
		Tshikaji	KO115	27873	36235	35	2	0	2	17	4	14	**35**	0	**35**	280	Elect	0	0	1	0	1
		Tshikula	KO116	11542	15005	12	2	0	2	6	1	5	**12**	0	**12**	96	Petrole	1	0	0	0	0
		Yangala	KO117	29043	37756	42	3	0	3	21	4	17	**42**	0	**42**	336	Petrole	1	0	0	0	0
	S/TOTAL	16		358958	466645	401	38	0	38	209	41	161	**411**	0	**411**	3308		13	0	2	0	2
	ANTENNE																					
	LUIZA				0		0	0	0	10	0	0	**10**	0	**10**	80	Petrole	0	0	0	0	0
		Luambo	KO201	29204	37965	43	3	0	3	21	4	18	**43**	0	**43**	344	Petrole	1	0	0	0	0
		Luiza	KO202	18624	24211	29	2	0	2	15	3	11	**29**	0	**29**	232	Petrole	1	0	0	0	0
		Maswika	KO203	23256	30233	35	2	0	2	17	4	14	**35**	0	**35**	280	Petrole	1	0	0	0	0
		Tshibala	KO204	43453	56489	45	2	0	2	22	4	19	**45**	0	**45**	360	Petrole	1	0	0	0	0
	S/TOTAL	4		114537	148898	152	9	0	9	85	15	62	**162**	0	**162**	1296		4	0	0	0	0
	ANTENNE																					
	DE MWEKA				0		0	0	0	10	0	0	**10**	0	**10**	80	Petrole	0	0	0	1	1
		Bulape	KO302	23082	30007	29	2	0	2	14	3	12	**29**	0	**29**	232	Petrole	0	0	0	0	0
		Dekese	KO280	12510	16263	24	2	0	2	12	2	10	**24**	0	**24**	192	Petrole	1	0	0	0	0
		Ilebo	KO283	33382	43397	33	0	0	0	16	3	14	**33**	0	**33**	264	Groupe	0	0	0	0	0
		Luebo	KO304	48835	63486	29	2	0	2	14	2	13	**29**	0	**29**	232	Petrole	1	0	0	0	0
		Mikope	KO297	37794	49132	29	2	0	2	15	2	12	**29**	0	**29**	232	Petrole	1	0	0	0	0
		Mushenge	KO306	30590	39767	39	2	0	2	18	4	14	**36**	3	**39**	312	Petrole	1	0	0	0	0
	S/TOTAL	6		186193	242051	183	10	0	10	99	16	75	**190**	3	**193**	1544		4	0	0	1	1
	ANTENNE																					
	TSHIKAPA				0	0	0	0	0	10	0	0	**10**	0	**10**	80	Elect	0	0	1	0	1
		Kalonda OuestEs	KO284	58853	76509	62	0	0	0	31	8	23	**62**	0	**62**	496	Petrole	1	0	0	0	0
		Kamonia	KO285	40929	53208	45	0	0	0	22	5	18	**45**	0	**45**	360	Petrole	1	0	0	0	0
		Kitangua	KO403	32848	42702	42	0	0	0	21	5	16	**42**	0	**42**	336	Petrole	1	0	0	0	0
		Nyanga	KO301	23700	30810	31	0	0	0	16	3	12	**31**	0	**31**	248	Petrole	1	0	0	0	0

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
PROVINCE		ZS	ID ZS	POP CIBL	VACC/PH	Nbre sites	glac UN	glac OMS	Total glac (accordees)	B I Sud Afr	B I Geostyle	B I IVC 9AF	Total B I UNICEF	B I Sud Afr Rotary	Total B I (accordees)	ACCU M 0 31	Energie	RCW FCW OMS	Cong MF3 04 + pieces Unicef	Refr MK074 Unicef	TCW 1990 OMS	Total Refr/Cong Compression
		Tshikapa	KO303	51452	66888	33	0	0	0	15	4	14	33	0	33	264	Elect	0	0	1	0	1
	S/TOTAL	5		207782	270117	213	0	0	0	115	25	83	223	0	223	1784		4	0	2	0	2
	ANTENNE																					
	KABINDA				0	0	0	0	0	10	0	0	10	0	10	80	Elect	0	0	2	0	2
		Kabinda	KE102	39709	51622	58	1	0	1	29	9	20	58	0	58	464	Elect	0	0	1	0	1
		Kalonda Est	KE103	19795	25734	38	3	0	3	19	4	15	38	0	38	304	Petrole	1	0	0	0	0
		Lubao	KE104	27025	35133		3	0	3	20	4	16	40	0	40	320	Petrole	1	0	0	0	0
		Tshofa	KE105	17455	22692	29	3	0	3	14	2	13	29	0	29	232	Petrole	0	0	0	0	0
	S/TOTAL	4		103984	135179	125	10	0	10	92	19	64	175	0	175	1400		2	0	3	0	3
	ANTENNE																					
	LODJA				0	0	0	0	0	10	0	0	10	0	10	80	Petrole	0	0	0	0	0
		Dikungu tsh	KE201	21853	28409	36	3	0	3	18	4	14	36	0	36	288	Petrole	0	0	0	0	0
		Katako Kombe	KE202	28428	36956	45	3	0	3	22	5	18	45	0	45	360	Petrole	1	0	0	0	0
		Kole	KE203	20703	26914	35	2	0	2	17	4	15	36	0	35	280	Petrole	1	0	0	0	0
		Lodja Nord	KE204	32079	41703	50	2	0	2	25	6	19	50	0	50	400	Petrole	1	0	0	0	0
		Lodja sud	KE205	23126	30064	34	2	0	2	17	4	13	34	0	34	272	Petrole	1	0	0	0	0
		Lomela	KE206	10180	13234	18	2	0	2	9	2	7	18	0	18	144	Petrole	1	0	0	0	0
		Minga	KE207	19556	25423	31	2	0	2	15	3	13	31	0	31	248	Petrole	1	0	0	0	0
		Tshudi Loto	KE208	11952	15538	20	2	0	2	10	2	8	20	0	20	160	Petrole	1	0	0	0	0
		Wembo Nyama	KE209	19775	25708	34	2	0	2	17	3	14	34	0	34	272	Petrole	1	0	0	0	0
	S/TOTAL	9		187652	243948	303	20	0	20	160	33	121	314	0	313	2504		8	0	0	0	0
	ANTENNE																					
	MBUJI MAYI				0	0	0	0	0	10	0	0	10	0	10	80	Elect	0	2	0	0	2
		Bibanga	KE301	46527	60485	52	2	0	2	26	6	20	52	0	52	416	Elect	0	0	1	0	1
		Bipemba	KE302	71820	93366	25	2	0	2	12	3	9	24	1	25	200	Elect	0	0	0	0	0
		Bonzola	KE303	25553	33219	11	2	0	2	6	0	5	11	0	11	88	Elect	0	0	0	0	0
		Cilundu	KE304	27679	35983	26	2	0	2	13	3	10	26	0	26	208	Petrole	0	0	0	0	0
		Dibindi	KE305	80889	105156	35	2	0	2	17	4	14	35	0	35	280	Elect	0	0	1	0	1
		Gandajika	KE101	57601	74881	60	3	0	3	30	10	20	60	0	60	480	Petrole	1	0	0	0	0
		Kabeya Kamuang	KE306	30960	40248	45	3	0	3	23	4	18	45	0	45	360	Petrole	1	0	0	0	0
		Kansele	KE307	117898	153267	39	2	0	2	19	3	17	39	0	39	312	Petrole	0	0	0	0	0
		Kasansa	KE308	22353	29059	26	2	0	2	13	3	10	26	0	26	208	Petrole	1	0	0	0	0
		Luputa	KE309	57048	74162	55	3	0	3	27	8	20	55	0	55	440	Petrole	1	0	0	0	0
		Lusambo	KE310	27076	35199	38	3	0	3	19	4	15	38	0	38	304	Petrole	1	0	0	0	0
		Miabi	KE311	38435	49966	47	3	0	3	23	5	19	47	0	47	376	Petrole	1	0	0	0	0

