

# Dental Outreach Work In Zimbabwe



How to proceed  
step by step

Quentin Voellinger, 1998

**Erreur ! Objet incorporé incorrect.**

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Quentin Voellinger  
Publoz E2  
1070 Puidoux-Gare  
Tel. & Fax. 021 / 946'25'32  
e-mail: [quentin@vtx.ch](mailto:quentin@vtx.ch)

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## Introduction

Zimbabwe is a landlocked in south-central Africa shaped roughly like a water droplet falling from the Caprivi Strip of Namibia. It is situated entirely within the tropics -between 15 degrees south and 22 degrees south latitude - but most Zimbabwe consists of a highveld plateau lying between 900 and 1700 metres over sea level. The country enjoys a remarkably temperate climate. The rainy season is between November and February. Zimbabwe is bound on the north-west by Zambia, on the east and north-east by Mozambique, on the south - west by Botswana, and on the south by the Republic of South Africa. Four countries (Zambia, Zimbabwe, Botswana and Namibia) meet at a single point at the country's westernmost extreme. Zimbabwe's maximum width is 725 km, while north to south it stretches 835 km. The total area is 390'580 sq km, roughly about 9,5 times Switzerland's size.

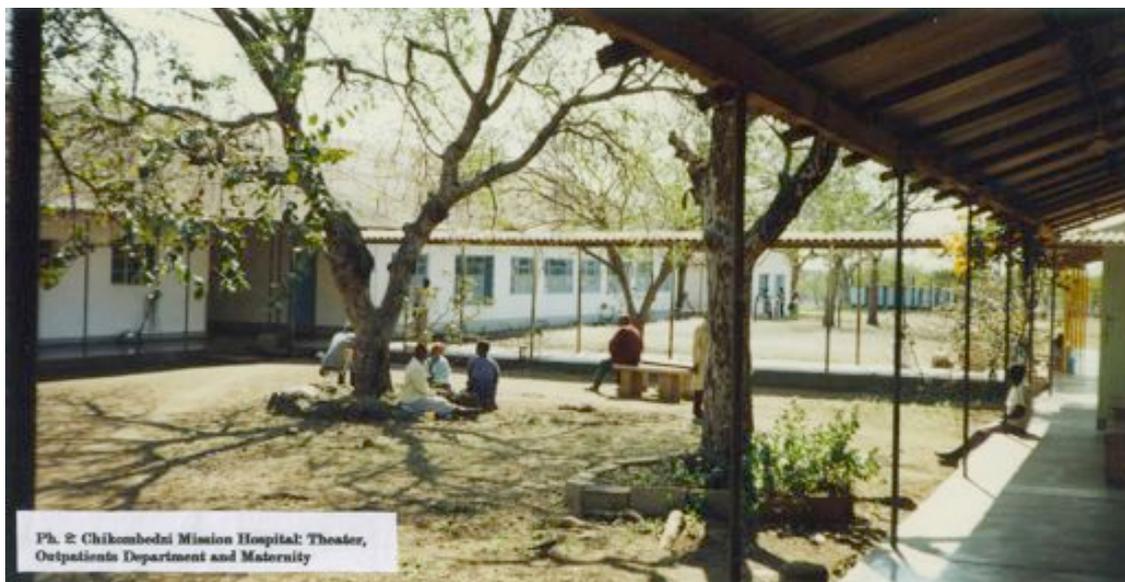
The capital of Zimbabwe is Harare and the whole country is divided into 8 provinces. English is the official language, Shona the first national language and Ndebele the second national language. Besides these 2 indigenous languages, about 15 dialects are spoken in Zimbabwe, depending on which tribe is concerned. The population grows at a rate of 3.5% and in 1991 (last official census), Zimbabwe had approximately around 11million inhabitants. The currency used is the Zimbabwe dollar (Z\$) and the exchange rate in 1996 was CHF 1.- to Z\$ 7.7.-.

Zimbabwe's infrastructure is already on level which permits easy travelling, construction, introduction of institutions, industrial and health establishments. Despite of this, Zimbabwe's economy is very low, but most of the inhabitants have access to school and health care facilities. Progress has been made in supplying arid regions with water in the development of irrigation projects for farming and agriculture.



In all African countries, it has been established that in the domain of dentistry, the situation has deteriorated dramatically over the past thirty years. According to the World Health Organization, we are witnessing a devastating increase in the number of cavities and gum disease in this area of the world. Various factors such as the unfortunate modification of eating habits which include excessive sugar intake, the lack of knowledge of the mouth and dental diseases and of their prevention, the shortage of health services available including qualified staff and management and lack of equipment, the overall poor health of the general population can often mask or worsen a dental problem. Not to mention the harsh environment with its demographic problems both socio-economic and geographic, can all be attributed to this decline in oral health.

Efforts have been made to set up clinics and “help Africans help themselves” in treating dental and mouth pathologies, but it has become quite evident, that it is utopic to wait for impressive results in oral health on a long term. "Dental-Aid International" has introduced dental health education in schools and has invested time and money in such prophylaxis programs. A coherent and credible prophylaxis program will be the only way to lastingly improve the situation created by teeth and mouth diseases in Africa.

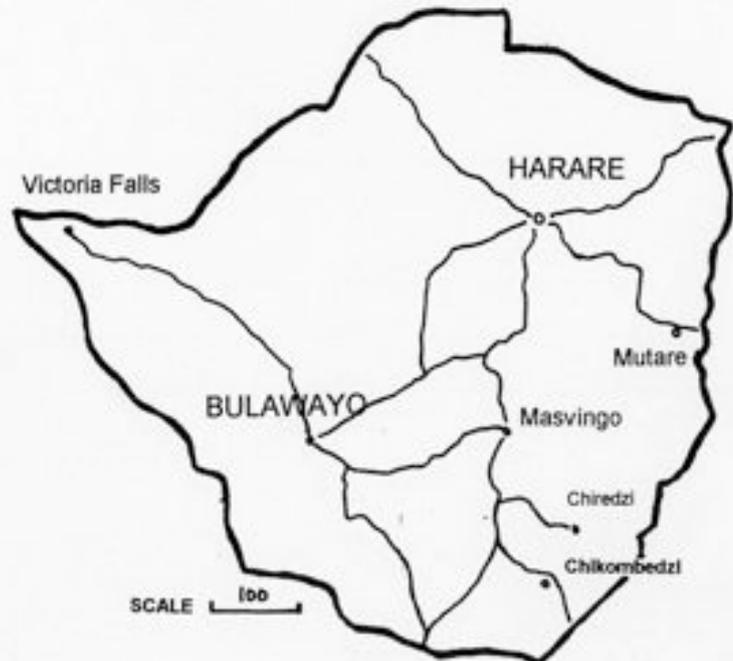


Chikombedzi Mission Hospital is located in the south-east region (Chiredzi South) of Zimbabwe and belongs to the province of Masvingo. It is 96 km east of Rutenga, it is 128 km south of Chiredzi and 244 km from Masvingo. The population area served by this hospital is 30'000 for Chikombedzi, plus rural areas for a total of 100'000.



Surface	390'622 km <sup>2</sup>
Times CH	9.5 x
Population	9.7 mio
Density	24 inhab / km <sup>2</sup>

## ZIMBABWE CHIKOMBEDZI



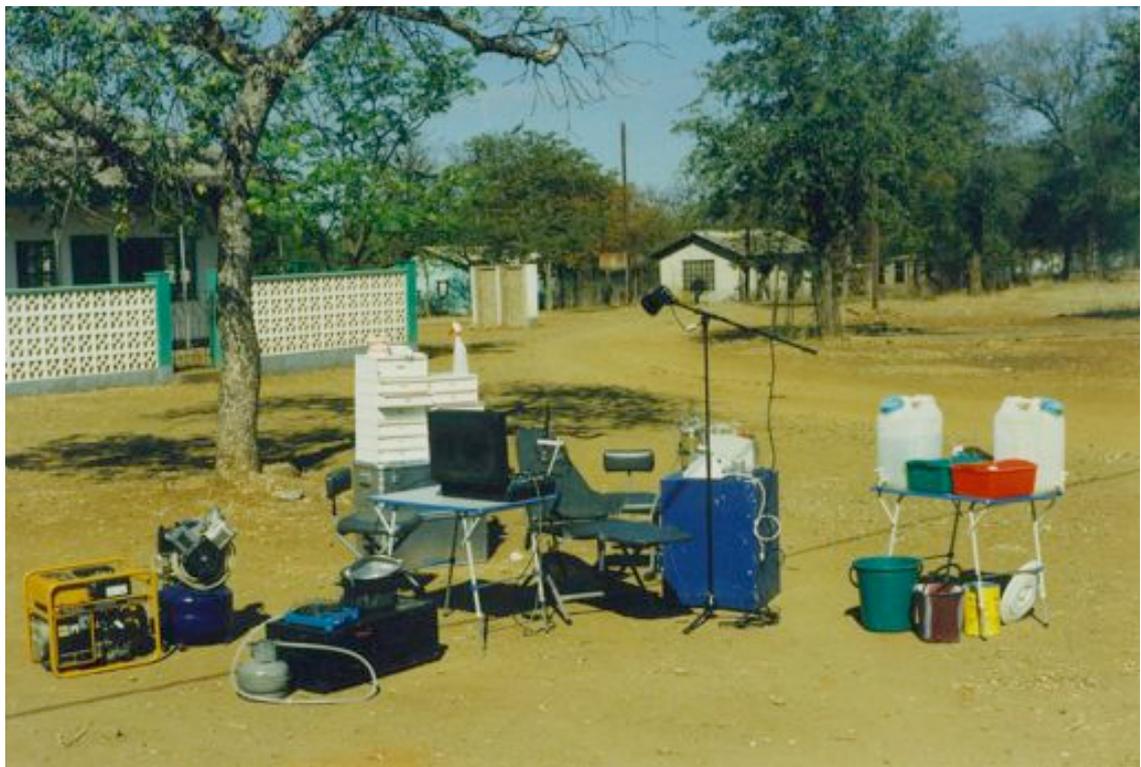
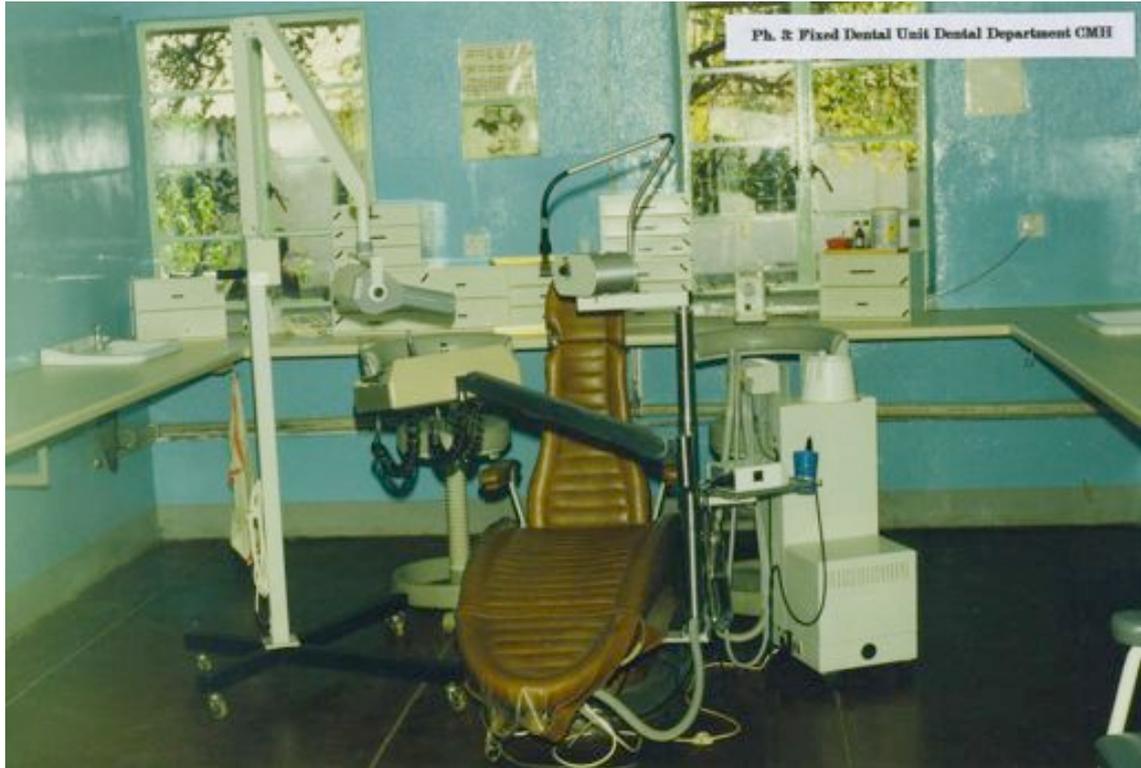
Chikombedzi Mission Hospital is owned and operated by the Free Methodist Church of Zimbabwe. The responsible authority is the board of directors appointed by the said church (Actual president Mr N. Zanamwe). The Medical Superintendent is the person in charge of the whole hospital, he is a licensed medical doctor and lives at the hospital complex (actual MSI is Dr Sibanda). The Dental Department is an integral part of the 160 bed hospital and has been fully equipped by the Swiss Foundation called "Secours Dentaire International" (SDI) since November 1993 (also called Dental-Aid International). The clinic includes a fixed dental unit plus a mobile dental unit (MDU), which is used for the outreach work in the Chiredzi South area. Most of the materials of the dental clinic have been financed through the regional Swiss Rotary Clubs and the Swiss Association of Albert Schweitzer.

At the Dental Department, the working staff is composed of:

A dental therapist with Zimbabwean diploma:  
An exodontist (aid-nurse trained by SDI):  
An exodontist (aid-nurse trained by SDI):  
An exodontist (aid-nurse trained by SDI):

Mr Manuel Chivavo (Upper-L)  
Mr Naison Lukas Chauke (Lower-L)  
Mr Clemens Sibanda (Lower-R)  
Mr Nelson Gonese (Upper-Ri)





Chikombedzi Mission Hospital is surrounded by 14 bush clinics (called RHC for “rural health centre”) which have been constructed by the Zimbabwe Ministry of Health. These clinics are located 25 to 100 km from the operation base which sits in Chikombedzi.

Each of the rural health centres (RHC's) are in the hands of a state certified nurse and at least one aid-nurse. Materials at their disposal in the bush clinics are essentially materials for emergency treatment (dressings, antibiotics ... ). The major part of their work concerns the huge child welfare program and the local births. Two of the 14 RHC's have a set of instruments for dental emergency treatments such as extractions and treatment of abscesses. The set is used by the state certified nurse in charge who has gone through an exodontist course of 3 months duration in Masvingo to become certified for applying such procedures.

After the dental clinic of Chikombedzi, the nearest dental clinic is to be found at Chiredzi Government Hospital (180 km) and the nearest maxillo-facial surgeon works at Bulawayo Government Hospital.