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
PROVINCE		ZS	ID ZS	POP CIBL	VACC/PH	Nbre sites	glac UN	glac OMS	Total glac. (accordees)	B I Sud Afr	B I Geostyle	B I IVC 9AF	Total B I UNICEF	B I Sud Afr Rotary	Total B I (accordees)	ACCU M 0 3l	Energie	RCW FCW OMS	Cong MF3 04 + pieces Unicef	Refr MK074 Unicef	TCW 1990 OMS	Total Refr/Cong Compression
		Muene Ditu	KE312	57447	74681	33	2	0	2	16	3	14	33	0	33	264	Petrole	0	0	0	1	1
		Tshilenge	KE313	40033	52043	40	2	0	2	20	4	16	40	0	40	320	Petrole	1	0	0	0	0
	S/TOTAL	14		701319	911715	532	33	0	33	274	60	207	541	1	542	4336		7	2	2	1	5
PROV INCE	ANTENNE																					
KATANGA	KALEMIE				0	0	0	0	0	10	0	0	10	0	10	80	Elect	0	2	0	0	2
		Ankoro	KT101	31796	41335	23	2	0	2	12	2	9	23	0	23	184	Petrole	1	0	0	0	0
		Kabalo	KT102	27387	35603	30	2	0	2	15	4	11	30	0	30	240	Petrole	1	0	0	0	0
		Kalemie	KT103	50167	65217	28	2	0	2	14	3	11	28	0	28	224	Elect	0	0	1	0	1
		Kansimba	KT104	21065	27385	27	2	0	2	14	3	10	27	0	27	216	Petrole	1	0	0	0	0
Totaux		Kiambi	KT105	13179	17133	23	2	0	2	11	3	9	23	0	23	184	Petrole	1	0	0	0	0
		Kongolo	KT106	52640	68432		3	0	3	17	4	13	34	1	35	280	Groupe	1	0	0	0	0
		Manono	KT107	22809	29652	23	2	0	2	12	2	9	23	0	23	184	Elect	0	0	1	0	1
		Moba	KT108	40128	52166	31	3	0	3	15	2	13	30	1	31	248	Groupe	1	0	0	0	0
		Nyunzu	KT109	33830	43979	38	3	0	3	19	3	14	36	2	38	304	Petrole	1	0	0	0	0
	S/TOTAL	9		293001	380901	223	21	0	21	139	26	99	264	4	268	2144		7	2	2	0	4
	ANTENNE																					
	KAMINA				0	0	0	0	0	10	0	0	10	0	10	80	Elect	0	2	2	0	4
		Bukama	KT201	34900	45370	23	2	0	2	11	0	9	20	3	23	184	Elect	0	0	1	0	1
		Kabondo d	KT202	23529	30588		3	0	3	17	0	13	30	5	35	280	Elect	0	0	1	0	1
		Kabongo	KT203	29710	38623	38	2	0	2	19	0	13	32	6	38	304	Petrole	0	0	0	0	0
		Kamina	KT204	41107	53439	27	2	0	2	13	0	11	24	3	27	216	Elect	0	0	1	0	1
		Kaniama	KT205	27907	36279	32	2	0	2	16	0	12	28	4	32	256	Petrole	1	0	0	0	0
		Kinkondja	KT206	39761	51689	31	2	0	2	15	0	13	28	3	31	248	Petrole	1	0	0	0	0
		Kitenge	KT207	31214	40578	36	3	0	3	18	0	14	32	4	36	288	Petrole	1	0	0	0	0
		Malemba Nkulu	KT208	39109	50842	34	3	0	3	17	0	14	31	3	34	272	Petrole	1	0	0	0	0
		Mulongo	KT209	31838	41389	32	2	0	2	16	0	13	29	3	32	256	Petrole	0	0	0	0	0
		Songa	KT210	32831	42680	30	2	0	2	15	0	12	27	3	30	240	Petrole	1	0	0	0	0
	S/TOTAL	10		331906	431478	283	23	0	23	167	0	124	291	37	328	2624		5	2	5	0	7
	ANTENNE																					
	KOLWEZI				0	0	0	0	0	10	0	0	10	0	10	80	Elect	0	2	0	0	2
		Dilala	KT301	22882	29747	13	2	0	2	7	0	4	11	2	13	104	Elect	0	0	1	0	1
		Dilolo	KT302	24148	31392	24	2	0	2	12	0	9	21	3	24	192	Petrole	1	0	0	0	0
		Kasenia	KT303	19694	25602	17	2	0	2	8	0	7	15	2	17	136	Elect	0	0	1	0	1
		Kapanga	KT304	27300	35490	26	2	0	2	13	0	10	23	3	26	208	Petrole	0	0	0	0	0
		Kasaji	KT305	22908	29780	22	2	0	2	11	0	9	20	2	22	176	Petrole	1	0	0	0	0

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
PROVINCE		ZS	ID ZS	POP CIBL	VACC/PH	Nbre sites	glac UN	glac OMS	**Total glac. (accordees)**	B I Sud Afr	B I Geostyle	B I IVC 9AF	**Total B I UNICEF**	B I Sud Afr Rotary	**Total B I (accordees)**	ACCU M 0 31	Energie	RCW FCW OMS	Cong MF3 04 + pieces Unicef	Refr MK074 Unicef	TCW 1990 OMS	Total Refr/Cong Compression
		Manika	KT306	31384	40799	26	2	0	2	13	0	13	**26**	0	**26**	208	Petrole	0	0	0	0	0
		Mutshatsha	KT307	10990	14287	18	3	0	3	9	0	7	**16**	2	**18**	144	Petrole	1	0	0	0	0
		Sandoa	KT414	30334	39434	43	3	0	3	22	0	16	**38**	5	**43**	344	Petrole	0	0	0	0	0
	S/TOTAL	7		189640	246532	189	18	0	18	105	0	75	**180**	19	**199**	1592		3	2	2	0	4
	ANTENNE																					
	LUBUMBASHI				0	0	0	0	0	10	0	0	**10**	0	**10**	80	Elect	0	1	1	0	2
		Kambove	KT401	22773	29605	17	2	0	2	9	0	6	**15**	2	**17**	136	Elect	0	0	1	0	1
		Kampemba	KT402	46154	60000	21	2	0	2	11	0	8	**19**	2	**21**	168	Elect	0	0	0	0	0
		Kapolowe	KT410	41019	53325	22	2	0	2	11	0	9	**20**	2	**22**	176	Groupe	0	0	1	0	1
		Kasenga	KT403	18756	24383	27	2	0	2	13	0	11	**24**	3	**27**	216	Elect	1	0	0	0	0
		Katuba	KT404	44327	57625	21	2	0	2	11	0	8	**19**	2	**21**	168	Elect	0	0	1	0	1
		Kenya Kamalond	KT405	35241	45813	13	1	0	1	7	0	5	**12**	1	**13**	104	Elect	0	0	0	0	0
		Kikula	KT406	43809	56952	16	1	0	1	8	0	6	**14**	2	**16**	128	Petrole	1	0	0	0	0
		Kilwa	KT407	28553	37119	22	2	0	2	11	0	9	**20**	2	**22**	176	Petrole	0	0	0	0	0
		Lubumbashi	KT408	28333	36833	20	1	0	1	10	0	8	**18**	2	**20**	160	Elect	0	0	1	0	1
		Mufunga sampwe	KT409	21000	27300	15	2	0	2	7	0	6	**13**	2	**15**	120	Elect	0	0	1	0	1
		Pweto	KT411	24045	31259	36	2	0	2	18	0	14	**32**	4	**36**	288	Groupe	1	0	0	0	0
		Rwashi	KT412	45492	59140	20	2	0	2	10	0	8	**18**	2	**20**	160	Elect	0	0	1	0	1
		Sakania kipushi	KT413	34944	45427	25	2	0	2	12	0	10	**22**	3	**25**	200	Elect	0	0	1	0	1
	S/TOTAL	14		434446	564780	275	23	0	23	148	0	108	**256**	29	**285**	2280		3	1	8	0	9
PROVINCE	ANTENNE																					
KINSHASA	KINSHASA				0		0	0	0	10	0	0	**10**	0	**10**	0	Elect	0	1	0	2	3
		Binza meteo	KN118	37610	48893	15	0	2	2	8	0	5	**13**	2	**15**	60	Elect	0	0	1	0	1
		Binza Ozone	KN117	37216	48381	15	0	2	2	7	0	7	**14**	1	**15**	60	Elect	0	0	0	0	0
		Biyela	KN101	32506	42258	11	0	2	2	6	0	5	**11**	0	**11**	44	Elect	0	0	1	0	1
		Bumbu	KN102	44549	57914	15	0	2	2	7	0	7	**14**	1	**15**	60	Elect	0	0	1	0	1
		Funa	KN104	39429	51258	25	0	2	2	12	0	13	**25**	0	**25**	100	Elect	0	0	1	0	1
		Kikimi	KN105	26974	35066	12	0	2	2	6	0	5	**11**	1	**12**	50	Elect	0	0	0	0	0
		Kimbanseke	KN106	34256	44533	14	0	2	2	7	0	6	**13**	1	**14**	60	Petrole	1	0	0	0	0
		Kin Malebo	KN115	43759	56887	16	0	2	2	8	0	6	**14**	2	**16**	60	Elect	0	0	0	1	1
		Kingabwa	KN107	19663	25562	8	0	1	1	4	0	4	**8**	0	**8**	30	Elect	0	0	0	0	0
		Kingasani	KN108	27144	35287	9	0	1	1	5	0	4	**9**	0	**9**	35	Elect	0	0	1	0	1
		Kinkole Maluku	KN109	28135	36576	24	0	3	3	12	0	10	**22**	2	**24**	100	Elect	0	0	1	0	1
		Kisenso	KN110	39047	50761	18	0	2	2	9	0	7	**16**	2	**18**	120	Elect	0	0	1	0	1
		Kito Kimosi	KN111	33759	43887	25	0	3	3	12	0	11	**23**	2	**25**	100	Elect	0	0	0	0	0
		Kokolo	KN103	42998	55897	14	0	2	2	7	0	6	**13**	1	**14**	60	Elect	0	0	1	0	1
		Lemba Matete	KN112	50377	65490	17	0	2	2	8	0	7	**15**	2	**17**	70	Elect	0	0	0	1	1

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
PROVINCE		ZS	ID ZS	POP CIBL	VACC/PH	Nbre sites	glac UN	glac OMS	Total glac. (accordees)	B I Sud Afr	B I Geostyle	B I IVC 9AF	Total B I UNICEF	B I Sud Afr Rotary	Total B I (accordees)	ACCU M 0 3l	Energie	RCW FCW OMS	Cong MF3 04 + pieces Unicef	Refr MK074 Unicef	TCW 1990 OMS	Total Refr/Cong Compression
		Makala	KN113	25487	33133	10	0	2	2	5	0	5	10	0	10	40	Elect	0	0	0	0	0
		Makelele	KN114	32406	42128	11	0	2	2	6	0	5	11	0	11	44	Elect	0	0	0	0	0
		Masina	KN116	52239	67911	19	0	2	2	9	0	8	17	2	19	70	Elect	0	0	1	0	1
		Mboka sika	KN119	37187	48343	13	0	2	2	7	0	5	12	1	13	59	Elect	0	0	0	0	0
		Mont Amba	KN120	34682	45087	15	0	2	2	7	0	6	13	2	15	72	Elect	0	0	0	0	0
		Ndjili	KN121	47345	61549	16	0	2	2	8	0	6	14	2	16	120	Elect	0	0	1	0	1
		Ngaba	KN122	42007	54609	14	0	2	2	7	0	5	12	2	14	120	Elect	0	0	0	0	0
S/TOTAL		22		808775	1051408	336	0	44	44	177	0	143	320	26	346	1534		1	1	10	4	15
PROVINCE	ANTENNE																					
MANIEMA	KINDU				0	0	0	0	0	10	0	0	10	0	10	80	Petrole	0	0	0	1	1
		Kalima	MN101	30760	39988	43	3	0	3	21	0	18	39	4	43	344	Elect	0	0	0	0	0
		Kampene	MN102	36176	47029	51	3	0	3	26	0	18	44	7	51	408	Petrole	1	0	0	0	0
		Kasongo	MN103	54310	70603	68	3	0	3	34	0	24	58	10	68	544	Petrole	1	0	0	0	0
		Kibombo	MN104	19920	25896	29	3	0	3	14	0	12	26	3	29	232	Petrole	1	0	0	0	0
		Kindu	MN105	34084	44309	24	3	0	3	12	0	10	22	2	24	192	Elect	0	0	0	1	1
		Lubutu	MN106	21596	28075	27	2	0	2	13	0	11	24	3	27	216	Petrole	1	0	0	0	0
		Lusangi	MN107	44569	57940	35	3	0	3	17	0	14	31	4	35	280	Petrole	1	0	0	0	0
		Punia	MN108	29950	38935	35	2	0	2	18	0	13	31	4	35	280	Elect	0	0	0	0	0
S/TOTAL		8		271365	352775	312	22	0	22	165	0	120	285	37	322	2576		5	0	0	2	2
PROVINCE	ANTENNE																					
NORD KIVU	BUTEMBO				0	0	0	0	0	10	0	0	10	0	10	80	Elect	0	2	0	0	2
		Beni	NK101	43729	56848	31	0	2	2	15	0	13	28	3	31	248	Elect	0	0	1	0	1
		Butembo	NK102	32841	42693	28	0	2	2	14	0	11	25	3	28	224	Elect	0	0	1	0	1
		Katwa	NK103	49062	63781	43	0	2	2	21	0	16	37	6	43	344	Petrole	0	0	0	0	0
		Kyondo	NK104	32063	41682	33	0	2	2	16	0	14	30	3	33	264	Elect	0	0	0	0	0
		Lubero	NK105	43187	56143	41	0	2	2	20	0	15	35	6	41	328	Petrole	0	0	0	0	0
		Mangurijipa	NK106	21400	27820	34	0	2	2	17	0	14	31	3	34	272	Elect	0	0	1	0	1
		Musienene	NK107	28570	37141	35	0	2	2	17	0	14	31	4	35	280	Elect	0	0	1	0	1
		Mutwanga	NK108	20542	26705	19	0	2	2	9	0	8	17	2	19	152	Petrole	0	0	0	0	0
		Oicha	NK109	29346	38150	29	0	3	3	15	0	11	26	3	29	232	Petrole	0	0	0	0	0
S/TOTAL		9		300740	390962	293	0	19	19	154	0	116	270	33	303	2424		0	2	4	0	6
	ANTENNE																					
	GOMA				0	0	0	0	0	10	0	0	10	0	10	80	Elect	0	0	0	0	0
		Birambizo	NK201	59889	77856	37	0	3	3	18	0	15	33	4	37	296	Petrole	1	0	0	0	0
		Goma	NK202	45287	58873	20	0	1	1	10	0	8	18	2	20	160	Elect	0	0	1	0	1

PLAN DE REPARTITION DU MATERIEL CHAINE DU FROID OMS/UNICEF/ROTARY

7/23/98

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
PROVINCE		ZS	ID ZS	POP CIBL	VACC/PH	Nbre sites	glac UN	glac OMS	Total glac. (accordees)	B I Sud Afr	B I Geostyle	B I IVC 9AF	Total B I UNICEF	B I Sud Afr Rotary	Total B I (accordees)	ACCU M 0 31	Energie	RCW FCW OMS	Cong MF3 04 + pieces Unicef	Refr MK074 Unicef	TCW 1990 OMS	Total Refr/Cong Compression
		Kayna	NK203	36984	48079	42	0	2	2	21	0	15	36	6	42	336	Groupe	0	0	0	0	0
		Kirotshe	NK204	61074	79396	45	0	3	3	23	0	17	40	5	45	360	Groupe	1	0	0	0	0
		Masisi	NK205	47905	62277	70	0	3	3	35	0	25	60	10	70	560	Petrole	1	0	0	0	0
		Mweso	NK206	30081	39105	35	0	3	3	17	0	14	31	4	35	280	Petrole	1	0	0	0	0
		Pinga	NK207	23224	30191	25	0	3	3	13	0	9	22	3	25	200	Elect	0	0	1	0	1
		Rutshuru	NK208	47945	62329	46	0	3	3	23	0	17	40	6	46	368	Elect	0	0	1	0	1
		Rwanguba	NK209	31426	40854	45	0	3	3	22	0	17	39	6	45	360	Elect	0	0	1	0	1
		Walikale	NK210	17657	22954	42	0	3	3	21	0	16	37	5	42	336	Groupe	1	0	0	0	0
S/TOTAL		10		401472	521914	407	0	27	27	213	0	153	366	51	417	3336		5	0	4	0	4
PROVINCE	ANTENNE																					
ORIENTALE	BUNIA				0		0	0	0	10	0	0	10	0	10	80	Elect	0	0	0	0	0
		Aru	OR101	46915	60990	60	0	2	2	30	0	20	50	10	60	480	Petrole	1	0	0	0	0
		Bambumines	OR102	34729	45148	42	0	2	2	21	0	15	36	6	42	336	Elect	0	0	1	0	1
		Biringi	OR103	23413	30437	30	0	2	2	15	0	12	27	3	30	240	Petrole	1	0	0	0	0
		Boga	OR104	12240	15912	30	0	2	2	15	0	12	27	3	30	240	Petrole	1	0	0	0	0
		Bunia	OR105	60334	78434	40	0	2	2	20	0	16	36	4	40	320	Elect	0	0	1	0	1
		Drodro	OR313	61302	79693	41	0	2	2	20	0	17	37	4	41	328	Elect	0	0	1	0	1
		Fataki	OR107	35682	46387	59	0	3	3	28	0	22	50	9	59	472	Petrole	0	0	0	0	0
		Laybo	OR108	53200	69160	59	0	3	3	29	0	21	50	9	59	472	Petrole	1	0	0	0	0
		Logo	OR109	45239	58811	38	0	3	3	19	0	15	34	4	38	304	Petrole	1	0	0	0	0
		Lolwa	OR110	19712	25626	24	0	3	3	12	0	10	22	2	24	192	Groupe	0	0	0	0	0
		Mambasa	OR111	16829	21878	21	0	3	3	11	0	8	19	2	21	168	Petrole	1	0	0	0	0
		Mandima	OR112	15009	19512	22	0	2	2	11	0	9	20	2	22	176	Petrole	1	0	0	0	0
		Mongbwalu	OR113	57170	74321	27	0	3	3	14	0	10	24	3	27	216	Elect	0	0	0	0	0
		Nyankunde	OR114	28825	37473	21	0	2	2	11	0	8	19	2	21	168	Elect	0	0	0	0	0
		Nyarambe	OR115	33600	43680	21	0	2	2	10	0	9	19	2	21	168	Petrole	1	0	0	0	0
		Rethy	OR116	58774	76406	59	0	4	4	29	0	20	49	10	59	472	Petrole	1	0	0	0	0
		Rimba	OR117	20425	26553	22	0	2	2	11	0	9	20	2	22	172	Petrole	1	0	0	0	0
		Tchomia	OR118	13085	17011	22	0	2	2	11	0	9	20	2	22	172	Elect	0	0	1	0	1
	S/TOTAL	18		636483	827428	638	0	44	44	327	0	242	569	79	648	5176		10	0	4	0	4
	ANTENNE																					
	BUTA				0	0	0	0	0	10	0	0	10	0	10	80	Petrole	0	0	0	0	0
		Aketi	OR201	26574	34546	39	0	3	3	18	0	14	32	7	39	312	Petrole	0	0	0	0	0
		Ango	OR202	15188	19744	24	0	2	2	12	0	9	21	3	24	192	Petrole	1	0	0	0	0
		Bili	OR203	12341	16043	20	0	2	2	10	0	8	18	2	20	160	Petrole	1	0	0	0	0
		Bondo	OR204	32256	41933	39	0	3	3	19	0	16	35	4	39	312	Petrole	1	0	0	0	0
		Buta	OR205	32073	41695	34	0	3	3	17	0	14	31	3	34	272	Petrole	0	0	0	0	0