## **FIRST STEP: First inquiring**

Before you start anything in any given country you must first inform yourself on the **organization and local rules of the health system**. In our case Zimbabwe, we did not inquire enough at the beginning and with passing time, we realized Zimbabwe had a very strict and complex health system. You should make a rough check of all such details to avoid future obstacles with government authorities.

The whole health system in Zimbabwe is supervised by the Ministry of Health which registers all health professionals and health activities. Once you are registered (and this is in itself a very long procedure), you must apply for a work permit. Without such a permit, all your activities will be considered as illegal.

The Acting Director of the Dental Health Services in Harare is responsible for all dental health activities and supervises the systems in the provinces. At the province level sits a Provincial Medical Director (PMD) who supervises his districts. On top of each district sits a District Medical Officer (DMO) who supervises all Medical Superintendants of the hospitals of the district. This last Officer (DMO) is also responsible for the local dental services. Further more, if you intend to go into schools for dental health education, you will need approval from the District Health Education Officer.

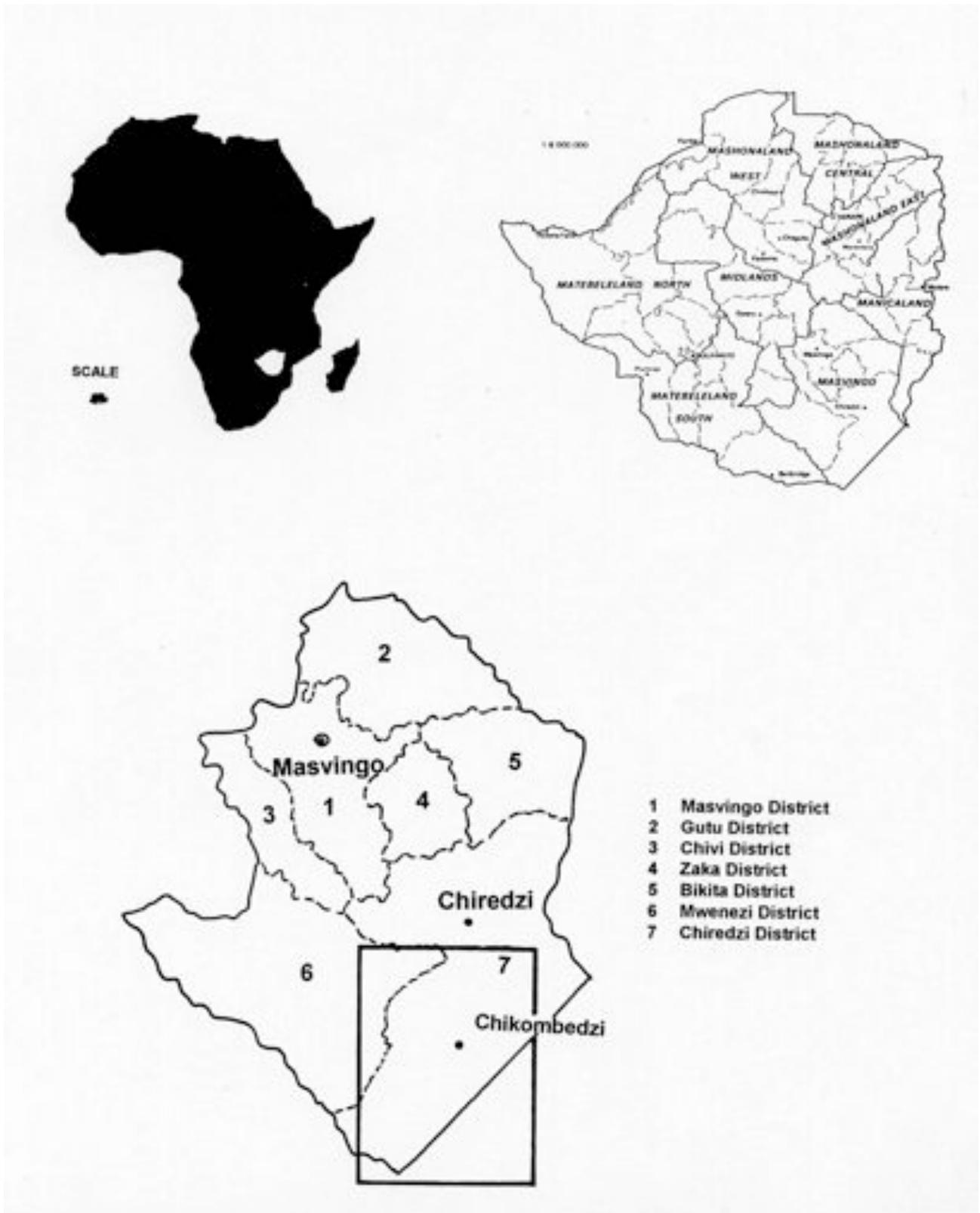
There are other aspects to be considered before setting up such a programme including:

- How many schools are to be visited and how far are they ? Problem of transportation, costs ?
- Is there already a similar program running somewhere nearby the place you've chosen ? And if yes, how does it work ? What is the attendance?
- What is the capacity of payment ? Treatments for free ? Do not forget costs of salaries, materials and maintenance ... must be covered
- In what conditions are the structures at disposal in the RHC's and are they O.K. to be used for installation of mobile dental unit (MDU). Is accommodation possible ? How are the roads and how is the accessibility during the rainy season?
- Did you want to introduce an outreach program or did the local population ask for such a program ? Give preference to the second case.
- How can the instructed population follow your education, accessibility of tooth brush and paste, costs ...?

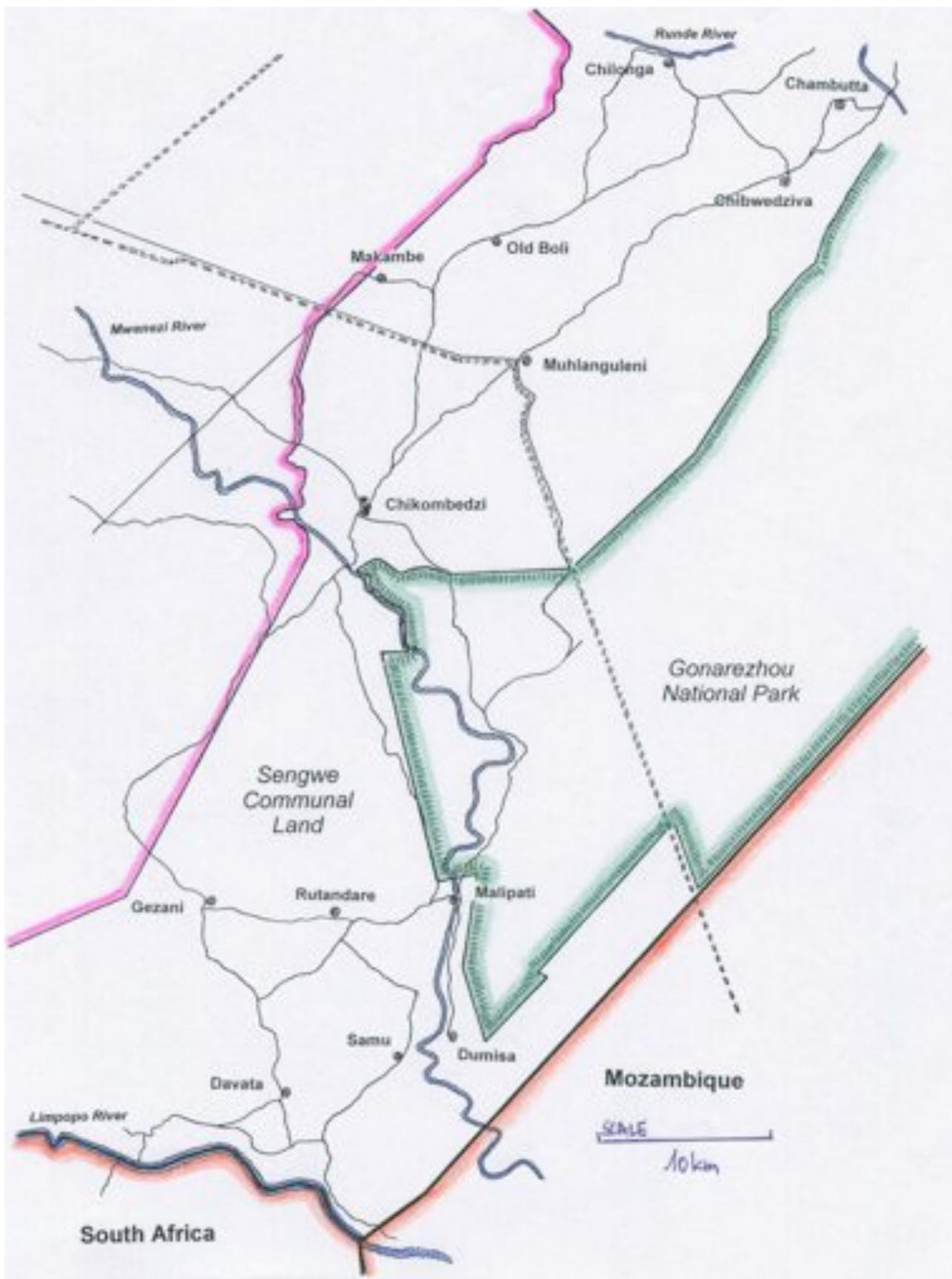
Once you have thought over the above mentioned points, you must consider the question: "Are the factors inquired in your first evaluation more or less favourable to introduction of a dental prophylaxis program ? If the answer is yes, you may now begin with the **local inquiries**.

First you will get in touch with the Medical Superintendant of the hospital where the base of your activities sits. Together with the management of the hospital, you will localize the different rural health centres surrounding the area. In the case of Chikombedzi, the situation of the different rural health centres is as follows:

Masvingo Province, Chiredzi District



Outreach Work catchment area





Chilonga HHC



Chambotta HHC

Old Boli HHC



Chitwotawa HHC



Makumbo HHC



Muhlangilemi HHC



Etandawo HHC



Malipati HHC

Gemuni HHC



Dzambwa HHC



Dzavata HHC



Saveni HHC

## **SECOND STEP: Establishment of a provisional ORW program**

Then, you will need to establish an outreach work program for the next 12 month period. Take into consideration the rainy season (roads passable) and the school holidays. During one ORW week, we usually drive to our next destination on Monday morning. Once arrived on the spot, the mobile dental unit (MDU) is equipped in the dental room of the RHC and then the dental staff meets the directors of the surrounding schools to organize the oral health instruction lessons. On Monday afternoon, the local children can return home with dental care information and inform their families of our stay at the RHC. Treatments can be delivered from Tuesday to Friday midday and on Friday afternoon, the MDU is packed and brought back to the base. For the year program, our first plan looked as follows:

Dental Department Chikimbedzi Mission Hospital

Private Bag7075, Chiredzi, Zimbabwe

### **Outreach Work Programme For The Year 1996/1997**

22 April	-	25 April	1996	Malipati Clinic
6 May	-	10 May	1996	Rutandare Clinic
20 May	-	24 May	1996	Gezani Clinic
3 June	-	7 June	1996	Samu Clinic
17 June	-	21 June	1996	Dumisa Clinic
1 July	-	5 July	1996	Davata Clinic
15 July	-	19 July	1996	Muhlanguleni Clinic
29 July	-	2 August	1996	Old Boli Clinic
16 September	-	20 September	1996	Makambe Clinic
30 September	-	4 October	1996	Chibwedziwa Clinic
14 October	-	18 October	1996	Chilonga Clinic
28 October	-	1 November	1996	Chambutta Clinic
11 November	-	15 November	1996	Gezani Clinic
25 November	-	29 November	1996	Rutandare Clinic
20 January	-	24 January	1997	Malipati Clinic
3 February	-	7 February	1997	Samu Clinic
17 February	-	21 February	1997	Dumisa Clinic
3 March	-	7 March	1997	Davata Clinic
17 March	-	21 March	1997	Muhlanguleni Clinic
31 March	-	4 April	1997	Old Boli Clinic

First term: 16 January - 3 April 1996

Holiday: 4 April - 6 May 1996

Second term: 7 May - 8 August 1996

Holiday: 9 August - 9 September 1996

Third term: 10 Sept. - 5 December 1996

Holiday: 5 December - 7 January 1997

This program has been established on 12th of April 1996 in arrangement with the actual dental staff and the hospital management. This program has to be consulted and supported by the hospital management and the hospital administration. The dental staff members will plan their holidays during the periods of school holidays to provide the good running of outreach work.

The running of the program will be controlled and extended during the visits of SDI representatives.

Should the weather be inclement and/or roads impassable, the schedule will be adjusted to make the visit one week later. It maybe necessary to wait until road conditions improve (insert your new schedule on the regular schedule) In all cases the visits must be made up!

Signatures: \_\_\_\_\_

Date: \_\_\_\_\_



### **THIRD STEP: Contact with the local authorities**

Before starting out, the District Medical Officer must be informed of your activities and must give you his approval for the program.

For the oral health education in the schools, you will meet the District Health Education Officer, who will need to give you his approval too and at the same time, he will be so enthused with your program and you might have the opportunity to receive all the addresses of the different schools in the district.

## Addresses Of The Rural Health Centres & The Schools

<i>Place</i>	<i>Clinic / School</i>	<i>Nurse in charge / Headmaster</i>	<i>Address</i>
<b>CHILONGA</b>	Chilonga RHC Chikovo P Chilonga P Chilonga S Gwaseche P	Mr J. Bvindi Mr Mepula Mr Mutangirwa Mr Museva Mr ?	Chilonga RHC, P.O. Box 142, Chiredzi Private Bag 7104, Chiredzi Private Bag 7049, Chiredzi Private Bag 7097, Chiredzi Private Bag 7069, Chiredzi
<b>CHAMBUTTA</b>	Chambutta RHC Makhosiyi P Chambutta P Chipinda P Velemu P	Mrs R Chakauya Mr ? Mr ? Mr ? Mr Chauke	Chambutta RHC, P.O. Box 142, Chiredzi Private Bag 7071, Chiredzi Private Bag 7064, Chiredzi Private Bag 7029, Chiredzi Private Bag ?, Chiredzi
<b>CHIBWEDZIVA</b>	Chibwedziva RHC Chibwedziva P Chibwedziva S Masivamele P Chingele P Chingele S	Mrs S. Muzenda Mr Makumi Mr Ticharwa Mr ? Mr ? Mr ?	Chibwedziva RHC, P.O. Box 142, Chiredzi Private Bag 7008, Chiredzi Private Bag 7096, Chiredzi Private Bag 7007, Chiredzi Private Bag 7072, Chiredzi Private Bag 7095, Chiredzi
<b>MAKAMBE</b>	Makambe RHC Makambe P Makambe S Tichidya P Chompani P	Mrs r. Mashayanya Mr Shuma Mr Rukuni Mr Balloy Mr ?	Makambe RHC, P.O. Box 142, Chiredzi Private Bag 7047, Chiredzi Private Bag 7108, Chiredzi Private Bag 7079, Chiredzi Private Bag 7053, Chiredzi
<b>MUHLANGULENI</b>	Muhlanguleni RHC Muhlanguleni P Muhlanguleni S Machindu P	Mr H. Nyika Mrs Muguewe Mr Machaya Mr Gwachara	Muhlanguleni RHC, P.O. Box 142, Chiredzi Private Bag 7033, Chiredzi Private Bag 7038, Chiredzi Private Bag 7028, Chiredzi
<b>OLD BOLI</b>	Old Boli RHC Boli P Malisanga P Majijimba P	Mrs P. Dhewa Mr Moyo Mr Mazuma Mr Moyo	Old Boli RHC, P.O. Box 142, Chiredzi Private Bag 7034, Chiredzi Private Bag 7052, Chiredzi Private Bag 7031, Chiredzi
<b>GEZANI</b>	Gezani RHC Gezani P Gezani S Chilugwi P Bondela P Pukupela P Makhanani P	Mr C. Sithole Mr Maponde Mr Gumbo Mr Mubaiwa Mr Chauke Mr Macheke Mr Mavu	Gezani RHC, P.O. Box 142, Chiredzi Private Bag 7062, Chiredzi Private Bag 7105, Chiredzi Private Bag 7090, Chiredzi Private Bag 7087, Chiredzi Private Bag 7066, Chiredzi Private Bag 7050, Chiredzi
<b>RUTANDARE</b>	Rutandare RHC Rutandare P Maose P Chigalo P	Mr C. Mhango Mr Shumba Mr Zindove Mr Masetese	Rutandare RHC, P.O. Box 142, Chiredzi Private Bag 7039, Chiredzi Private Bag 7055, Chiredzi Private Bag 7068, Chiredzi
<b>MALIPATI</b>	Malipati RHC Malipati P Malipati S Ngwenyeni P	Mrs G. Machicho Mr Baloyi Mr Ndevele Mr N'Dlovu	Malipati RHC, P.O. Box 142, Chiredzi Private Bag 7059, Chiredzi Private Bag 7086, Chiredzi Private Bag 7077, Chiredzi
<b>DAVATA</b>	Davata RHC Pusani P Davata P Gwaivhi P	Mrs S. Gweyi Mr Murira Mr Magumise Mr Muthelisso	Davata RHC, P.O. Box 142, Chiredzi Private Bag 7056, Chiredzi Private Bag 7048, Chiredzi Private Bag 7076, Chiredzi
<b>SAMU</b>	Samu RHC Chishinya P Samu P Mugivisa P	Mrs R.E. Mbiza Mr Chinondiwana Mr Mhakeni Mr Mupa	Samu RHC, P.O. Box 142, Chiredzi Private Bag 7083, Chiredzi Private Bag 7080, Chiredzi Private Bag 7099, Chiredzi
<b>DUMISA</b>	Dumisa RHC Dumisa P	Mrs E. Mugova Mr Chauke	Dumisa RHC, P.O. Box 142, Chiredzi Private Bag 7081, Chiredzi

## Addresses Of The Chiefs & Headmen

Chief Sengwe	Pusani School	Private Bag 7056, Chiredzi
Headman Ngwenieni	Care of the local administrator	P. O.Box 199, Chiredzi
Headman Samu	Care of the local administrator	P. O.Box 199, Chiredzi
Headman Gezani	Care of the local administrator	P. O.Box 199, Chiredzi
Headmen Mpapa	Care of the local administrator	P. O.Box 199, Chiredzi
Headman Chilonga	Care of the local administrator	P. O.Box 199, Chiredzi
Headman Masimavele	Care of the local administrator	P. O.Box 199, Chiredzi

## **FORTH STEP: Contact with the RHC's and schools**

At this point, you know if an outreach program can be set up and is (or not) approved by the local authorities. Further more, you will know exactly which of the surrounding clinics could benefit from such a program. The next step will be to make a visit to each of your listed RHC's and inquire about the necessity of prophylaxis lessons at schools (inquiring has to be done by the directors of the schools), about the necessity of dental treatments and at the same time, you will find out if the motivation and the cooperation of those responsible for the RHC's are sufficient support your program. For the first visit, the following check-list has been established:

### **Questions To Ask During Your First Visit Into An ORW Area**

1. Introduce yourself and your activities, introduce the hospital and the dental department
2. Ask for a meeting of about 30 minutes duration
3. Introduce the Chikombedzi Mission Hospital Dental Department ORW program
4. Explanation about your system of
  - treatment and referring
  - prophylactic lessons at schools and screenings
  - information for pregnant women
5. Inform about your working hours: 8 am to 6 pm
6. Give the program schedule of the week concerning the MDU and the school lessons
7. Inform about the fee system and the importance of this financial support (trips and materials)
8. Following up after your departure, give document "Indications for the responsible of the RHC"
9. Give posters and ask for diffusion of the information, when are we coming ...
10. What kind of medicines are available at the RHC?
11. Ask practical questions:
  - accommodation, dental room, showers, toilets, ...?
  - rooms have to be locked, possibilities ?
  - water: Where is the borehole, river water, ...?
  - electricity, solar, ...?

DO YOU KNOW THAT CHIKOMBEDZI MISSION HOSPITAL HAS A DENTAL DEPARTMENT?

WHAT KIND OF DISEASES CAN YOU HAVE IN YOUR MOUTH?

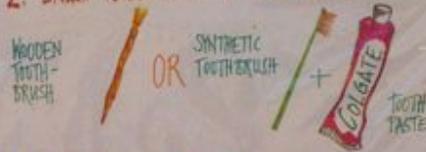


HOW TO PROTECT YOUR TEETH AND YOUR GUMS

1. AWARE SUGAR

<p>SUGAR</p> <p>MEAT</p> <p>MILK</p> <p>VEGETABLES</p> <p>FRUIT</p> <p>WATER</p>	<p>* * *</p> <p>SUGAR</p> <p>SUGAR CANE</p> <p>SWEETS</p> <p>COCA-COLA</p> <p>SOFTDRINKS</p> <p>SRUP</p>
----------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------

2. BRUSH YOUR TEETH 3 TIMES A DAY WITH:



WE HOPE TO SEE YOU SOON FOR A NEXT CHECK-UP. GREETINGS.

KO MUNODZIVIRIRA MAZINO ENJU SEI.

Mango MUChizviziwa here? PtiChikombedzi Mission Hospital Pune

KUBVA MUKUORA NEZVIMWE ZVIRWERE

Chipatoro Chemazino.

NGWARIRAI SUGAR INGOZA MAZINO

- |                                                                                 |                                                                           |
|---------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| <p>① SA-DZA</p> <p>② MIBUVO</p> <p>③ CHINGWA</p> <p>④ NYAMA</p> <p>⑤ MUKARA</p> | <p>* * *</p> <p>① Zvhwitsi</p> <p>② JAMU</p> <p>③ MU-SOFT DRINKINGISI</p> |
|---------------------------------------------------------------------------------|---------------------------------------------------------------------------|

KONA MAZINO OKUNETSAI UYAI PACHPATA RA TINOKUMBETSERAI!

Mungava mure Zvirwere Zvewu.



## Indications For The Responsible Of The Rural Health Centre

### A. Capacities of the dental team during outreach work with the mobile dental unit (MDU)

- |                                                            |                                                          |
|------------------------------------------------------------|----------------------------------------------------------|
| a) Dental hygiene instruction to the patients              | e) Extractions with local anesthesia                     |
| b) Cleaning and scaling                                    | f) Little surgery like abscess drainage or suture points |
| c) Deep scaling with local anesthesia                      | g) Prophylactic lessons at schools (grade 1 to 7)        |
| d) Temporary and definitive fillings with local anesthesia | h) Screening of the children in all classes              |

### B. Capacities of the Dental Department at Chikombedzi

- |                                                     |                                                           |
|-----------------------------------------------------|-----------------------------------------------------------|
| a) All the treatments given by the MDU              | d) Composites (esthetical fillings)                       |
| b) Definitive root treatments for single root teeth | e) Oral surgery (jaw fracture, tooth luxation, abscesses) |
| c) Dental X-Rays                                    |                                                           |

### C. Kind of problems which can appear after a treatment at the MDU

**EXTRACTING** a tooth is like a small operation. There will be bleeding and later on some pain and swelling. This is normal and should be expected after an extraction. Inform the person about that fact. After extraction(s), two main problems can appear:

- One day after the operation, the socket still bleeds. Explain to the patient that he should not spit nor rinse his mouth. When he rests, he should keep his head up. He should not drink hot liquids like tea or coffee because they encourage bleeding. The patient has then first to bite firmly on cotton gauze for an hour, and again later if blood still comes out of the socket. Eventually, the nurse can do a suture point if that is possible. If the bleeding persists, refer the patient quickly to Chikombedzi Mission Hospital Dental department with a compress on the socket. Notice that any bleeding can be stopped by direct compression.
- Rarely, the development of a bone infection occurs (infected socket. The signs are pus, pain and bad smell. Clean the socket with a Chlorhexidine syringe and give an antibiotic:

First choice:	amoxicilline 250mg caps	adults	2cap x 3/day during 7 days
		children	25mg/kg x 3/day during 5 days
Second choice:	co-trimoxazole 80+400mg	adults	1cap x 2/day during 7 days
		children	8mg+40mg/kg/day during 5 days
or	co-trimoxazole 20+100mg	adults	4cap x 2/day during 7 days
		children	8+40mg/kg/day during 5 days
Third choice:	erythromycine 250mg	adults	2cap x 3/day during 7 days
		children	50mg/kg7day during 5 days

It is important to persist on the fact that an antibiotic has to be taken during the prescribed duration, even if the pain and the infection have disappeared. If necessary, give also a painkiller.

It is possible that a patient complains about sensitivity or pain after having received a **FILLING**. Usually, the pain occurs during a few days only, the sensitivity can persist longer. Give some painkillers if necessary, but if pain remains after 3 weeks, refer the patient to Chikombedzi Mission Hospital Dental Department.

After a **SCALING** or a **CLEANING**, the patient may complain about sensitivities appearing essentially during cold drinking and bleedings of the gums appearing during brushing of the teeth. Scaling or cleaning of the teeth induces a microtraumatism on the gums. These lesions disappear after a few days if oral hygiene is correctly maintained. Tell to the patient to go on with tooth cleaning 3 times a day, even if it hurts a little.

The patients treated in outreach work by the MDU for a **ROOT TREATMENT** usually have received a second and a third appointment for Chikombedzi Dental Clinic. Pain can occur during a few days after the first intervention given by the MDU. Give a painkiller if necessary. Remind the patient that the next appointments are 100% necessary for a definitive treatment and for the conservation of the treated tooth.

## **FIFTH STEP: Definitive program**

After your first visit to possible sites, you will make a proposal to the hospital management for a definitive program. This program takes into consideration the collaboration of the responsible you have met at the bush clinics. In our case, the provisional program became definitive.

## **SIXTH STEP: Materials**

Your project is now beginning to take shape and you have the psychological support you need. At this time you need to think about the materials you will use for the ORW. We have made a list of all the materials needed. The mobile dental unit we have is completely collapsible and can be loaded on a 4 wheel drive Toyota truck.



## Check-list Of The ORW Equipment

		SDI Code	n°			SDI Code	n°
<b>Loading Accessories</b>				<b>MDU File</b>			
1	Canvas Cover	ZW	1	17	Loading Check-list		1
2	Ropes	ZW	2	18	ORW Statistics		1
3	Red & Blue Rack (Wedge)	QV	2	19	Reduced Map Of The Region		1
4	White Board	QV	1	20	Check-list For ORW File		1
5	Little Water Tank	ZW	1	21	Certified Letter From Medical Superintendent		1
<b>Repair Materials</b>				22	ORW Program Of The Year		1
6	Spare Valve Toyota	ZW	1	23	Daily Registration Patients MDU		10
7	Valve Key	ZW	1	24	Agreement For Administration Of Anesthetics		15
8	Bicycle Hand Pump	ZW	1	25	Dental Clinic Of Chikombedzi Receipts		100
9	Spare Tube	ZW	1	26	Oral Health Education Registration		20
10	Tyre Levers	ZW	2	27	Check-list Forms & Medical-Aid Forms		1/10
11	Crick & Handle Toyota	ZW	1	28	Services & Rates		2
12	Nut Spanner Toyota	ZW	1	29	Memory-Aid For Teachers		20
13	Spare Wheel Toyota	ZW	1	30	Indications For Responsible Of The Clinics		20
14	Tube Patch	ZW	1	31	Rate of ...		2
15	Glue For Tubes Repair	ZW	1	32	Use Of The Dental Car		2
16	Craft Knife (Cutter)	ZW	1	33	Costs Of ORW		2
				34	Monthly Accounts		2
				35	Reports Of ORW To The MSI		
				36	Instruction For Use Of Generator		1
				37	Evaluation Of ORW		2
<b>Generator Trunk Blue</b>				<b>Compressor Trunk Blue</b>			
38	Robin Generator RGD 3300 os (3000W, 24A)	9700	1	45	DUERR Compressor 5211 With Dryer	9901	1
39	Set Of Spare Fuses	9705	1*	46	5 m Air Tube With Connection	9915	1
40	Set Of Various Packing	9708	1*	47	DUERR Compressor Filter	6027	2*
41	Air Filter Robin	9709	1*	48	DUERR Desiccation Filter	6027 a	1*
42	Oil Filter Robin	9710	1*	49	Pneumatic Connection	6029	1
43	Gazoil Filter Robin	9711	1*				
44	Starter With Cable	9706 a	1*				
<b>Little Black Trunk</b>				<b>Middle Black Trunk</b>			
50	Stäuble Suction Machine with Safety Bottle, Big Suction Bottle and End	9906	1	80	Gas Bottle	ZW	2
51	Suction Tube	9913	1	81	Reserve Gas Valve	ZW	1
52	Plastic Glasses	ZW	5	82	Domino Camping Stove + Metal Cup	9510	1
53	Ink Bottle	ZW	1	83	Sensitive Paper Tape	Hosp	1
54	Spare Philips Lamp 35 Watts	9904 a	1	84	Steribags	Hosp	3
55	Philips Lamp (chase) (see n° 308 for Tripod)	9904	1	85	Paraffin Bottle	Hosp	1
56	ORW Money Box With 20Z\$ In Coins	ZW	1	86	Paraffin Lamp & Funnel	ZW	1
57	Dental Study Model "Nissin"	9000	1	87	Pressure Pot, Perforated Bottom, Save Valve, Lid	9908	1
58	Enlarged Toothbrush P3-TB	9001	1	88	Candles & Matches	Hosp	1
59	Mupani & Mubhubunu Green Branches	Bush	20	89	Hatchet White & Red	ZW	1
60	Tool Box With	ZW	1	90	Paraffin Cooker	ZW	1
61	* Starter Cable Robin Generator	9706	1	91	Migros Working Gloves (Pair)	CH/ZW	1
62	* Tap for Supertank n° 57027	9503	2				
63	* Screw Spanner 10, 12-13, 14-17	9701/2	3	<b>Mecadent Dentaport Suitcase M 101</b>			
64	* Pliers	4513	1	92	Flexiflon Tube & Pedal (6 x 4)	9900	1
65	* Sharp Pliers	4512	1	93	Air Tube with Midwest Connection (to n° 46)	9915	1
66	* Big & Little Screw Spanner	4598/9	2	94	Air-Water Pistol Faro With Tube	9911	1
67	* Dish Screwdriver Set	4504	1	95	Support for Pistol And Contra-angles & Screw	9911 a	1
68	* Plastic Dams	4507	2				
69	* Electrical Screwdriver	4515	1				
70	* Teflon Tape	4517	1				
71	* Flat Nose Pliers	4514	1				
72	* Hose Clips	4516	2				
73	* Insulating Tape + Scotch Tape	Hosp	2				
74	*String (in meters)	Hosp	15				
75	Mirror Box With	ZW	1				
76	* Demo Looking Glasses	9004	8				
77	* Chalk Box for Blackboard	9006	1				
78	* Displak Coloration Bottle	9005	1				
79	* Cotton Balls For Displak Application	3007 b	10				