PLAN DE REPARTITION DU MATERIEL CHAINE DU FROID OMS/UNICEF/ROTARY

7/23/98

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
PROVINCE		ZS	ID ZS	POP CIBL	VACC/PH	Nbre sites	glac UN	glac OMS	Total glac (accordees)	B I Sud Afr	B I Geostyle	B I IVC 9AF	Total B I UNICEF	B I Sud Afr Rotary	Total B I (accordees)	ACCU M 0 3l	Energie	RCW FCW OMS	Cong MF3 04 + pieces Unicef	Refr MK074 Unicef	TCW 1990 OMS	Total Refr/Cong Compression
		Dingila	OR206	30600	39780	32	0	3	3	16	0	13	29	3	32	256	Petrole	0	0	0	0	0
	S/TOTAL	6		149032	193742	188	0	16	16	102	0	74	176	22	198	1584		3	0	0	0	0
	ANTENNE																					
	ISIRO				0	0	0	0	0	10	0	0	10	0	10	80	Petrole	0	0	0	0	0
		Aba	OR301	31254	40630	37	0	1	1	19	0	14	33	4	37	296	Petrole	1	0	0	0	0
		Doruma	OR302	12312	16006	21	0	1	1	10	0	9	19	2	21	168	Groupe	0	0	1	0	1
		Dungu	OR303	29325	38123	37	0	1	1	18	0	14	32	5	37	296	Petrole	1	0	0	0	0
		Faradje	OR304	21497	27946	25	0	1	1	12	0	10	22	3	25	200	Petrole	0	0	0	0	0
		Gombari	OR305	20328	26426	20	0	1	1	10	0	8	18	2	20	160	Petrole	1	0	0	0	0
		Isiro	OR306	33263	43242	35	0	0	0	17	0	14	31	4	35	280	Petrole	1	0	0	0	0
		Niangara	OR307	24515	31870	33	0	2	2	16	0	13	29	4	33	264	Groupe	1	0	0	0	0
		Pawa	OR308	37479	48723	47	0	3	3	23	0	18	41	6	47	376	Petrole	0	0	0	0	0
		Poko	OR309	26569	34540	41	0	3	3	20	0	16	36	5	41	328	Petrole	1	0	0	0	0
		Wamba	OR310	33726	43844	44	0	3	3	22	0	17	39	5	44	352	Petrole	1	0	0	0	0
		Watsa	OR311	37848	49202	48	0	3	3	24	0	18	42	6	48	384	Petrole	0	0	0	0	0
	S/TOTAL	11		308116	400551	388	0	19	19	201	0	151	352	46	398	3184		7	0	1	0	1
	ANTENNE																					
	KISANGANI				0	0	0	0	0	10	0	0	10	0	10	80	Elect	0	0	0	0	0
		Bafwasende	OR401	23690	30797	33	0	3	3	16	0	14	30	3	33	264	Petrole	1	0	0	0	0
		Banalia	OR402	26530	34489	39	0	4	4	19	0	16	35	4	39	312	Petrole	0	0	0	0	0
		Basoko	OR403	33496	43545	44	0	4	4	22	0	16	38	6	44	352	Groupe	0	0	1	0	1
		Isangi	OR404	21012	27316	47	0	4	4	23	0	16	39	8	47	376	Petrole	0	0	0	0	0
		Kabondo	OR405	39906	51878	27	0	2	2	18	0	15	33	0	33	216	Petrole	1	0	0	0	0
		Kisangani	OR406	58558	76125	25	0	2	2	12	0	10	22	3	25	200	Elect	0	0	1	0	1
		Lubunga	OR407	29281	38065	21	0	2	2	10	0	9	19	2	21	168	Elect	0	0	1	0	1
		Opala	OR408	31545	41009	36	0	3	3	18	0	14	32	4	36	288	Petrole	1	0	0	0	0
		Ubundu	OR409	23816	30961	37	0	3	3	18	0	14	32	5	37	296	Petrole	1	0	0	0	0
		Yabaondo	OR410	32400	42120	35	0	3	3	17	0	14	31	4	35	280	Groupe	0	0	1	0	1
		Yahuma	OR411	19477	25320	26	0	3	3	13	0	9	22	4	26	208	Petrole	1	0	0	0	0
		Yakusu	OR412	23400	30420	39	0	3	3	19	0	16	35	4	39	312	Petrole	1	0	0	0	0
	S/TOTAL	12		363111	472044	409	0	36	36	215	0	163	378	47	425	3352		6	0	4	0	4
PROVINCE	ANTENNE																					
SUD KIVU	BUKAVU				0	0	0	0	0	10	0	0	10	0	10	80	Elect	0	0	0	0	0
		Bukavu	SK101	55637	72328	37	0	2	2	18	0	15	33	4	37	296	Elect	0	0	0	0	0
		Bunyakiri	SK102	42638	55429	60	0	3	3	30	0	20	50	10	60	480	Petrole	0	0	0	0	0

PLAN DE REPARTITION DU MATERIEL CHAINE DU FROID OMS/UNICEF/ROTARY

7/23/98

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
PROVINCE		ZS	ID ZS	POF CIBL	VACC/PH	Nbre sites	glac UN	glac OMS	**Total glac (accordees)**	B I Sud Afr	B I Geostyle	B I IVC 9AF	**Total B I UNICEF**	B I Sud Afr Rotary	**Total B I (accordees)**	ACCU M 0 3l	Energie	RCW FCW OMS	Cong MF3 04 + pieces Unicef	Refr MK074 Unicef	TCW 1990 OMS	Total Refr/Cong Compression
		Fizi	SK103	33600	43680	50	0	3	3	25	0	18	**43**	7	**50**	400	Petrole	0	0	0	0	0
		Idjwi	SK104	23016	29921	37	0	1	1	18	0	15	**33**	4	**37**	296	Petrole	1	0	0	0	0
		Kabare	SK105	22942	29825	31	0	2	2	15	0	13	**28**	3	**31**	248	Elect	0	0	1	0	1
		Katana	SK106	56216	73081	73	0	2	2	36	0	27	**63**	10	**73**	584	Petrole	0	0	0	0	0
		Kaziba	SK107	23102	30033	38	0	2	2	17	0	15	**32**	6	**38**	304	Elect	0	0	0	0	0
		Lemera	SK108	18300	23790	30	0	2	2	15	0	11	**26**	4	**30**	240	Elect	0	0	1	0	1
		Mwenga	SK109	54600	70980	67	0	3	3	34	0	23	**57**	10	**67**	536	Petrole	0	0	0	0	0
		Nundu	SK110	33000	42900	48	0	3	3	24	0	17	**41**	7	**48**	384	Petrole	0	0	0	0	0
		Nyangezi	SK111	23120	30056	38	0	2	2	17	0	16	**33**	5	**38**	304	Petrole	0	0	0	0	0
		Shabunda	SK112	75647	98341	133	0	10	10	67	0	46	**113**	20	**133**	1064	Petrole	2	0	0	0	0
		Uvira	SK113	54199	70459	53	0	2	2	26	0	20	**46**	7	**53**	424	Elect	0	0	0	0	0
		Walungu	SK114	77060	100178	89	0	7	7	45	0	34	**79**	10	**89**	712	Elect	0	0	1	0	1
	S/TOTAL	14		593077	771000	784	0	44	44	397	0	290	**687**	107	**794**	6352		3	0	3	0	3
Totaux Pays		307		10047645	13061938 5	9653	385	379	714	5500	600	3400	**9500**	714	**10253**	80000		157	12	58	36	106
C F							65	15	80									1				
TOT MAT							450	344	794									158	12	58	36	106

Glac réceptionnées	450	298
Déficit glacières	46	

TOTAL FRIGO/CONGEL = **264**

Déficit réfrigérateurs 4 (absorption)

Legend (columns headers)

1 Province
2 Antenne
3 Health Zone
4 Health Zone ID
5 Target Population
6 # of OPV doses / round
7 # of vaccination sites
8 UNICEF cold boxes
9 WHO cold boxes
10 Cold boxes total
11 South African Vaccine carriers
12 Long range Vaccine-carriers
13 Medium range Vaccine carriers
14 UNICEF Vaccine carrier total
15 South African Vaccine carrier from Rotary
16 Vaccine carriers total
17 Icepacks
18 Type of energy
19 WHO Refrigerators/Freezers (petrol type)
20 UNICEF Freezers (electricity)
21 UNICEF Refrigerators (electricity)
22 WHO Refrigerators (electricity)
23 Refrigerators and Freezers total (electricity)

APPENDIX B
Partners List

LISTE DES ORGANISATIONS CONTACTEES POUR UNE AIDE DANS LE CADRE DES JNV

Nom de l'organisation / Contact	Coordonnées	Domaine d'intervention	Implementation		Moyens Radio & Transport	Date Contact	Résultat / Remarques	Action
			Province	Zone de Santé				
Memisa-Belgique Drs Mazaya & Bewa	Telcel 48 159	Santé	Bandundu	Bokoro Kikongo Kikwit Mosango, Yasa Bonga, Djuma, Kajiji, Kingandu, Koshibanda, Popokabaka, Panzi Ipamu Kasongo Lunda	Radio peuvent transmettre des messages	08/06	Peuvent prendre en charge matériel et vaccins destinés aux Zones de Santé ou ils travaillent à condition de les prévenir à l'avance	Préparer la liste du matériel pour les ZS concernées avec poids et volume et leur transmettre
Service Promotion de la Santé (ex BDOM) Hipolyte Nkoy	34528, 34529, 34530	Santé	Tout le pays (Diocèses)	Voir liste	Radio peuvent transmettre des messages	10/06		
MSF France Cedric log Kin, Jean Pierre log Equateur	88 017 82	Santé	Bas-Congo Equateur			10/06		
MSF Belgique Helga Coord Méd	46 292	Santé	Equateur et Katanga	EQ = 11 ZS KT = 8 ZS	Radio HF véh		Passer les voir le 15 ou 16/06 pour rencontrer équipe Equateur	
Procure Ste Anne, bureau de fret	Font uniquement du fret aérien et fluvial							
Oxfam UK Mme Tonberg	88 011 67	Water & sanitation	Katanga, NK, SK	Goma, Bukavu	Radio HF véh			
CRS Kevin Hartigan	46 793		KO KE NK		Radio HF, véh			
Fed Int Xrges Andrea	88 018 94							
MDM	88 018 41	Santé	KE NK	Tshilenge(KE), Goma	Radio HF, véh			
AICF USA Danielle (Kin)	Kin 88 03156 Uvira 871 761 582 290	Santé	SK	Uvira, Fizi	Radio HF véh transp Fizi / Uvira			