SDI Code n°

SDI Code n°

<b>Big Black Trunk n° One</b>			
96	Inox Steel Kitchen Utensil	9514	1
97	"Campina" Service (knife, fork, b & s spoon)	9513	2
98	"Marco" Plate Aluminium 18 cm	9512	2
99	Blue Basin With Lid (Sadza)	ZW	1
100	Orange Basin With Lid (Vegetables, Soup, Meat)	ZW	1
101	Little Blue Lunchbox (sugar, rice, spices)	ZW	3
102	Bottle Of Oil (Olive)	Hosp	1
103	Dish Soap Bottle (Sunlight)	Hosp	1
104	Shower Soap (FA Light)	Hosp	1
105	Toilet Paper Rolls	Hosp	2
106	Pillow	Hosp	2
107	Big Cooking Pot	ZW	1
108	Little Cooking Pot with Lid (=>pan)	ZW	1
109	Teapot With Lid	ZW	1
110	Tea Plastic Cups	ZW	2
111	M'Goti (Porridge Stick)	ZW-Art	1
112	Swiss Knife	CH	1
113	Low Basin Green-White	ZW	1
114	Strainer (Sieve)	CH	1
115	Kitchen Brush	CH	1
116	Kitchen Scourer	ZW	3
117	food-salt, tea leaves, coffee, tomatoes, matemba (fishes from Kariba), powder milk, bread, margarine, soups, tunafish, sadza, Pilchards tomato sauce, rape, other vegetables, rice, sweet potatoes...		

<b>Big Black Trunk N° Two</b>			
118	Silamat-Silver Mix 90 Amalgamator	9903	1
119	Plate Drier Small/Big Or Kitchen Linen	9518	9
120	Red Basin For Sekusept	9515	1
121	Green Basin For Vimbath	9516	1
123	"Marco" Glass In Aluminium	9511	2
124	Sekusept Granulated Little	3127	1
125	Orotol Granulated (Tin)	3005	1
126	Hypochlorite Disinfection-Solution-Spray	1016	1
127	Styrolog 1 Drawer	1014 g	1
128	Svedia Tray Cover 4030-00	2067 a	7
129	Duett Ana 2000 Amalgam Caps Set	3056	1
130	Decontamination Bath Brown With Cover	CH	1
131	Suction Tip Brushes Small 5mm	3132	10
132	Suction Tip Brushes Wide 10mm	3131	10
133	Metal Brush For Burrs	3100	1
134	Kitchen Brush (see n° 115)	CH	2
135	Tray Brush	3132 a	1
136	Basin For Suction Tubes Disinfection (Orotol)	3005 a	1
137	Scissors	CH	1
138	Vim (Cleaning Powder)	Hosp	1
139	Soap (FA Light)	Hosp	2
140	Cream For Hands	Hosp	1
141	Roller Gauze	Hosp	1
142	Toilet Paper Rolls	Hosp	2
143	Washing Powder (Surf)	Hosp	1
144	Cleaning Cloth Piece Green	Hosp	1
145	Pet Bottle 1.5 liters	CH	1
146	Amalgame Rests Bottle (Recycling)	Hosp	1
147	Bottle with Talk Powder For Gloves Sterilization	Hosp	1
148	Sieve For Burrs (same as n° 114)	CH	1
149	Migros Torch	CH	2
150	Spare Bulb For Migros Torch	CH	2

<b>"Zarges" Case for Instruments in Aluminium Number One</b>			
151	Styrolog 3 Drawers:	1014 e	1
<b>1. Pharmacy &amp; Cotton Rolls</b>			
152	Long Plastic Subdivision	1014 a	4
153	Amoxicilline (1gr caps)	8003	40
154	Co-trimoxazole (Bactrim 80mg + 400mg caps)	Hosp	40
155	Panadol (500mg caps)	Hosp	40
156	Micropur 20 liters (20x)	9803	40
157	Vaseline	8005	1
158	Aureomycine (Paste, 30gr Tube)	8007	1
159	Dontisolon (1.8ml Carpule)	3106	4
160	Plastic Syringe	2026	2
161	Canal Luer Bent Tip for Syringe	2075	3
162	Spray for Vitality Test	3007 a	1
163	Cotton Rolls n° 2	3013 a	100
164	Cotten Rolls n° 3	3013 b	50
<b>2. Burrs, Periodontics, Prophylaxis</b>			
165	Burlew Cups PN-210320 with Mandrels Long	7020/22 b	6
166	Polishing Cups Young WST	7023	20
167	Inverse Cone Shaped Diamond Burr Intensiv FG 223/014	7001	8
168	Cone Shaped Diamond Burr Intensiv FG D 16	7002	4
169	Round Diamond Burr Intensiv FG 201 S	7003	3
170	Flame Shaped Diamond Burr Intensiv FG 205 L	7004	2
171	Round Diamond Burr Intensiv FG 400	7005	3
172	Cone Shaped Diamond Burr Intensiv FG D 6C	7006	6
173	Round Burr WST REF 23/025	7010	11
174	Round Burr WST REF 23/018	7011	10
175	Round Burr WST REF 23/029	7012	10
176	Round Burr WST REF 23/023	7013	11
177	Zekrya FG REF 151 Short	7030	5
178	Zekrya FG REF 151 28mm	7031	5
179	Paired or Modified Scaler RZI 11L	2061	5
180	Straight Sickle Scaler ZI 11	2062	5
181	Universal Paro Currette ZI 15	2066	5
182	Long Red Plastic Subdivision	1014 a	1
183	Cutter Socle U-72 FG	2071 a	1
184	Cutter Socle U-72 WST	2071 b	1

<b>3. Anesthesia</b>			
185	Big Red Plastic Subdivision	1014 b	1
186	Long Red Plastic Subdivision	1014 a	1
187	Aspirating Syringe Socorex PD 1.8ml	2005	16
188	Needles Septodont 27G	3002	50
189	Anesthetic Carpule Lidocaton 2%	3001	50
<b>Styrolog 3 Drawers:</b>			
<b>4. Gloves</b>			
190	Latex Gloves Sterilizable (Pairs)	3006	50
191	Preservatives / Kondoms	Hosp	100
<b>5. Masks &amp; Emergency Pharmacy</b>			
192	Face Mask Technol	3008	30
193	Micropur 20 liters (20x) same as n° 156	9803	20
194	Aspirine (500mg caps)	8002	200
195	Adrenaline 1ml (dosis ampulla)	Ch	3
196	Valium 2 ml (dosis ampulla)	CH	3
197	NaCl 0.9% (dosis ampulla)	CH	6
198	Syringe 10ml & Needle	CH	1/1
<b>6. Forceps</b>			
199	Big Plastic Subdivision	1014 b	1
200	Long Red Plastic Subdivision	1014 a	2
201	Forceps For Upper Incisors	2031	1
202	Forceps For Upper Left Molar n° M18	2032	3
203	Forceps For Upper Right Molar n° M17	2033	3
204	Forceps For Upper Premolars	2034	2
205	Forceps For Lower Molars	2038	6
206	Forceps For Lower Premolars	2039	2
207	Forceps For Lower Incisors	2040	1



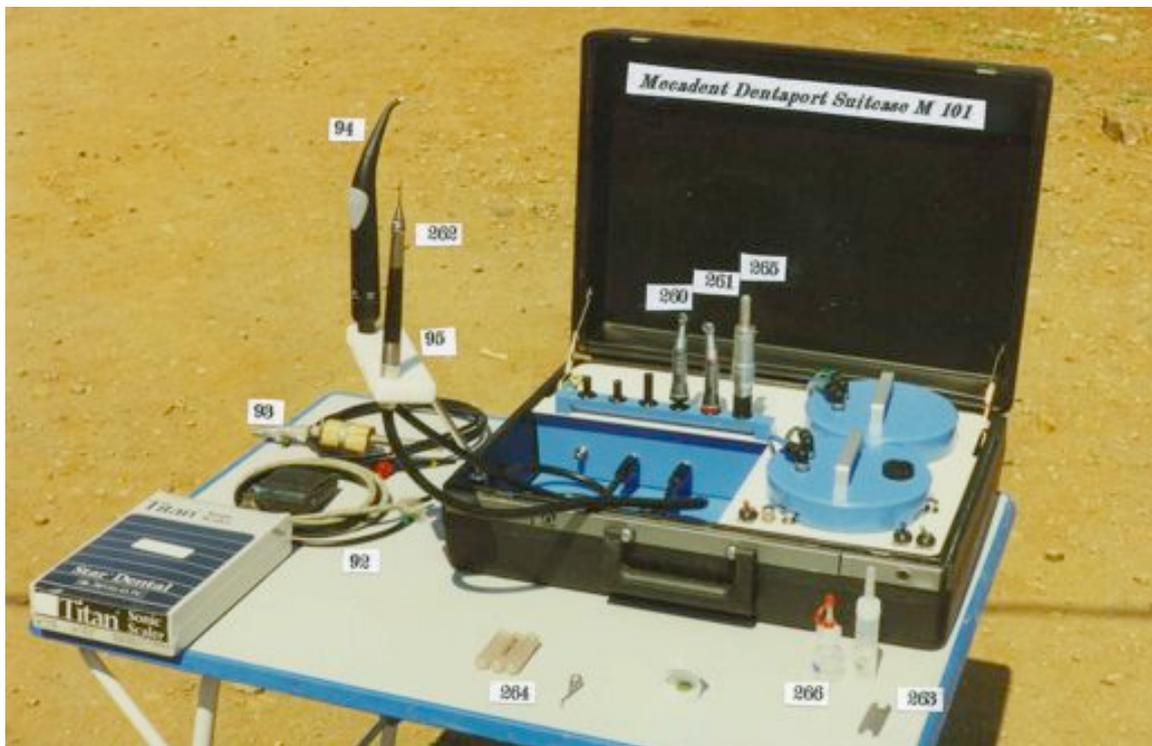
*Compressor Trunk Blue*

*Generator Trunk Blue*



*Little Black Trunk*





SDI Code n°

SDI Code n°

	<b>"Zarges" Case for Instruments in Aluminium Number Two</b>	9500	1
208	Styrolog 3 Drawers:	1014 e	1
	<b>7. Elevators, Surgery</b>		
209	Long Red Plastic Subdivision	1014 a	4
210	Elevator Bein 559/1 n°00	2009	7
211	Elevator bein 559/2 n° 15	2010	7
212	Alveolar Currette Deppeler AL 5	2022	5
213	Remanium Wire 0.3mm Ligature (7m)	3077	1
214	Remanium Wire 0.8 mm Fixation	5012	1
215	Scalpel 871A/3PD	2025	1
216	Surgical Blades #15	3023	20
217	Suturing Materials with Needles	3023 a+b	10
218	Langenbeck-Holder	2027	1
219	Rasporium #1804	2021	1
220	Gum Scissors PD	2023	2
221	Luer-Forceps Martin #1831/3	2076	1
222	Mathieu Needle Holder #1160/17	2018	1
223	Hemostat #1894/12.5	2015	1
224	Pliers Pointed #1301	2042	1
	<b>8. Cements, Endodontics</b>		
225	Long Red Plastic Subdivision	1014 a	2
227	Small Red Plastic Subdivision	1014 d	1
228	Dropsine Liquid and Powder 15ml / 45gr	3067 a+b	1/1
229	IRM Liquid And Powder	3096	1
230	Endomethazone Liquid and Powder 10ml / 14 gr	3033	1/1
231	Plac Out 50 ml #454	8011	1
232	Cement Paper Plate	2052 a	1
233	Cement Spatula PD n° 80	2055	5
234	Tray For Root-Canal Intruments & Contenance	2041	1
235	Chlumsky Solution (Chlor-Camphre-Phenol)	3017	1
236	Rubber Elastic Tube to Drain Abscess Small	3020	1
237	Rubber Elastic Tube to Drain Abscess Wide	3021	1
238	Asphaline-A2 Paste Tube 7.5 gr	3028	2
239	Ledermix Dental Paste Tube 5 gr	3027	1
240	Paper Points Assorted	3031 d	1
241	Amalgam Resimix Little Pot	2047	3
	<b>9. Instruments &amp; Amalgame</b>		
242	Long Red Plastic Subdivision	1014 a	4
243	Iodoform Gauze	8010	1
244	Dentatus Toffelmair Matrix Holder	2053	1
245	Steel Matrix Holder PD #1	3111	1
246	Interdental Wooden Wedges #829/20	3064	100
247	Filling Spatula Deppeler ZI 62C	2058	5

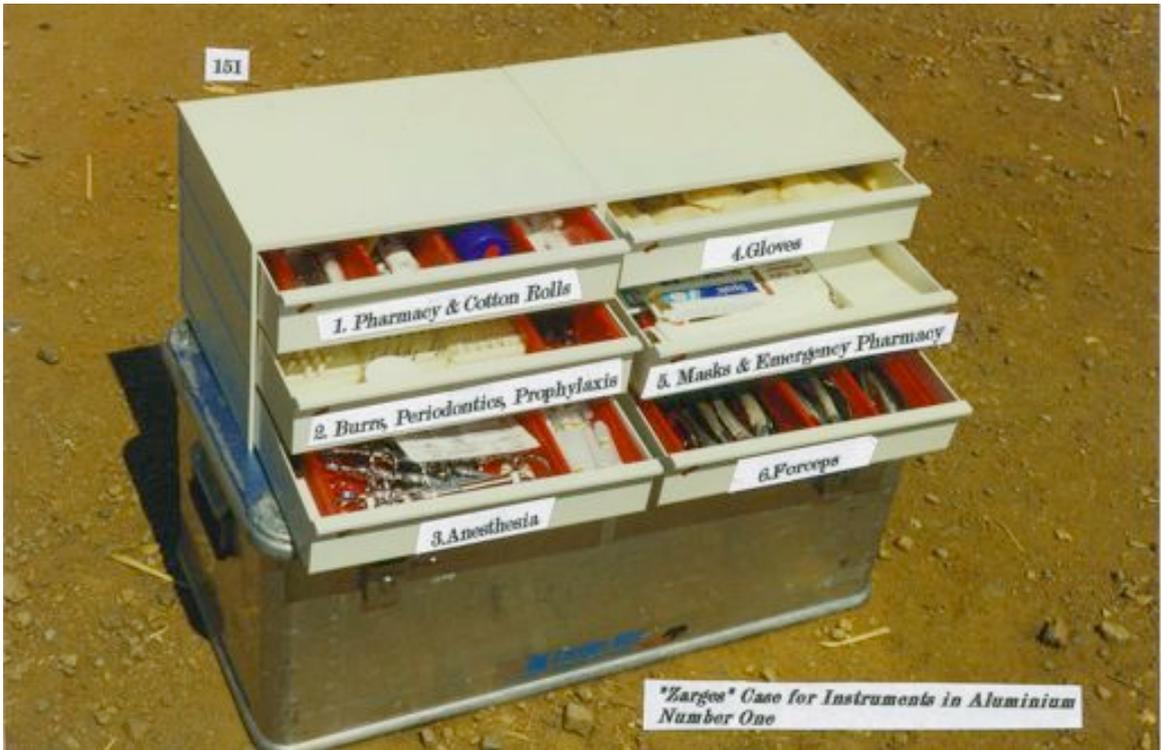
248	Amalgame Carver Deppeler SM 17	2049	5
249	Ball-Pointed Probe 126 BR 127	2056	5
250	Excavator Deppeler 17 EX 16	2051	5
251	Amalgame Carrier 941 Hawe	2048	5
252	Amalgame Probe OP 43	2050	5
253	Luniacheck Deppeler Spatula For Medications	2083	2
254	Red Occlusion Paper Bausch	3075	2
255	Matrix For Matrix Holder (Mol & Premol)	3112-5	20
	<b>10. Annex's to Mecadent Unit</b>		
256	Styrolog 3 Drawers:	1014 e	1
257	Aluminium Box 21/10/3 With Sterile Gauzes	1049	1
258	Handpiece MM 47 IS	1026	1
259	Cotton Balls In Little Bottle (evt same as n° 79)	CH	1
260	Green Contraangle 10 ISN n° 92 04 026	1027	1
261	Red Contraangle ISO 150 IS n° 92 01 020	1028	1
262	Star Titan-S 4-Line	9910	1
263	Titan Key For Tips, Plastic O-rings	9910 b	1/1
264	Universal Tip For Titan-S	9910 a	3
265	Micromotor Air MM 38 A Midwest 4	1030	1
266	Lubricating Oil For handpiece MM 30 CC	3098	1
267	Lubricating Oil For Handpiece mm 1 liter	3098 a	1
	<b>11. Suctions</b>		
268	Long Red Plastic Subdivision	1014 a	1
269	Middle Red Plastic Subdivision	1014 c	1
270	Small Red Plastic Subdivision	1014 d	1
271	Metallic Suction Tip "A" PD	2002	20
272	Metallic Surgilac Suction Tip Duerr	2003	20
273	Prophypaste Cup Hawe #985	3093	10
274	Needles Septodont 27G reserve	3002	100
275	Anesthetic Carpule Lidocaton 2% reserve	3001	50
276	Prophypaste 50 gr	3094	1
	<b>12. Mirrors, Probes, Tweezers</b>		
277	Big Red Plastic Subdivision	1014 b	1
278	Long Red Plastic Subdivision	1014 a	2
279	Instrument Holder Duerr	3128	2
280	Cotton Roll Pliers VR 1410 (Tweezer)	2060	20
281	Handle Mirror Adaco & Mirror Adaco	2065/68	40
282	Explorer Maillefer n° 6 (Probe)	2064	20

	<b>Divers Annex's</b>		
283	AOI / Colgate Poster	9003	1
284	Poster Information Dental Department	ZW	3
285	AIDS Instruction Poster	CH	1
286	Magic Table n° 44020	9501	2
287	Plastic Bucket Blue	ZW	1
288	Container With Paraffin	ZW	1
289	Plastic Bucket For Gloves Purple	ZW	1
290	Plastic Bucket For Used Water Green	9917	1
291	Multiple Jack 220V	9914	1
292	Electrical Extension Cable 10m / 220V	9703 a	2
293	Bur'n'Bin For Contaminated Sharps Yellow	ZW	1
294	Oil Container For Generator Yellow / Black	ZW	1
295	Robin Oil Gauge	9703	1

296	Gazoil Tank With Diesel For Generator 20 liters	9506	1
297	Funnel For Gazoil Tank	9506 a	1
298	Water Tank "Super" 20 liters n° 57026	9502	2
299	Aluminium Folding Chair n° 43016	9504	2
300	Standard Camping Couch	9509	1
301	Hospital Collapsible Beds	Hosp	2
302	Blankets, Sheets, Pillowcases	Hosp	2
303	Personal Luggage	ZW	
304	Katadyn KFT Filter (Pump)	9802	1
305	Katadyn Filter LP-K7 (spare)	1047 a	1*
306	Aseptico Dental Chair (for Patient)	9800	1
307	Aseptico Dental Stool (for Operators)	9801	2
308	Philips Lamp Tripod (see n° 55)	9904	1

\* materials which stay at the clinic (stock)



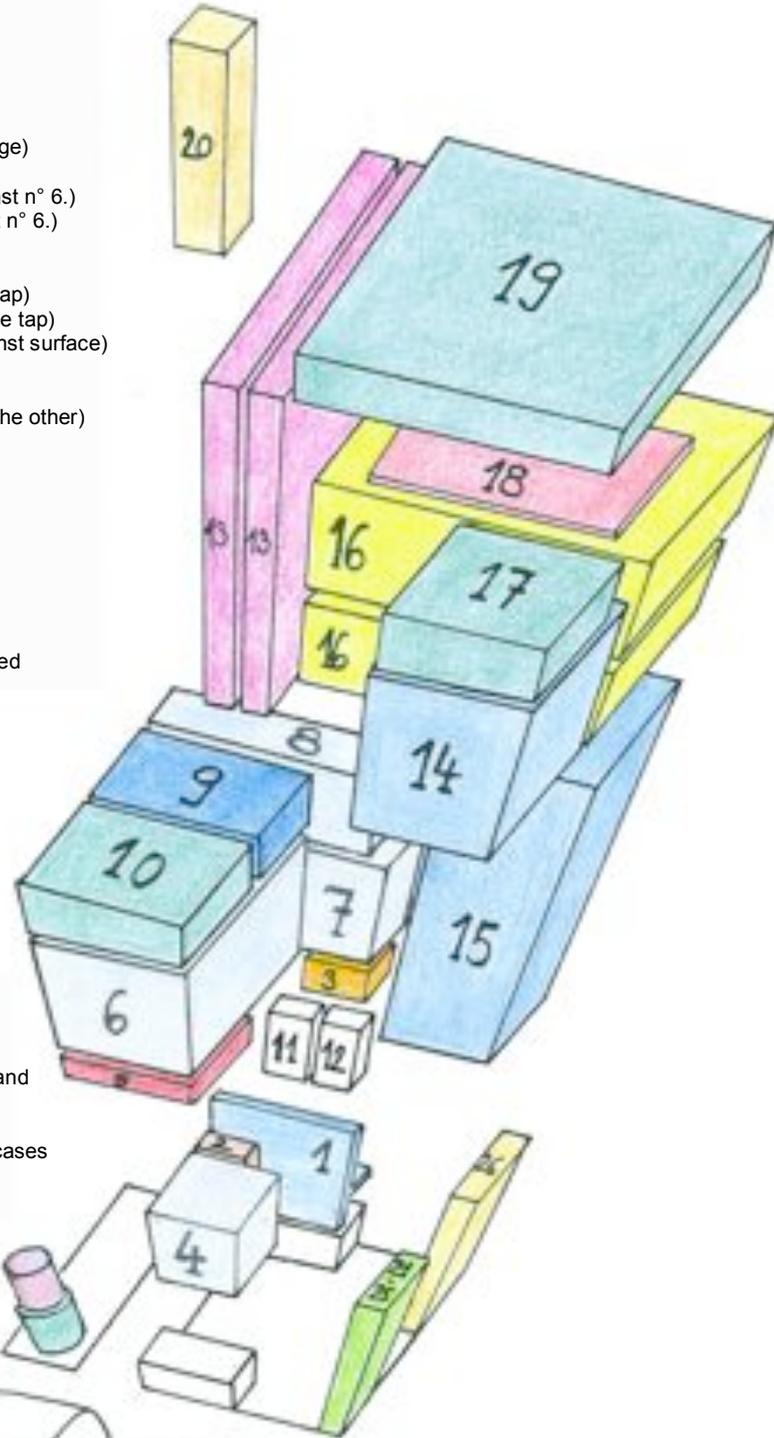




# Loading Check-list For The Dental Car

## **Materials on the rear axle:**

1. Wooden Rack Blue (Wedge)
2. Oil Container
3. Water Pump Katadyn
4. First Big Black Trunk
5. Little Wooden Rack Red (Wedge)
6. Second Big Black Trunk
7. Middle Black Trunk (lock against n° 6.)
8. Little Black Trunk (lock against n° 6.)
9. Mecadent Dentaport Suitcase
10. First Aseptico Dental Stool
11. Rain Water Tank (without the tap)
12. Normal Water Tank (without the tap)
13. Magic Tables 2x (surface against surface)
14. Generator Box Blue
15. Compressor Box Blue
16. Zarges Cases (one on top of the other)
17. Second Aseptico Dental Stool
18. Posters & 2 Folding Chairs
19. Aseptico Dental Chair
20. First Hospital Collapsible Bed
21. Gazoil Tank with Diesel
22. Funnel for Diesel Tank
23. Robin Oil Gauge
24. Philips Lamp Tripod
25. Standard Camping Couch
26. Second Hospital Collapsible Bed



## **Materials on the front seat:**

27. ORW File
28. First Bucket with 2 Extensions  
Cables and 1 Multiple Jack
29. Second Bucket with 1 Bucket and  
1 Bur'n'bin
30. Personal Luggage
31. 2 Blankets, 2 Sheets, 2 Pillowcases
32. Fresh Food
33. Little Drinking Water Tank

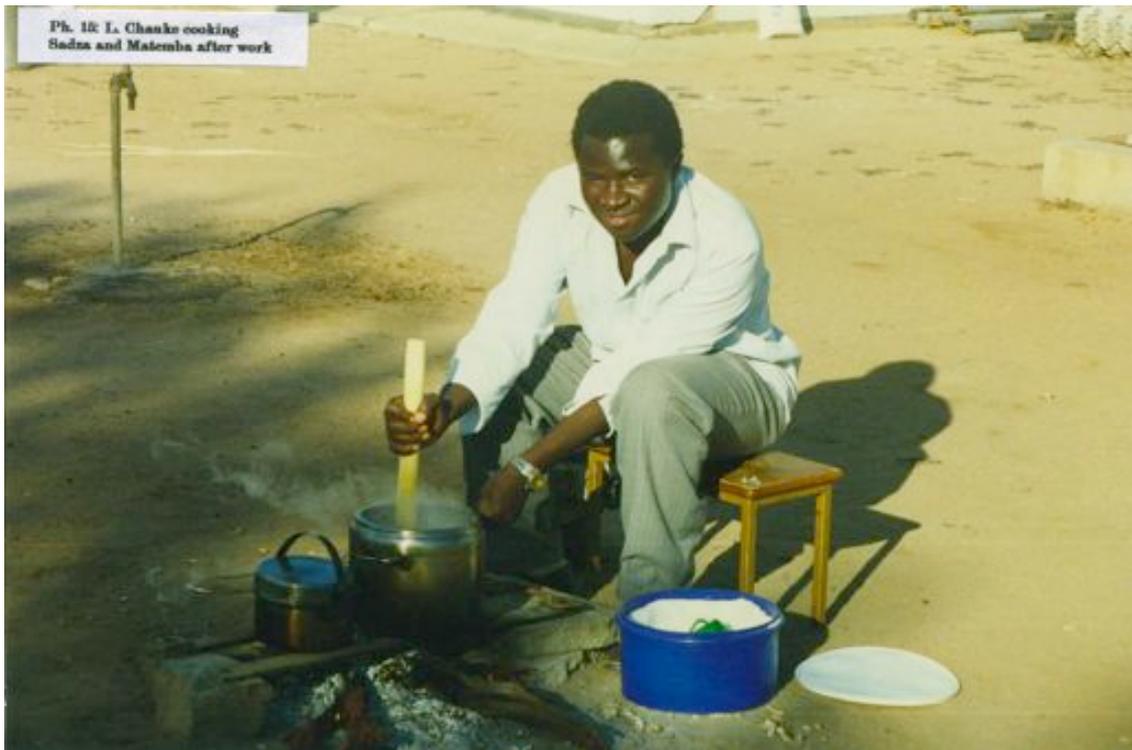


## **Accessible materials in case of a car breakdown:**

34. All tools necessary for a wheel change
35. All tools necessary for a tube puncture  
repair or a valve defect
36. Water for the radiator
37. Something to read
38. Drivers license and eventually your sunglasses



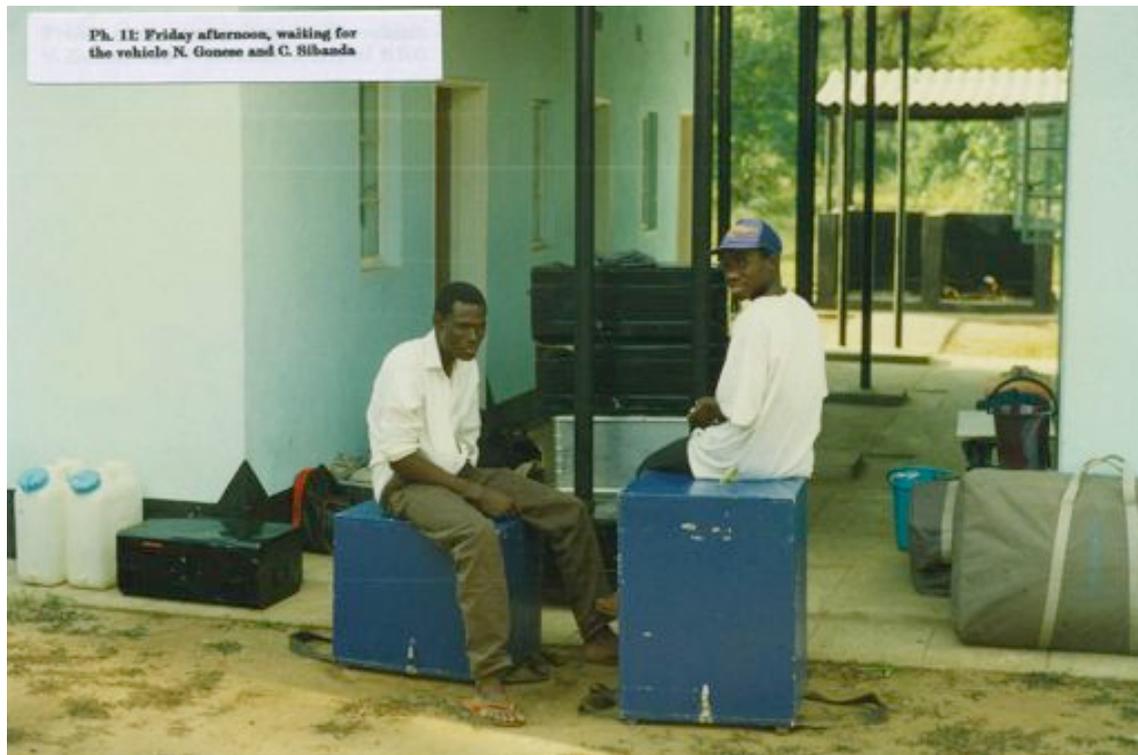
Ph. 18: Loading the Dental Car in Old Boli RHG  
C. Sibanda and N. Gomo