APPENDIX C
Rehabilitation Plan for the Routine EPI Logistics

PLAN DE RELANCE DE LA LOGISTIQUE DU PROGRAMME ELARGI DE VACCINATION EN REPUBLIQUE DEMOCRATIQUE DU CONGO (RDC, 1998)

DRAFT

1 Justification

Les objectifs du Programme Elargi de Vaccination (PEV) pour la decennie sont ambitieux mais realistes Ils visent la reduction de la mortalite et de la morbidite lieès aux maladies - cibles Une priorite est accordee a

- l'éradication de la Poliomyelite ,
- l'élimination du tetanos neonatal et
- le contrôle de la rougeole

Pour atteindre ces objectifs, il est indispensable d' assurer un niveau minimum de performance a l'une des fonctions essentielles du PEV la fonction logistique

A l'heure actuelle il est reconnu que le systeme logistique du PEV /RDC est defaillant, avec son arsenal d'equipements vieillissants, insuffisants et même inadaptes (cas des refrigerateurs avec CFC)

Differentes evaluations faites par des equipes mixtes Gouvernement - Partenaires ont mis en evidence les faiblesses suivantes concernant le systeme logistique du PEV en RDC

Systeme dote d'un personnel devoue, travaillant dans des conditions particulierement difficiles mais insuffisamment formes dans le domaine de la logistique

Absence de politique de maintenance

Utilisation abusive du materiel

Faiblesse dans le monitorage aux differents niveaux pour l'ensemble des activites de la logistique, du transport et de la chaîne du froid

Insuffisance d equipements de la chaîne de froid

Depuis le debut de l'annee 1998, des solutions commencent a se mettre en route

1 Les partenaires du Programme (Unicef, OMS, BASICS/USAID) ont convenu d'equiper progressivement les Zones de Sante en materiel de chaîne du froid

dans le contexte des Journees Nationales de Vaccination contre la poliomyelite Cette operation est egalement destinee au renforcement du PEV de routine

2 Le recrutement des logisticiens provinciaux charges de la mise en oeuvre et du suivi
sur terrain de la logistique du PEV a ete realise depuis Avril 1998 Leur mise en place se fera avant la fin du mois de Juin 98 pour les 4 provinces et progressivement pour les 7 autres provinces a mesure que les postes de logisticiens seront financés

3 La constitution d'une equipe de consultants internes en logistique au niveau du PEV central, ayant pour rôle de

a Verifier a tous les niveaux l'application correcte des regles, consignes et procedures en vigueur en matiere de la logistique du PEV

b Mesurer les progres effectifs a l'aide des indicateurs adaptes

c Assurer la mise a jour technique des competences des agents du PEV-LMTE a tous les niveaux dans les divers domaines de la logistique par le biais de la documentation, de l'organisation des stages, de seminaires-ateliers, de mise a disposition des bourses de stages pour l'etranger

3 L'appui du logisticien interpays de l'OMS pour la R D C et celui du BASICS/USAID

Le present plan annuel se propose de demarrer en Republique Democratique du Congo la relance des activites de logistique du PEV pour l'exercice 1998

2 Objectifs

2 1 Objectif Géneral

Assurer la relance de la logistique du PEV en Republique Democratique du Congo

2 2 Objectifs specifiques

Avant la fin de l'annee 1998

- Ameliorer la gestion des vaccins
- Assurer la gestion des equipements de la chaîne du froid
- Assurer le monitorage de la logistique et du transport

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3 Stratégie / Activités

1 Tenir un séminaire atelier sur le concept de logistique a l'intention de membre de la cellule logistique et de logisticiens provinciaux
2 Assurer la mise en place et le fonctionnement de logisticiens provinciaux
3 Assurer l'appui au fonctionnement de la cellule logistique du PEV central
4 Participer aux réunions inter pays sur la logistique
5 Acquérir deux kits d'outillage pour la réparation des réfrigérateurs sans CFC
6 Acheter 6 ordinateurs, 2 imprimante laser, 4 imprimantes a jet d'encre en couleur
7 Assurer la saisie, l'analyse des information sur la logistique
8 Produire et distribuer les outils de gestions de la logistique
9 Superviser / évaluer les activités de la logistique au niveau des Antennes et ZS
10 Elaborer la politique nationale de la logistique du PEV
11 Organiser l'atelier d'adoption de la politique nationale de la logistique du PEV
12 Former 100 superviseurs de ZS sur la logistique
13 Former deux techniciens sur l'entretien de réfrigérateur sans CFC
14 Vulgariser les directives et politiques nationales sur la logistique

<u>Eléments de budgétisation pour une session de logisticiens</u>

Nombre de sessions en 1998	4
Nb de participants par session par an	11
Personnel d'appoint	2 (chauffeur + secrétaire d'antenne)
Facilitateur de Kinshasa	1
Facilitateur local	1
Total	15

<u>Coût d'une session</u>

Transport participants	forfait 40$/ personne x 11
Transport facilitateurs de Kinshasa	
Perdiem participants	25$ x 11 x 12 jours
Fournitures de bureau (forfait)	
Perdiem facilitateur local	30$ x 1 x 10 jours
Perdiem facilitateur de Kinshasa	100$ x 1 x 10 jours
Circulation locale	200 litres gasoil

OBJECTIFS	STRATEGIES	ACTIVITES	COUT	RESPONSABLE	PERIODE
Assurer le monitorage de la Chaîne du froid, la logistique et le transport	Acquisition outils de gestion des données de la logistique Monitorage	Achat 6 ordinateurs Achat 2 imprimante laser Achat 4 imprimantes a jet d'encre en couleur Assurer la saisie, l'analyse et les reportage des données de la logistique	18 000 2 000 2 000 500	PEV/OMS	Juin
idem	Production des outils de gestion Supervision	Impression des documents de gestion de stock, de livraison, de distribution des vaccins et des modèles de rapports mensuels et des fiches de supervision et dossiers ZS Effectuer des missions de supervision des 11 coordinations PEV des 30 antennes PEV des 100 Zones de Santé	5 000 22 000 30 000 50 000	PEV/OMS Direction PEV Direction PEV MCP Chefs d'antennes	Avril Mai- Octobre Juin- Novembre Juillet- Septembre
Renforcement du système logistique du PEV	Mini-ateliers Séminaire-atélier	Mini-ateliers de preparation des projets de directives et projet de politique nationale de la logistique en R D C Séminaire - atelier sur l'elaboration des directives et politique nationale	500 $ 20 000 $	PEV/OMS	juin 98

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OBJECTIFS	STRATEGIES	ACTIVITES	COUT	RESPONSABLE	PERIODE
Assurer le renforcement du système logistique du PEV en RDC	Formation	Séminaire-atélier sur le concept logistique pour le renforcement du PEV a l'intention de - la cellule logistique PEV - logiticiens provinciaux PEV	~~20.000~~ 12 320	Equipe OMS/Interpays	Avril
		Mise en place et fonctionnement des logisticiens provinciaux	PM	MD PEV/OMS	Juin
		Appui au fonctionnement de la cellule logistique	2 000	OMS	
		Reunions a l'etranger	5 000	OMS	
Assurer le renforcement du système logistique du PEV en RDC	Acquisition des outils de gestion	Commande 2 Kits d'outillage pour la reparation des refrigerateurs sans CFC	12 000	OMS	Avril

OBJECTIFS	STRATEGIES	ACTIVITES	COUT	RESPONSABLE	PERIODE
Gestion des équipements	Inventaire	Organiser une enquête de mise à jour de l'inventaire des équipements du PEV en R D C	60 000 $	PEV/UNICEF/OMS	
Renforcement de la capacité gestionnaire des Zones de Santé	Formation	Former 100 superviseurs des zones de santé en logistique	20 000 $	PEV/BASICS	Novembre
		Former 2 techniciens sur l'entretien des réfrigérateurs sans CFC	25 000 $	OMS/PEV	Décembre

Indicateurs

- Nombre de logisticiens provinciaux recrutés
- Nombre de logisticiens provinciaux en poste
- Nombre de consultants internes en logistique formés
- Nombre de réunions tenues par la cellule logistique
- Nombre de décisions prises par la cellule logistique et suivies pendant les réunions
- Montant consommé pour le fonctionnement de la cellule logistique
- Participation de la cellule logistique à des réunions à l'étranger sur la logistique
- Nombre de kits d'outillage de réparation de réfrigérateurs sans CFC reçus
- Nombre d'outils de gestion utilisés à chaque niveau du système logistique
- Nombre de Coordinations PEV supervisées en logistique.
- Nombre d'Antenne PEV supervisées en logistique