## **SEVENTH STEP: Organization**

It is a very interesting experience to go out into the bush and do dental health work, but do not forget that everything has to be well organized and so you will need to have a special file containing all the important papers. Our ORW file in Chikombedzi is structured the following way:

	<u>description in</u>
1. Outreach Work Program For The Year	2nd & 5th step
2. Important Addresses And School Addresses	3rd step
3. Questions To Ask During Your First Visit Into An ORW Area	4th step
4. Indications For The Responsible Of The RHC's	4th step
5. Check-list For The ORW Equipment	6th step
6. Loading Check-list	6th step
7. Memory-Aid For Teachers	8th step
8. Oral Health Education Registration	8th step
9. Daily Registration Of Patients In ORW	8th step
10. ORW Statistics (Prophylaxis And MDU)	8th step
11. ORW Evaluations	8th step
12. Receipts For Cash Income	8th step
13. Check-list For MDU Equipment	9th step
14. Checklist For The ORW File	9th step
15. ORW Report To The Medical Superintendent	9th step
16. Information Letter For The RHC's And For The Teachers	9th step
17. Letter From The Medical Superintendent Certifying The Dental Activities	10th step
18. Medical-Aid Forms And It's Check-list	10th step
19. Services And Rates	11th step
20. Monthly Accounts	12th step



## **EIGHT STEP: Going out into the bush**

Once the mobile dental unit has arrived on location, the car is unloaded and the mobile dental unit is set up in the allocated room. A test should be made to see if everything is in working order and posters can be hung on the walls of the RHC. The next duty will be to contact the directors of the surrounding schools and to make appointments for the oral health education courses. If possible, the lessons will be given the same day in the afternoon, so then the children return home and inform their parents of your stay. These lessons are structured after those presented on document 7, the “Memory-Aid For Teachers”. This memory-aid can be used for further lessons given by the teachers themselves after your departure. Normally, during your first visit, a basic oral health education instruction is done. In the first theoretical part, you focus onto the importance of the mouth and its structures. A detailed description of the teeth and its brushing follows. In a second more practical part, the meaning of “dental plaque” is demonstrated with the disclosing solution. The children will then have to make their own wooden toothbrush and clean their teeth the way it has been instructed. At last, a little test can be done by the teachers. Six months later, during your second stay, the children come to the lesson with their own sticks. An oral health education review is done and finally, everyone is checked on his manner (technique) to brush his teeth.

After the lessons, we usually have the opportunity to screen all the classrooms which have benefited from oral health education and the children presenting calculus (tartar) or dental caries are requested to come for treatment at the (mobile dental unit) MDU.

Should there be extra time remaining, a short lesson on AIDS prevention may be added.



**Memory-Aid For Teachers Concerning Prophylactic Lessons At Schools** (doc 7)

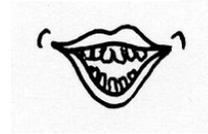
**Lesson One (grades 1 to 7)**

5'. *Introduction and information* about the Dental Department at Chikombedzi Mission Hospital and the outreach work program with the mobile dental unit (MDU). Next dates of our visits.

5'. *The face:* Importance of the eyes, the ears, the hair, the nose, the mouth and the teeth

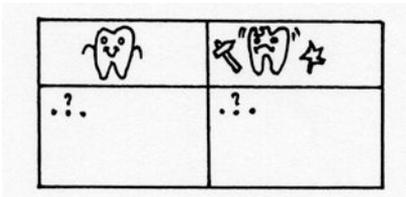
5'. *The mouth:* Importance of...

- Teeth: cutting (front teeth), chewing (back teeth), mixing (all teeth)
- Tongue: talking, tasting, whistling
- Gums: keep the teeth strong
- Salivary glands: production of saliva
- Saliva: swallowing, mixing, digesting products

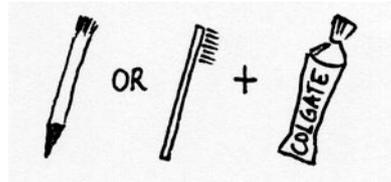


*How to protect the teeth?*

15'. Harmful food  
Be aware of the danger of sugar



15'. Brushing of the teeth  
Kind of wood to use (lesson 3)  
Make a toothbrush (annex)  
How to brush (annex)



5'. *Consequences:*

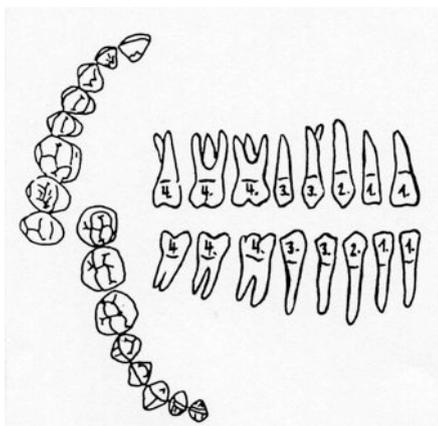


CARIES induces **pain**  
TARTAR induces **pain**

5'. *Discussion* with the teacher, questions and answers

Total time: 55 minutes

**Lesson Two (to add to Lesson One, only for grades 4 to 7)**

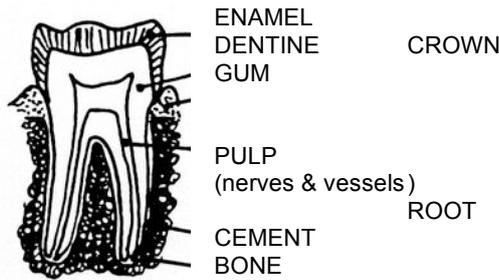


<u>kind of teeth</u>	<u>number</u>	<u>anatomy</u>	<u>roots</u>
1. Incisors	8	in front	1
2. Canines	4	in front	1
3. Premolars	8	at the back	1(2)
4. Molars	12	at the back	2 + 3

Notice that:  
 . the front teeth cut the food into pieces  
 . the back teeth chew and grind the pieces of food

Milk teeth are important because:  
 . the baby (or milk) teeth are adapted for a little mouth  
 . the baby teeth keep the place for the permanent teeth

20'. *Discovering of a tooth, its tissues and diseases*



No tooth-brushing but sugar -> little caries -> big caries -> nerve dies -> abscess -> pus & pain -> removal of the tooth

No tooth-brushing -> bacteria's stay against the gums -> plaque -> tartar -> inflammation of the gums -> pain -> scaling of tartar or removal of tooth

Treatments for caries: If little caries -> filling. If big caries -> removal of the tooth, tooth lost.  
Treatment of tartar: Scaling / cleaning. If severe, the tooth has to be removed.

Notice: While you're teaching this chapter with the help of a drawing on the black board, modify the healthy situation into an ill situation.

10'. *Discussion with the class, questions and answers*

Total time: 55 minutes

**Lesson Three (grades 4 to 7 or second lesson for grades 1 to 3)**

This lesson is to learn how to produce a wooden toothbrush. First you'll have to teach the kind of trees from which the wood can be used. **Mupani, Mubhubunu, Muhlangula, Samani** trees (names in Shona) or other harmless trees can be indicated for this purpose. Teach the way of how to produce a toothbrush, you'll find indications in the annex part. The following day, each pupil comes with his own toothbrush. One pupil is then selected, comes in front of the class and does a demonstration of tooth brushing. Then form groups of two pupils and they will have to control each other. The teacher controls the brushing technique. The teacher can give some more explanations and repeats the frequency of brushing required: **3 TIMES A DAY!**

**Test (only for grades 4 to 7)**

- |                                                                                                                      |          |
|----------------------------------------------------------------------------------------------------------------------|----------|
| 1. How many teeth do we have in a 25 years old person's mouth?                                                       | 3 points |
| 2. What kind of teeth do we have in our mouths?                                                                      | 4 points |
| 3. Do a good drawing of a tooth and put the following name:<br>Enamel, Dentine, Bone, Pulp, Gum, Root, Crown, Cement | 8 points |
| 4. Which are the two great diseases of the teeth?                                                                    | 2 points |
| 5. Give two possibilities to prevent these diseases.                                                                 | 2 points |
| 6. Give two names of trees with advisable wood to produce a toothbrush.                                              | 2 points |
| 7. Give the name of two harmless and two harmful foods                                                               | 4 points |

Scale: 23 - 25 points A (92% )  
19 - 22 points B (76% )  
15 - 18 points C (60%)  
10 - 14 points D (40%)  
5 - 9 points E (20 %)  
0 - 4 points F (16%)

Total 25 points possible.

**Two songs in Shona**

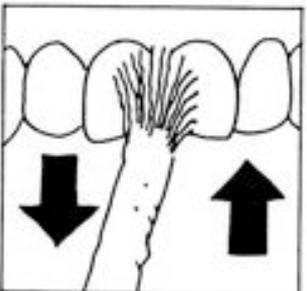
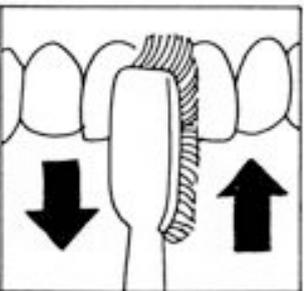
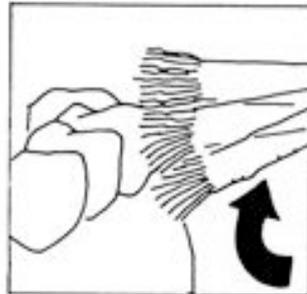
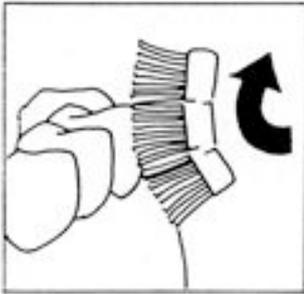
1. KWESHA, BVISA, IMWA MVURA, CHUKUCHA, PFIRA  
Repeat movements and words together
2. Mativi mana ose enyika (2 times)  
Uyai muone vemazino  
  
Mazino akanaka akachena outano (4 times)

## Annex

### Technique of brushing the teeth

NORMAL  
TOOTH BRUSH

WOODEN  
TOOTH BRUSH

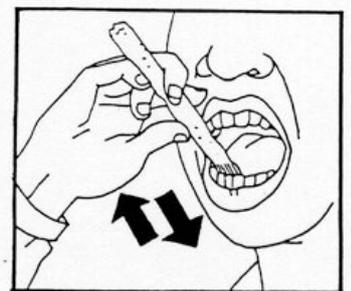
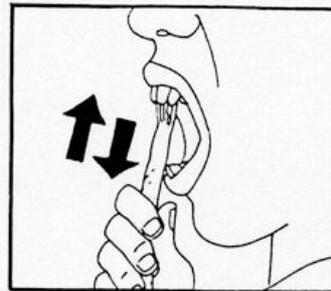


-Brush upper and lower teeth separately, open your mouth as wide as possible.

-Areas to brush: external, internal, occlusal (upper) sides of the teeth.

-Always brush from the gums to the teeth, never the horizontal way ! "Brush from the red part to the white part."

-For the front teeth put your brush the vertical way, see following picture :