- **Nombre des Zones de santé supervisées en logistique**
- **Disponibilité des directives sur la logistique, chaîne de froid et les transports en RDC dans le cadre du PEV**
- **Disponibilité des documents de politique national sur la logistique du PEV en RDC**
- **Disponibilité d'un inventaire à jour des équipements du PEV en RDC (Y compris les fournitures essentielles)**
- **Nombre des Superviseurs des Zones de Santé formés en logistique**
- **Nombre de techniciens formés sur l'entretien des refrigerateurs sans CFC)**

RESULTATS ATTENDUS

1 Quatre logisticiens Provinciaux auront ete en poste

2 8 consultants internes auront ete formes
3 14 Reunions auront ete tenues par la cellule logistique
4 Plusieurs décisions prises par la cellule logistique auront ete suivi
5 auront ete consomme pour le fonctionnement de la cellule logistique
6 La cellule logistique aura participe au moins a deux reunions a l'etranger sur la cellule logistique
7 Deux Kit d'outillage de reparation des refrigrateurs sans CFC auront ete rendus disponibles
Les outils de gestion utilises a chaque niveau de système logistique auront ete rendu disponible
9 Onze Coordinations PEV auront eté supervisees en logistique
10 Trente Antenne auront ete supervisees en logistique
11 Cent Zones de santé auront ete supervisees en logistique
12 Les directives sur la logistique, la chaîne de froid et le transport en RDC auront ete disponibles dans le cadre du PEV
13 Les documents de politique nationale sur la logistique auront ete disponibilises en RDC
14 Un inventaire a jour des equipements du PEV en RDC y compris les fournitures essentiels aura existe en RDC
15 Cent superviseurs des Zones de Sante auront ete formes en logistique
16 Les Techniciens auront ete formes sur l'entretien des refrigérateurs sans CFC

APPENDIX D
NIDs and Routine EPI Workshop

Programme pour le jour supplementaire de l'Atelier

Deux grands thèmes a discuter

1 Theme en rapport avec les JNV

a) Le suivi des activites JNV dans les zones de sante

- Provinces avec Sous-Bureaux Unicef
- Provinces sans Sous-Bureaux Unicef
- Recommandations pour le suivi (a mettre en application immediatement)

b) Distribution des intrants pour les JNV

- Opportunites a saisir
- Examen des plans de distribution elabores au niveau central (corrections en tenant compte des realites du terrain) portes d'entree de ces materiels dans les provinces
- Distribution a l'interieur des provinces (du chef-lieu de provinces vers les zones de sante),

c) Budgets prevus pour le suivi et la distribution des materiels

- Ce qui existe (Unicef, OMS, Gouvernement)
- Mecanismes de deblocage de ces fonds pour les rendre disponibles aux acteurs du terrain dans les meilleurs delais
- Requêtes a presenter (a faire par les representants des provinces)

2 Theme en rapport avec le PEV de routine

a) Description d'une antenne PEV fonctionnelle, d'une zone de sante fonctionnelle et d'un CS fonctionnel

- Equipement minimum pour une antenne PEV fonctionnelle (CF, transport, imprimes et intrants du programme), d'une zone de sante fonctionnelle et d'un CS fonctionnel
- Personnel de l'antenne PEV (niveau de formation)
- Fonctions d'une antenne PEV fonctionnelle

b) Evaluation des antennes PEV

- Combien sont actuellement fonctionnelles en tenant compte des criteres decrits
- Ce qu'il faut faire pour ces antennes maintenant

c) Proposition d'un systeme de supervision des activites de vaccination et rôle des chefs d'antennes PEV / Coordonnateurs provinciaux du PEV dans la supervision

PROVINCES AVEC SOUS-BUREAUX UNICEF

1 BAS-CONGO
2 KASAI OCCIDENTAL
3 KASAI ORIENTAL (Exclure le SANKURU)
4 PROVINCE ORIENTALE
5 SUD-KIVU
6 NORD-KIVU
7 KINSHASA
8 KATANGA

Les zones de sante de ces provinces sont regulierement assistees

- en equipement de materiels de la chaîne de froid, de sterilisation et d'inoculation,
- dans la planification des activites,
- dans la formation du personnel,
- dans la supervision des activites

PROVINCES SANS SOUS-BUREAUX UNICEF

1 EQUATEUR
2 BANDUNDU
3 MANIEMA
4 (SANKURU)

Les zones de sante de ces provinces ne jouissent pas de ces avantages (oeuvre essentiellement missionnaire et celle de certaines ONGs) Le suivi des activites preparatoires JNV doit être different ici

A PROPOSITIONS DE SUIVI DES ACTIVITES PREPARATOIRES JNV

De la discussion avec la majorite de representants de provinces et des antennes PEV, il ressort que beaucoup de zones de sante ne sont pas encore pretes et risquent de ne pas l'etre meme la veille du lancement de la campagne L'evaluation de la province de l'Equateur sur les activites planifiees avant les JNV (presentation du Coordonnateur PEV de cette province) a montre a suffisance que le niveau d'avancement des activites preparatoires JNV est encore bas et qu'il fallait, sans tarder, organiser le suivi des zones dans toutes les provinces

L'Unicef a prevu des fonds pour la supervision des activites du PEV de routine Il a ete propose d'utiliser ces fonds prevus pour la supervision des activites de vaccination de routine et d'orienter cette supervision vers le suivi des activites preparatoires des JNV

Pour cela, l'administrateur charge du PEV a l'Unicef a presente aux Chefs d'antennes PEV et aux Coordonnateurs provinciaux pour le PEV les fonds prevus pour la supervision PEV de

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routine et le montant actuellement disponible Ce montant pourra etre utilise pour le suivi des activites preparatoires des JNV au niveau des zones de sante Au meme moment, les cadres du niveau central devront descendre et suivre avec les equipes provinciales, deux a trois zones de sante a probleme par province Les requetes pour cette activite devra etre transmis a l'Unicef avant la fin de la semaine du 6 au 11 /07

Tableau 1 Budget de supervision pour le PEV de routine par province, Unicef, 1998

Provinces	Budget planifie	Fonds deja utilise	Observations
Bas-Congo	10,000 US$		
Kinshasa	1,716 US$		
Bandundu	9,500 US$		
Kasai Occidental	26,300 US$		
Kasai Oriental	5,000 US$	Tout a ete utilise	Possibilite d'augmenter pour le Sankuru
Katanga	8,000 US$		
Maniema	12,600 US$		
Sud-Kivu	5,000 US$		
Nord-Kivu	5,000 US$		
Oriental	15,000 US$		
Equateur	9,000 US$		

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EVALUATION DES ANTENNES PEV

Antennes PEV	Equipements CF et autres matériels du PEV	Personnel de l'Antenne PEV	Formé ? Date de la dernière formation ?	Appui donné à la ZS cette année dans la formation	Appui donné à la ZS dans la supervision	Nbre de rapports transmis à la coordination en 98? (Juin 98)	Observations
Boma	2 Congélateurs 3 frigos	1 Chef d'antenne 1 Secrétaire 2 Policiers	Oui, quand ? Oui, quand ?	Oui, dans 5/12 ZS	Oui, dans 6/12 ZS	3 rapports transmis sur les 6 attendus	
Matadi	2 Congélateurs 2 Frigos 2 Glacières 2 BI 1 7 l 380 accumulat	1 Chef d'antenne 1 Chaffeur 1 Policier	Oui, en 1996 Oui, quand ? Oui, quand ?	Oui, dans 4/17 ZS	Oui, dans 10/17 ZS	3 rapports transmis sur les 6 attendus	4 Congél , 5 frigos et 4 Glacières dans les sites de stockage de vaccins
Kinshasa	2 congélateurs 1 frigos 1 boîte isotherme 1 KitBstérilisateur 100 accumulateur	1 Chef d'antenne 4 Superviseurs 1 Secretaire 1 Chauffeur 2 Policiers ?	Oui, en 1995 Oui, en Oui, en 1990	Non	Non	5 rapports transmis sur les 6 attendus	
Kikwit	4 Frigos Sibir 1 Glacière 180 Accum Fiches de stocks et de relevés	1 Chef d'antenne 1 Secretaire 1 Chauffeur 2 Policiers	Oui, en 1991	Oui, dans 6/18 ZS	Non	5 rapports transmis sur 6 attendus	
Bandundu	1 congélateur 4 frigos 6 glacières 10 boites isoth 1200 accumul 10 stérilisateurs	1 Chef d'antenne 1 Secretaire 1 Chauffeur 2 Policiers	Oui, quand ? Oui, quand ?	Oui, dans 9/11 ZS	Oui, dans 5/11 ZS	? Rapports sur les 6 attendus en 98	

Antennes PEV	Equipements CF et autres matériels du PEV	Personnel de l'Antenne PEV	Formé ? Date de la dernière formation ?	Appui donné à la ZS cette année dans la formation	Appui donné à la ZS dans la supervision	Nbre de rapports transmis à la coordination en 98? (Juin 98)	Observations
Kenge	1 frigos 1 glacière 120 accumlateurs	1 Chef d'antenne 1 Secretaire 1 Chauffeur 3 Policiers	Oui, en 1995	Oui, dans 4/7 ZS	Non	3 rapports transmis sur les 6 attendus	
Inongo	2 frigos (1 p) 1 moto (p) 2 glacières 60 accum 300gr 180 accum 600gr 4 thermomètres	1 Chef d'antenne 1 secretaire 1 Chauffeur 2 Policiers	Oui, en 1996	Non	Oui, dans 2 ZS	3 rapports transmis sur les 6 attendus	
Boende		1 Chef d'antenne					
Bumba	3 Glacières Stock pièces de rechange pour frigos 82 accumul	1 Chef d'antenne 1 Secretaire 1 Chauffeur 2 Policiers	Oui, en 1995 Non Oui, en mécaniqu Non	Oui, en 2/3 ZS	Oui, en 1/3 ZS	2 rapports transmis sur les 6 attendus	Manque de moyen de transport et de fourniture de bureau
Gbadolite		1 Chef d'antenne					
Gemena	2 congélateurs 3 frigos 3 glacières 16 boites isoth 60 accum 300 grs 100 acc 600 grs	1 Chef d'antenne 1 Secretaire 1 Chauffeur 2 Policiers	Oui, en 1995	Non	Non	3 rapports transmis sur les 6 attendus	congélateur non adapté, besoin de 2 congél à pétrole et de deux frigos mixtes

Antennes PEV	Equipements CF et autres matériels du PEV	Personnel de l'Antenne PEV	Formé ? Date de la dernière formation ?	Appui donné à la ZS cette année dans la formation	Appui donné à la ZS dans la supervision	Nbre de rapports transmis à la coordination en 98? (Juin 98)	Observations
Lisala		1 Chef d'antenne	Oui, quand ?				
Mbandaka		1 Chef d'antenne	Oui, quand ?				
Bukavu	5 Congélateurs 3 Frigos 800 Accumul 1 Machine à écrire 5000 sering autobloquantes	1 Chef d'antenne 1 Secrétaire 2 Policiers	Oui, quand ? Oui, quand ? 1 formé, un non	Dans 4/14 ZS	Dans 1/14 ZS	3 rapports envoyes sur les 6 attendus	
Butembo	2 Congélateurs 2 Frigos 1 Glacière 300 accumul	1 Chef d'antenne 1 Secretaire 1 Chauffeur	Oui, 1996 Oui,1997 Oui	3 ZS dans le cadre des JNV	3 ZS dans le cadre des JNV	3/5 rapports envoyés à la coordination	
Goma	1 Chambre froide 2 Frigos 2 Congél 2 Glacières 10 BI 6 Thermomètre	1 Chef d'antenne 1 Secrétaire 1 Chauffeur 2 Policiers	Oui, 1996 Non Non Non	1	1	5/6	
Kindu	3 Congélateurs 3 Frigos (1=panne) 10 Glacières 30 BI et 500 accumulateurs	1 Chef d'anten 1 Secretaire 1 Chauffeur 2 Policiers	1996-1998 Oui Oui	Non	Non	3	

Antennes PEV	Equipements CF et autres matériels du PEV	Personnel de l'Antenne PEV	Formé ? Date de la dernière formation ?	Appui donné à la ZS cette année dans la formation	Appui donné à la ZS dans la supervision	Nbre de rapports transmis à la coordination en 98? (Jun 98)	Observations
Kalemie	2 congélateurs 4 frigos 2 glacières 4 boites isoth 4 thermomètres 280 accum 300gr 300 accum 600gr	1 Chef d'antenne 1 Secretaire 1 Chauffeur	Oui (5 fois) Oui (par le CA) Oui	Oui, dans combien de ZS?	Oui, dans combien de ZS?	Oui (Combien de rapports transmis?)	
Kamina	1 congélateur 2 frigos	1 Chef d'antenne 1 Secretaire 1 Chauffeur 1 Policier	Oui	Oui, dans 3/10 ZS	Oui, dans 3/10 ZS	3 rapports transmis sur les 6 attendus	
Kolwezi	2 congélateurs 3 frigos	1 Chef d'antenne 1 Secretaire 1 Chauffeur 2 Policiers	Oui	Non	Non	4 rapports transmis sur les 6 attendus	
Lubumbashi	1 chambre froide 1 frigos 1 congélateur	1 Chef d'antenne 1 superviseur (CF) 3 Policiers 1 Chauffeur	Oui, en 1989	Oui,dans 5/13 ZS	Oui, dans 5/13 ZS	4 rapports transmis sur les 6 attendus	
Bunia	4 petits congél 2 grands congél 4 frigos sibir	1 Chef d'antenne 1 Secretaire 1 Chauffeur 2 Policiers	Oui, en 1997	Oui, dans 5/18 ZS	Non	4 rapports transmis sur les 6 attendus	

Antennes PEV	Equipements CF et autres matériels du PEV	Personnel de l'Antenne PEV	Formé ? Date de la dernière formation ?	Appui donné à la ZS cette année dans la formation	Appui donné à la ZS dans la supervision	Nbre de rapports transmis à la coordination en 98? (Juin 98)	Observations
Buta	4 frigos 2 mini congél 3 Glacières 4 BI 30 acc de 600 grs	1 Chef d'antenne 1 Secretaire 2 Policiers	Oui, en 1995 Oui, en 1995	Oui, dans 1/6 ZS	Oui, dans 5/6 ZS	4 rapports transmis sur les 6 attendus	
Isiro	2 congélateurs 4 frigos 3 glacières 40 BI, 400 accum 1 moto Stock de mat inoc Stock pétrole	1 Chef d'antenne 1 Secretaire 1 Chauffeur 2 Policiers	Oui 78,81,90, 95 1988	Oui, dans 4/11 ZS	Oui, dans 3/11 ZS	3 rapports transmis sur les 6 attendus	
Kisangani	1 Chambre froide 2 Congélateurs 3 Frigos RCW42 (Chambre froide présente)	1 Chef d'antenne 1 Secretaire 2 Policiers	Oui, en 1997 Oui, en 1997	Oui, dans 5/12 ZS	Oui, dans 6/12 ZS	3 rapports transmis sur les 6 attendus	Absence de moyens de transport pour l'antenne
Kananga	2 frigos 1 congél (p) 6 glacières 600 accum 400gr 1 moto	1 Chef d'antenne 1 Chauffeur 2 Policiers	Oui, quand? Oui, quand? Oui,quand?	Oui, dans 1/15 ZS	Oui, dans 4/15 ZS	3 rapports transmis sur les 6 attendus	Pas de secretaire Site de stockage situé à 20 kms possède -4 frigos -4 congélateurs

Antennes PEV	Equipements CF et autres matériels du PEV	Personnel de l'Antenne PEV	Formé ? Date de la dernière formation ?	Appui donné à la ZS cette année dans la formation	Appui donné à la ZS dans la supervision	Nbre de rapports transmis à la coordination en 98? (Juin 98)	Observations
Luiza	?	-					ZS gère l'antenne
Mweka	?	1 Chef d'antenne 1 Secretaire					
Tshikapa	?	1 Chef d'antenne					
Kabinda	0	1 Chef d'antenne	Non	Non	Non	3 rapports transmis sur les 6 attendus	
Lodja	2 frigos Sibir 2 frigos solaires (sans batteries) 1 congél Electr sans groupe élect 1 frigos électrique 3 Glacières 50 boites isother 300 accumulateur	1 Chef d'antenne 1 Secretaire 2 Policiers	Oui, en 1996 Non Non	Non	Oui, dans 2/9 ZS	Non	
Mbuji Mayi	1 chambre froide 2 Congélateurs 3 Frigos ? Glacières 300 boites isoth	1 Chef d'antenne 1 Secretaire 2 Policiers 1 Agent de la surveillance	Oui Non	Oui, dans 1/14	Oui, dans 6/14 ZS	4 rapports transmis sur les 6 attendus	

Antennes PEV	Equipements CF et autres matériels du PEV	Personnel de l'Antenne PEV	Formé ? Date de la dernière formation ?	Appui donné à la ZS cette année dans la formation	Appui donné à la ZS dans la supervision	Nbre de rapports transmis à la coordination en 98? (Juin 98)	Observations
TOTAL	Chambres froide Congélateurs Frigos Glacières Boites isotherme Accumul 300grs Accumul 600grs Pièces détachées Motos Véhicules Kit B seringues Kit B stérilis Cartes CPS Kérosène Formulaires Kit de prélèv selles	Chefs d'antenne Secretaires Chauffeurs Policiers Agents de surveillance	Formés en PEV	Antennes ayant donné un appui aux ZS dans le domaine de formation les six premiers mois de 1998	Antennes ayant donné un appui aux ZS dans le domaine de supervision les six premiers mois de 1998	Antennes ayant transmis au moins 4 rapports vers les coordinations provinciales les 6 premiers mois de l'année 1998	

APPENDIX E
Airstrips Inventory

INVENTAIRE DES PISTES PETIT PORTEUR PAR PROVINCE ET PAR ANTENNE PEV

EQUATEUR					
				kms from provincial capital to health zone	kms from EPI antenna to health zone
Antenne	**Zone de Sante / Health Zone**	**Piste / Airstrip**		**Distance Capitale Province - ZS**	**Distance Antenne - ZS**
		Presente / Available (yes/no)	**Etat / Condition**	**kms**	**kms**
Boende	Monkoto	non	-	-	250
	Ikela	oui	-	980 (fleuve)	460
	Bokungu	oui		750 (fleuve)	250
	Djolu	oui	-	870	300
Bumba	Bumba	oui	bon	-	-
	Yambuku	oui a Bumba	bon	-	250
Gemena	Gemena	oui	desservie par CAL		
	Bokonzi	non	-		250
	Budjala	non	-	-	115
	Mbaya	non	-	-	115
	Zongo	non	-	-	250
Lisala	Lisala	oui	-	-	-
	Pimu	non mais piste a Bosondjo		5j Fleuve+2j Route	387