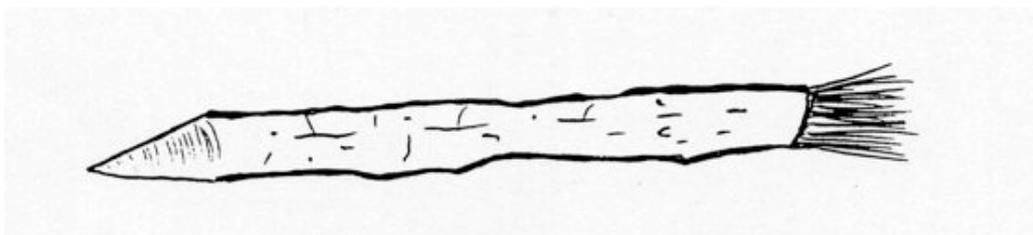


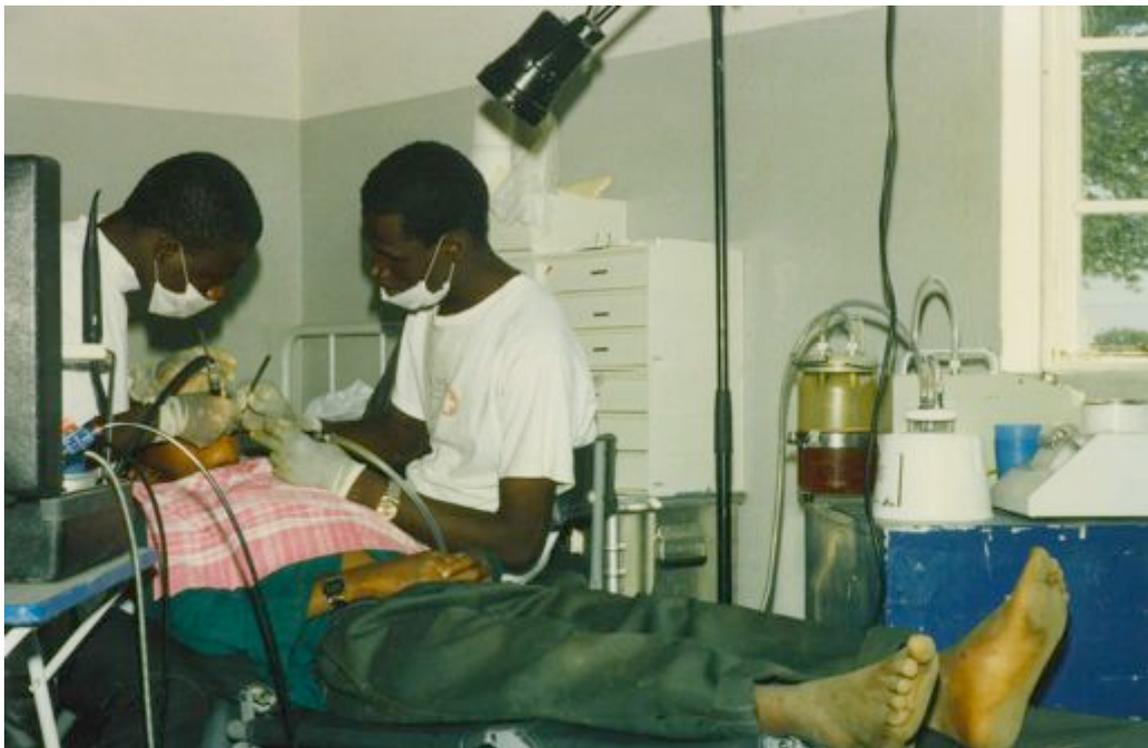
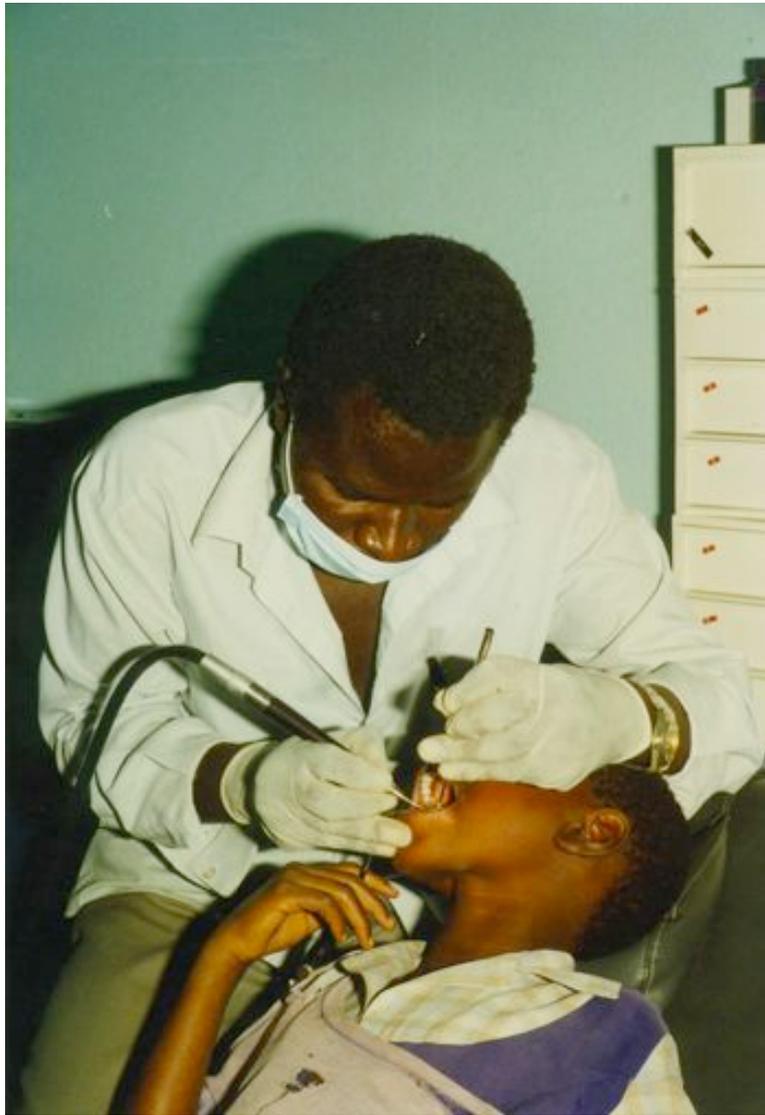
-For the occlusal side of the premolars and molars, brush the horizontal way.

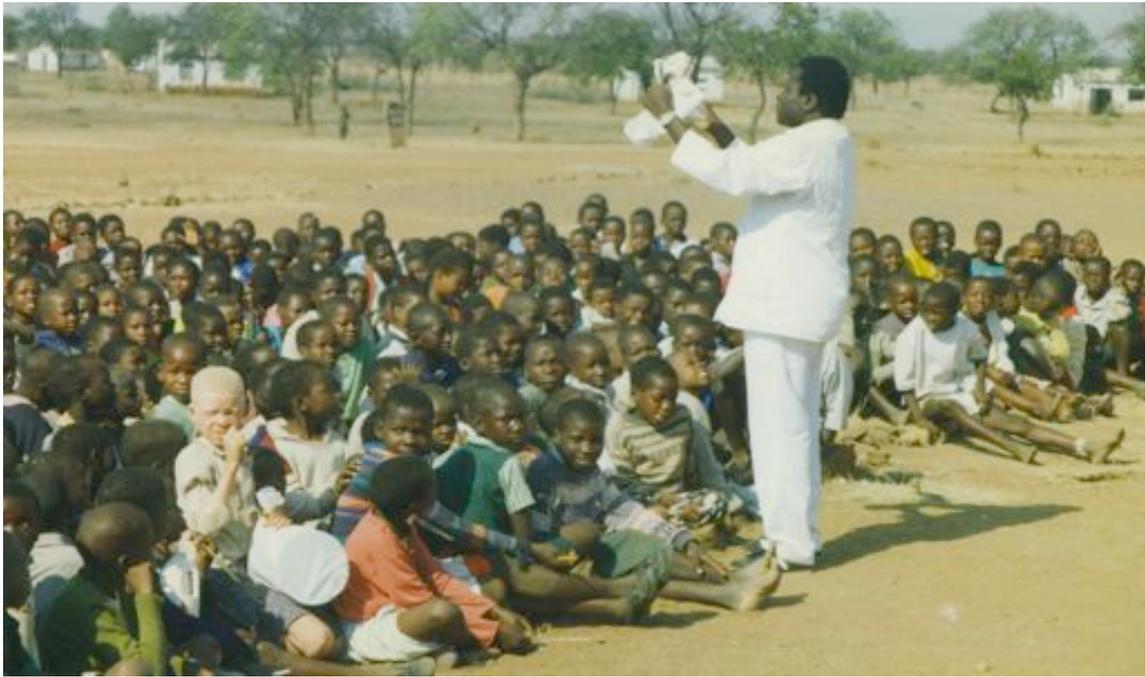
DO NOT FORGET TO BRUSH YOUR TEETH THREE TIMES A DAY. AFTER BREAKFAST; AFTER LUNCH AND AFTER DINNER.

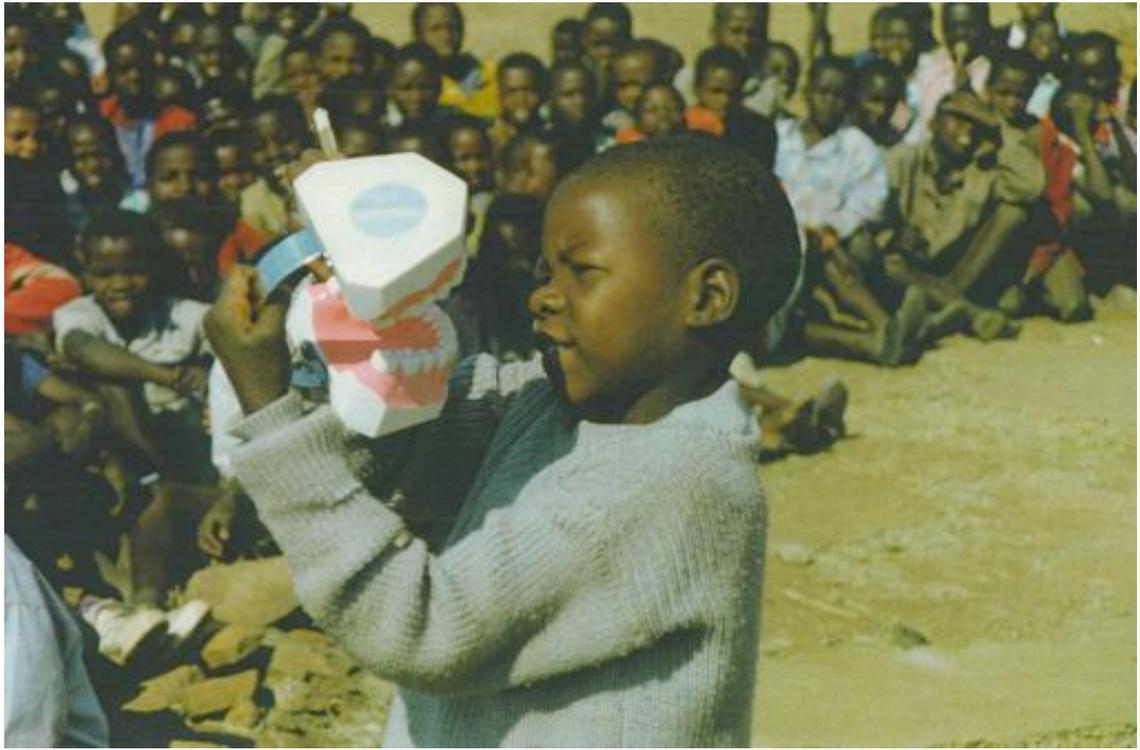
### Produce a toothbrush

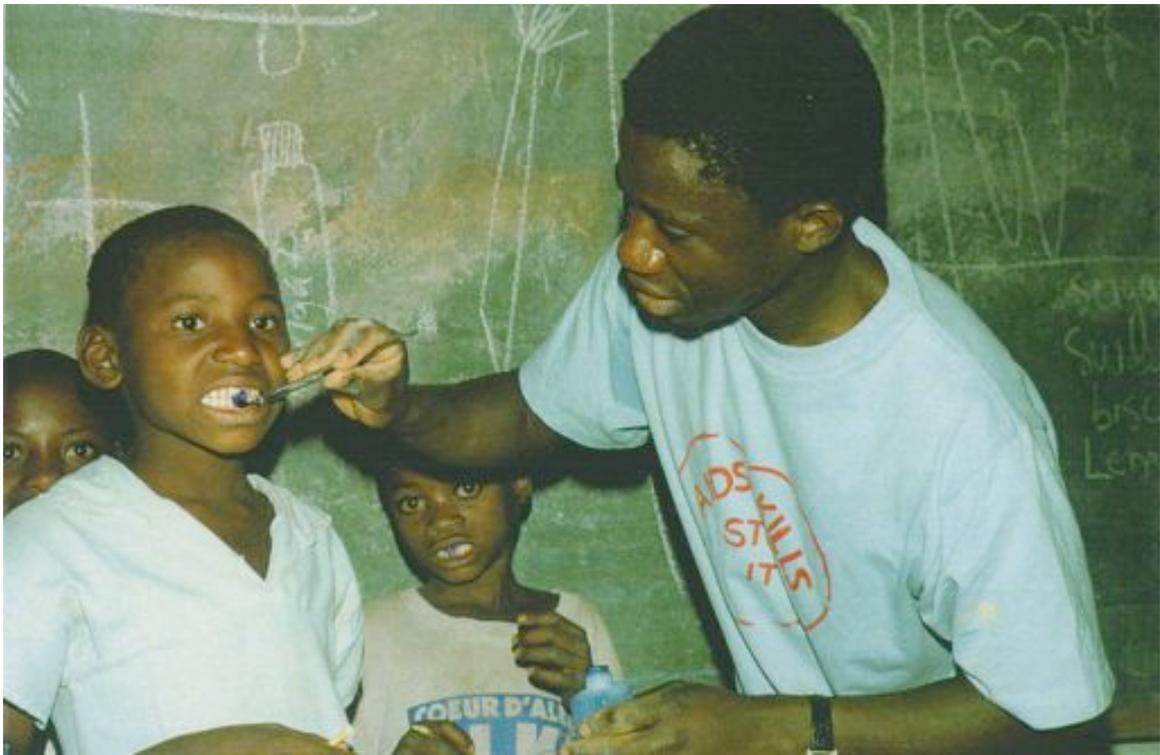
Use a small approximately 20 cm long branch. Cut a piece that is still green and soft. Chew one end or use a small knife to make it stringy like a brush. Sharpen the other end so it can clean between the teeth like a toothpick.













All classes which have benefited from your oral health education should be noted down. Important are the number of the instructions which have been given, the number of school children taught and the number of school children screened as positive (detection of a problem: caries or calculus). See document 8 : “Oral Health Education Registration”. The teachers will sign this document to testify the lessons.

All patients who come to the MDU during the whole outreach work week will be listed on the document 9 , the “Daily Registration Of Patients And Treatments”.

These documents are very important for administrative reasons. If later on you have once to prove your activities, you will be happy to have recorded these details. Often, these results are necessary for the feedback reports to your sponsor.

Document 10, the “ORW Statistics (Prophylaxis & MDU)” will resume all the activities during a certain time period. Document 11, “ ORW Evaluations” will give you a subjective synopsis of the collaboration at the different visited places. Therefore, the dental staff collaborators locally evaluate how they found the different aspects of their stay concerning the clinic, the schools and the population. This form will be of advantage when redesigning your program after excluding those sites where cooperation was not optimal.

## Oral Health Education Registration (doc 8)

Dental Clinic Of Chikombedzi

RHC	date	distance from base (km)	school	classes	number of children	lesson	screened tot	screened positive	Signature
Muhlanguleni	15.07.96	25	Muhlanguleni P	12	600	6	567	265	
Muhlanguleni	15.07.96	25	Muhlanguleni S	8	285	2	240	122	
Muhlanguleni	16.07.96	25	Machindu P	3	110	3	109	39	
Old Boli	29.07.96	37	Boli P	2	60	1	59	10	
Old Boli	29.07.96	37	Malisanga P	4	124	2	122	24	
Old Boli	29.07.96	37	Majjimba P	3	145	1	145	27	
Makambe	16.09.96	37	Makambe P	...	...	...			
...	...	...	...						

Total				32	1324	15	1242	487	
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## Daily Registration Of The Patients And Treatments (doc 9)

Dental Clinic Of Chikombedzi

Nr	Day	Name	Surname	Sex	Age	Prof	Village	km	Tooth	Anes	Clea	Extr	Surg	Endo	Amg	Comp	Exa	Medi	Income	Remarks
1	18.07	Gumbo	Nelson	m	25	driver	Malipati	0	36	1	1	1							5	
2	18.07	Mbiza	Helena	f	12	school	Thilo	10			1						1		2	
3	18.07	Chauke	Lukas	m	47	director	Vhusani	18	21	1						2			25	
4	18.07	Mukungulushi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5	...	...	...	...																
6	...	...																		
...																				