MANIEMA					
				kms from provincial capital to health zone	kms from EPI antenna to health zone
Antenne	**Zone de Sante / Health Zone**	**Piste / Airstrip**		**Distance Capitale Province - ZS**	**Distance Antenne - ZS**
		Presente / Available (yes/no)	**Etat / Condition**	**kms**	**kms**
Kindu	Lubutu	oui à Tingitingi	bon	-	380
	Punia	oui	bon	-	245
	Kampene	oui	bon	-	150
		a Kama	bon	-	-
	Kibombo	non	-	-	train 117 route 160
	Kasongo	oui a 15kms	bon	-	252
	Lusangi	à Saramabila 120kms	bon	-	372
		a Kasongo 120kms	bon	-	-

SUD-KIVU					
				kms from provincial capital to health zone	kms from EPI antenna to health zone
Antenne	**Zone de Sante / Health Zone**	**Piste / Airstrip**		**Distance Capitale Province - ZS**	**Distance Antenne - ZS**
		Presente / Available (yes/no)	**Etat / Condition**	**kms**	**kms**
Bukavu	Shabunda	Shabunda	bon	450	-
		Katshunga à 40kms de Shabunda	bon	-	-
	Mwenga	Kamituba a 50kms de Mwenga	bon	150	-
	Fizi	Minembwe a 200kms du BCZS	bon	-	-
	Bunyakiri	non	-	75	-

INVENTAIRE DES PISTES PETIT PORTEUR PAR PROVINCE ET PAR ANTENNE PEV

NORD-KIVU					
				kms from provincial capital to health zone	kms from EPI antenna to health zone
Antenne	Zone de Sante / Health Zone	Piste / Airstrip		Distance Capitale Province - ZS	Distance Antenne - ZS
		Presente / Available (yes/no)	Etat / Condition	kms	kms
Goma	Goma	Aeroport			-
	Mweso	oui	bon	110	-
	Pinga	oui	bon	150	-
	Birambizo	non, utilisation de celle de Mweso	-	150	-
	Masisi	non	-	871	-
	Walikale	oui	bon	400	-
	Kayma	non	-	175	-
	Kirotshe	non	-	35	-
	Rutshuru	oui	bon	75	-
	Rwanguba	oui	bon	100	-
Butembo	Butembo	oui	bon	350	-
	Lubero	oui	a verifier	305	45
	Musienene	oui	bon	333	17
	Kyondo	oui celle de Butembo	bon	390	40
	Katwa	oui celle de Butembo	bon	356	6
	Mangurijipa	oui	pas utilise depuis 8 ans	446	96
	Beni	oui	bon	402	52
	Mutwanga	oui a Beni (46kms)	bon	448	98
	Oicha	oui a Beni (28kms)	bon	428	78

KASAI ORIENTAL					
				kms from provincial capital to health zone	kms from EPI antenna to health zone
Antenne	Zone de Sante / Health Zone	Piste / Airstrip		Distance Capitale Province - ZS	Distance Antenne - ZS
		Presente / Available (yes/no)	Etat / Condition	kms	kms
Mbuji Mayi	Luputa	non	-	300	-
	Lusambo	non	-	260	-
Lodja	Lodja	oui	bon	-	-
	Kole	oui	bon	900	260
	Tshudi-Loto	oui	bon	1100	400
	Lomela	oui	bon	960	260
	Katako Kombe	non	-	850	150
	Dikungoshu	non	-	900	200
	Wembo-Nyama	non		940	240
	Minga	oui	bon	1021	321
Kabinda	Kalonda	oui a Tshipusha (110kms)		320	170
	Lubao	non		350	200
	Tshofa	non		370	170

INVENTAIRE DES PISTES PETIT PORTEUR PAR PROVINCE ET PAR ANTENNE PEV

KASAI OCCIDENTAL					
				kms from provincial capital to health zone	kms from EPI antenna to health zone
Antenne	**Zone de Sante / Health Zone**	**Piste / Airstrip**		**Distance Capitale Province - ZS**	**Distance Antenne - ZS**
		Presente / Available (yes/no)	**Etat / Condition**	**kms**	**kms**
Mweka	Mushenge	oui a Mweka	bon	338	78
	Dekese	oui	bon	480	220
	Mikope	non	-	589	329
	Bulape	oui	bon	335	50
	Ilebo	oui	bon	405	160
	Luebo	oui	bon	240	80
Tshikapa	Kamonia	oui	bon	340	75
	Nyanga	oui	douteux	415	150
Luiza	Yangala	oui a Kabuabua (80kms) et a Mundembo (70kms)	-	330	140
	Tshibala	non	-	210	150
	Luambo	oui	-	280	70
	Masuika	non	-	290	80
Kananga	Mwetshi	oui	-	320	-
	Ndekesha	non	-	160	-
	Lubundave	oui	-	160	-
	Bilomba	non	-	105	-
	Katende	oui	-	170	-

BANDUNDU					
				kms from provincial capital to health zone	kms from EPI antenna to health zone
Antenne	**Zone de Sante / Health Zone**	**Piste / Airstrip**		**Distance Capitale Province - ZS**	**Distance Antenne - ZS**
		Presente / Available (yes/no)	**Etat / Condition**	**kms**	**kms**
Inongo	Inongo	oui	bon	>1000	-
	Kiri	oui	bon	>1000	-
Kikwit	Kahemba	oui	-	430	-
	Kajiji	oui a Kahemba	-	550	-
	Feshi	oui	-	210	-
	Mwela Lemba	oui a Feshi	-	300	-
Kenge	Kenge	oui	-	276	-
	Moanza	oui	-	-	150
	Kitenda	oui a Tembo (240kms)	-	750	300
	Masimanimba	non	-	145	80
	Kasongo-Lunda	non	-	-	280
	Popokabaka	non		-	140
	Panzi	oui	bon	-	550
Bandundu	Bandundu	oui	bon	-	-
	Oshwe	oui	bon	-	-
	Mimia	oui	bon	ZS accessible par voie fluviale ou air	
	Kwamouth	non	-	Acces voie fluviale	
	Bosobe	oui	bon	-	-
	Bolobo	oui	bon	-	-

INVENTAIRE DES PISTES PETIT PORTEUR PAR PROVINCE ET PAR ANTENNE PEV

PROVINCE ORIENTALE					
				kms from provincial capital to health zone	kms from EPI antenna to health zone
Antenne	Zone de Santé / Health Zone	Piste / Airstrip		Distance Capitale Province - ZS	Distance Antenne - ZS
		Presente / Available (yes/no)	Etat / Condition	kms	kms
Kisangani	Opala	non	-	272	
	Basoko	oui à Lokutu puis traversée fleuve	bon	316	-
	Bafwasende	oui	bon	262	-
	Yahuma	oui à Mombongo	bon	314	-
	Isangi	non	-	125	-
	Yabaondo	non	-	170	-
Buta	Bondo	oui	bon	525	200
	Dingila	oui	bon	542	217
	Ango	oui	bon	662	337
	Bili	non	-		
Bunia	Aru	oui	bon	-	300
	Laybo	oui a Aru	bon	-	-
	Biringi	oui a Aru	bon	-	-
	Mandima	oui	bon	-	163
	Mambasa	oui a Mandima	bon	-	-
	Boga	oui	bon	-	120
	Tchomia	oui	bon	-	70
	Mongbwalu	oui	bon	-	85
	Rethy	oui	bon	-	155
	Logo	oui a Rethy	bon	-	-
	Nyarambe	oui à Rethy	bon	-	-
Isiro	Doruma	oui	-	962	400
	Dungu	oui	-	772	210
	Faradje	oui ou a Nagero (25kms)	-	927	365
	Aba	oui	-	992	430
	Watsa	oui a Durba (14kms)	-	982	320
	Gombari	oui à Mungbere (80kms)	-	770	208
	Poko	oui	-	695	133
	Wamba	oui	-	790	128

INVENTAIRE DES PISTES PETIT PORTEUR PAR PROVINCE ET PAR ANTENNE PEV

KATANGA					
				kms from provincial capital to health zone	kms from EPI antenna to health zone
Antenne	**Zone de Sante / Health Zone**	**Piste / Airstrip**		**Distance Capitale Province - ZS**	**Distance Antenne - ZS**
		Presente / Available (yes/no)	**Etat / Condition**	**kms**	**kms**
Kalemie	Manono	oui	-	600	580
	Ankoro	oui	-	800	600
	Kiambi	oui a Manono (100kms)	-	700	480
	Kongolo	oui		1536	336
Kolwesi	Dilala	oui (asphaltee)	bon	300	
	Dilolo	oui	-	740	440
	Kansenia	non	-	250	136
	Kasaji	oui	-	604	304
	Kapanga	oui	-	927	627
	Manika	oui (asphaltee)	bon	300	-
	Mutshatsha	non	-	470	170
	Sandoa	oui	-	747	447
Kamina	Kamina	oui (2 dont base militaire)	bon	600	-
	Kabondo Gauche	oui	bon	500	100
	Kabondo Rive Droite	oui a Yembo (130kms)	bon	470	170
	Bukama	oui a Kwena (130kms)	bon	800	200
	Kaniama	oui a Kasese (30kms)	bon	700	100
	Songa	oui	bon	800	200
	Kabongo	oui	bon	880	280
	Kitenge	oui	bon	850	250
	Kinkondja	oui	bon	850	350
	Malemba-Nkulu	oui	bon	950	350
	Mulongo	oui	bon	800	200
Lubumbashi	Kambove	oui a Likasi	-	150	-
	Mufunga	oui a Mitumaba (120kms)	-	450	-
	Kilwa	oui à 90kms	-	365	-
	Pweto	oui	-	580	-
	Sakania	non	-	300	-