5		Total						28	57	2	2	1	0	0	0	2	1	0	32	
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## Outreach Work Statistics Prophylaxis (doc 10)

Dental Clinic Of Chikombedzi

Place	Dates	distances in km	number of children taught	number of lessons	number of screened children
Malipati	22.04 - 26.04.96	100			
Rutandare	06.05 - 10.05.96	116			
Gezani	20.05 - 24.05.96	152	...		
Samu	03.06 - 07.06.96	154	...		
Dumisa	17.06 - 21.06.96	140	...	...	
Davata	01.07 - 05.07.96	163	...	...	...
Muhlanguleni	15.07 - 19.07.96	50	995	11	916
Old Boli	29.07 - 02.08.96	74	329	4	326

Total			949	1324	15	1242
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## Outreach Work Statistics MDU (doc 10 bis)

Dental Clinic Of Chikombedzi

Place	Dates	Nb Pat	Nb Chd	Anes	Clea	Extr	Surg	Endo	Amg	Income
Malipati	22.04 - 26.04.96	54	7	27	49	31	2	1	2	148
Rutandare	06.05 - 10.05.96	46	2	13	41	16				214
Gezani	20.05 - 24..05.96	64	3	25	61	26				386
Samu	03.06 - 07.06.96	21	0	15	17	9		3		202
Dumisa	17.06 - 21.06.96	48	4	12	45	12				260
Davata	01.07 - 05.07.96	42	2	13	38	14	3		2	202
Muhlanguleni	15.07 - 19.07.96	35	6	26	31	26			1	101
Old Boli	29.07 - 02.08.96	52	5	15	47	17		1	1	95
<b>Total</b>		<b>362</b>	<b>29</b>	<b>146</b>	<b>329</b>	<b>151</b>	<b>5</b>	<b>5</b>	<b>6</b>	<b>1608</b>

## Evaluation Of The ORW System (doc11)

Dental Clinic Of Chikombedzi

Place	Clinic (RHC)				Schools			Pop		Schools attended
	rooms accommodation	facilities, shower, toilets	cooperation staff	diffusion information	teacher cooperation	chidre's cooperation	diffusion information	attendance	financial cooperation	
Malipati	3	3	2	3	3	3	3	2	4	Malipati P & S
Rutandare	1	1	1	2	1	1	2	2	3	Maose, Rutandare
Gezani	5	4	5	4	4	4	2	2	1	Gezani, Bondela, Chilungwe, Makhanani
Samu	2	1	1	2	4	3	2	4	5	Samu, Mugvisa, Chishinya
Dumisa	1	1	1	2	2	2	2	3	3	Dumisa, Ngwenyeni
Davata	1	4	1	1	2	1	2	2	3	Davata, Pusani, Gwaivhi
Muhlanguleni	1	5	5	5	1	1	3	5	5	Muhlanguleni P & S
Old Boli	4	3	2	4	1	2	3	4	5	Old Boli, Tichidya
Makambe	1	1	1	3	1	1	3	3	5	...
Chibwedziva	2	4	1	3	1	1	2	3	3	...
Chilonga	2	3	1	1	1	1	2	1	3	...

1= very good      2= good      3= average      4= bad      5= very bad

## NINTH STEP: Coming back to the base

Once the MDU is back at the base on Friday evening, the materials are unloaded and parked in the dental clinic. The next week, the program will be as follows (doc 13):

### Check-list For MDU Equipment (doc13)

- Monday:
- Make a new requisition for the dental car for the next ORW
  - Prepare a batch of wooden toothbrushes
  - Blankets, sheets, towels and steribags are brought to the laundry
  - All dental instruments are sterilized
  - Gloves are washed, dried, powdered and sterilized
  - The tanks for Diesel, Gas, Distilled water and Oil are refilled
  - The stock of medicines (painkillers and antibiotics) is completed by the pharmacy
  - The stock for chalks, candles and Chlorhexidine are checked and completed
  - Go through the ORW file check-list (document 14.)
- Wednesday:
- Blankets, sheets, towels and steribags are collected at the laundry
  - Check the reserve of:
    - Hygienic (toilet) paper
    - Liquid soap
    - Hand soap
    - Matches
    - Vim
    - Hand Crème
- Friday:
- Check the reserve of:
    - Roller gauze
    - Face masks
  - Collects the sterilized gloves
  - Collect one part of the food: Sadza, Matemba, Cooking oil, rice, salt, ea leaves, soups, sugar
- Monday:
- Just before departure, get a kg of meat at the kitchen
  - Just before departure get the ORW money from the senior clerk at the workshop
  - Load the MDU equipment on the dental car
  - Passing through the township, buy some bread and vegetables

QV, SDI, 17.07.96



On Monday after coming back, the head of the dental department will have to go through the ORW file check-list as mentioned next (document 14):

### **Check-list For The ORW File** (doc 14)

1. Fill out the "Daily registration of patients and treatments" correctly and note the totals. Check the amount of the money which has come in. Report the totals on the daily registration of the clinic as well as on the "ORW Statistics" form (document 10).
2. Check the "Oral Health Education Registration", make the totals and report the numbers on the "ORW Statistics" form (document 10)
3. Check the complete number of blank papers and forms:
  - Daily registration of patients and treatments
  - Receipts for patients with stamp at the back
  - Medical-Aid Forms
  - Photocopies of the Memory-Aid For The Teachers
  - Photocopies of the Indications For The Responsible Of The RHC's
  - Photocopies of the Programme Of The ORW Of The Year
4. Bring the filled out and signed "Medical-Aid Forms" to the hospital administration
5. Control the rates of compressor/generator and evaluate the working hours so that services can be done punctually. Check the filled out "Services & Rates" form, document 19.
6. Control and fill out correctly the "Use Of The Dental Car" form with the number of kilometres.
7. Control and fill out the "Costs Of ORW" form.
8. Write a report of the last ORW week and transmit it to the Medical Superintendent of the hospital. Send a copy to the administration of the hospital management.
9. Write the letters to the headmasters for informing about your coming the week after, document 16.
10. Check and fill out the "ORW Evaluation", document 11.
11. Proceed to the supervision of the "Check-list For MDU Equipment"

To point 3: For the treatments administrated at the MDU, you'll have to make receipts to all patients who pay for their treatment. This receipt can look like:

Dental clinic of  
Chikombedzi Mission Hospital

Name: \_\_\_\_\_  
First name: \_\_\_\_\_  
Place: \_\_\_\_\_

8 7 6 5 4 3 2 1 1 2 3 4 5 6 7 8  
8 7 6 5 4 3 2 1 1 2 3 4 5 6 7 8

...consultation=.....(price)  
...treatments=.....(price)  
total=.....(price)

date:.....signature:.....

The stamp of the dental department is affixed at the back.

To point 6. and 7.: In the case of Chikombedzi, we have documents for the ORW car trips and the control of the costs for ORW. We will not make detailed mention of these two forms, as they directly concern the Chikombedzi ORW system. However, think about this type of control for your program and set up such documents should you see it necessary for your own system.

To point 8. The report to the Medical Superintendent of the hospital and the administration is important to keep optimal collaboration between the two parties. Here, you will have to mention the dates of ORW, the number of children instructed, the number of patients treated and of course the weekly income.

To point 9. Very important for good cooperation upon your arrival at the site is the reconfirmation of your upcoming visit by the staff at the RHC and the directors of the various schools taking part. It is important to send letters in advance, so the local people can organize themselves in the time period you will stay at a certain place.



## **TENTH STEP: Adapt your system in function of the local needs**

In the case of Chikombedzi, two points should be explained now. These points refer only to Chikombedzi and the local Zimbabwe system.

Document 17: "Letter From The Medical Superintendent Certifying The Dental Activities". This document should be written and annexed to the ORW file in case the Ministry of Health of Zimbabwe should ask for certification of the ORW program. It mentions that the Medical Superintendent of Chikombedzi Mission Hospital is aware of the dental activities of the MDU and the staff located in the outreach sites. It mentions also the support of the hospital management concerning these activities.

Document 18.: "Medical-Aid Forms And It's Check-list". All people of Zimbabwe who are employed by the government (police, military, aso.) have access to a government subvention for medical treatment. These patients usually carry with them a card which permits them to be medically treated without paying anything. The Medical-Aid forms are filled out after medical treatment and signed by the patient. These forms are then sent to the government which pays their treatment.

## **ELEVENTH STEP: Importance of the maintenance of the materials**

Document 19 : "Services And Rates". This form must be filled out in exact details so as to provide a breakdown of the most important objects of your ORW materials.

### **Services And Rates (for generator & compressor) (doc19)**

Dental Clinic Of Chikombedzi

place	date arrival	number hours	date departure	number hours	difference	total	services	remarks
Malipati	22.04.96	15742	25.04.96	15770	28	29		
Rutandare	06.05.96	15770	10.05.96	15792	22	51		
Gezani	20.05.96	15792	24.05.96	15821	29	80		cleaning
Samu	03.06.96	15821	07.06.96	15842	21	101		
Dumisa	17.06.96	15842	21.06.96	15852	10	111	ch .oil filter	
Davata	01.07.96	...	...	...	...	...	...	...
Muhlangul.	...							

It is important to notice if the service has been done on the compressor or the generator

Services for the generator have to be done as mentioned in the instructions

(->Change of oil filter, change of the plugs, change of air filter, aso.)

## **TWELFTH STEP: Evaluation of the costs of your outreach work program**

The most important point for you will finally be to evaluate the costs of your outreach program. Different points will have to be considered. Let's start with the major concern, the cost of the dental car:

Fuel: Diesel consummation is about 1 litre/ 7km and the actual price (summer 96) is Z\$ 3.03.-/ litre. Making a provision for the next 6 month period, let's fix the price at Z\$ 3.5.-/ liter 0.5.-Z\$/km

Service costs: Every 5000 km, a little or a big service has to be done. Costs for a little service is almost Z\$ 250.-, for the big service, you'll have to think about paying Z\$ 1500.-. If the car drives 18'500 km/year at Z\$ 4000.- service costs an year, the rate will be 0.22.-Z\$/km

Reparation: We'll evaluate the total reparation costs at almost Z\$10'000.- / year, for 18'500 km, the rate is 0.54.-Z\$/km

The costs of a new 4x4 wheel drive will be Z\$ 360'000.-. It should last for a period of 10 years, driving almost 20'000 km / year. The rate /km for car amortization is 1.8.-Z\$/km

**Total** **3.06.-Z\$/km**

Calculating all distances to be driven for the whole outreach work program, 19 visits are expected, for a total of 2337 km an year. This makes almost **7200.-Z\$** an year for transportation only (change in 1996 CHF 1=Z\$ 7.7, so equivalent to CHF 935.-).



For all other costs, you will have to elaborate a "Monthly Accounts " form, document 20.

**Monthly Accounts** (doc20)

Dental Clinic Of Chikombedzi

local currency: Zimbadollar (Z\$)

Year: 1996 / Month : March

Exchange rate / SF: 7.7 / SF

Income			Expenses		
Cash	80	80	SDI materials	15387	S
Credit	private patient	0	ZW materials		D
	CSP	405	other		I
	ZRP	20			
	other		salaries	2633	H
	Total	425	425	materials	1031
Allowances hospital	salaries	2633	medicines	45	S
	materials	1031	ORW	160	P
	medicines	45	buildings	420	I
	ORW	160	administration	170	T
	buildings	420	taxes		A
	administration	170	maintenance		L
	taxes		other		
	maintenance				
	other				
	Total	4458	4458		
<b>Total income</b>	<b>4964</b>		<b>Total expenses</b>	<b>19846</b>	

Total income	4964
Total expenses	19846
Profit/Loss month	-14882

Balance previous month	-9564
Profit/Loss for the month	-14882
Net balance	-24446

The starting costs of your outreach work program for an year will cost you (example Chikombedzi):

<b>Income:</b>			
Honorarium		none	Outreach Work for free
Bonuses		none	none for the first year
Government bonuses		none	no government support
Total		none	
<b>Expenses:</b>			
Salaries		none	paid by the government & the mission
Materials	car	CHF 45'000.-	paid by SDI
	MDU	CHF 30'000.-	paid by SDI
Buildings		none	calculated for the dental clinic only
Administration		CHF 4000.-	paid by SDI
Taxes		none	calculated for the dental clinic only
Transportation		CHF 940.-	subventioned by SDI
Trip into the country		CHF 4000.-	2 trips to ZW of SDI representative
Maintenance		none	for the first year
Total		<b><u>CHF 83'940.-</u></b>	<b>(Swiss Francs)</b>

This amount will be a close estimate for the original investment for setting up an ORW program like the one we have set up in Chikombedzi. Then, yourself will have to start the program and calculate locally what an ORW program costs are for keeping it running. On the following sheet you will see an evaluation of how much it costs SDI to keep the Chikombedzi outreach work program running.



With the help of the “Monthly Accounts”, you will be able to evaluate your ORW program costs:

<b>Income:</b>		
Honorarium	27.-	Medical Aid, ZRP
Bonuses	250.-	paid by the government & mission
Government bonuses	none	no government support
Total	277.-	
<b>Expenses:</b>		
Salaries	1650.-*	paid by the government & mission
Materials	2400.-	replacement paid by SDI
Buildings	327.-*	paid by the government & mission
Administration	32.-*	paid by the government & mission
Transportation	940.-	paid by the government & mission
Trip into the country	2000.-	2 trips to ZW of SDI representative
Total	8049.-	
Subtotal	<b><u>CHF 7772.-</u></b>	<b>(Swiss Francs)</b>

\*calculated 50% of the costs of the dental clinic for ORW

CHF 7772.- are the effective costs for the running of the program, but in the case of Chikombedzi, the costs for SDI are now situated at CHF 5000.-. Although, transportation is a big problem of discussions at Chikombedzi and the hospital asks us to support this amount, as well as a part of the salaries. For us, the costs will actually be around CHF 7000.-/ year.



## Last words

In all the activities of SDI in foreign countries, the maintenance of good quality dental treatment and the very strict hygienic and sterilization conditions we teach locally, are two points which are close to our hearts. We realize though, that we need to invest more time in teaching management and administration than teaching dentistry and manual know-how. This most probably is what makes instruction in deprived countries interesting, for we must learn to work and collaborate with different cultures and mentalities.

International help to developing countries must also consider the future, in relation to the natural environment. This begins with the materials brought into a developing area. At Chikombedzi, for example, we use latex gloves which are thicker and therefore can be washed, dried, powdered and sterilized for reusing.

Finally, I would like to thank all SDI representatives and those who have helped SDI financially to survive through their generous support. Also, I would like to thank the whole African community which has given us positive feedback and support concerning the outreach work in the developing countries.

I would also like to thank Jean-Martin Welker (Bienne, CH), Marco Giammona (Zürich, CH) and Etienne Malherbe (Lausanne, CH) who participated greatly in bringing about the hard work for the Chikombedzi outreach program and have helped make it what it's today.

At last, I would like to thank Doris Züger (Wil, CH) for the great help she gave me for writing this document in English.

Now, it is up to you to continue. We wish you all the very best for an interesting and fulfilling experience. If there are any questions, please contact one of the SDI representatives. You can find us on [www.secoursdentaire.ch](http://www.secoursdentaire.ch).

Best regards

Quentin Voellinger

