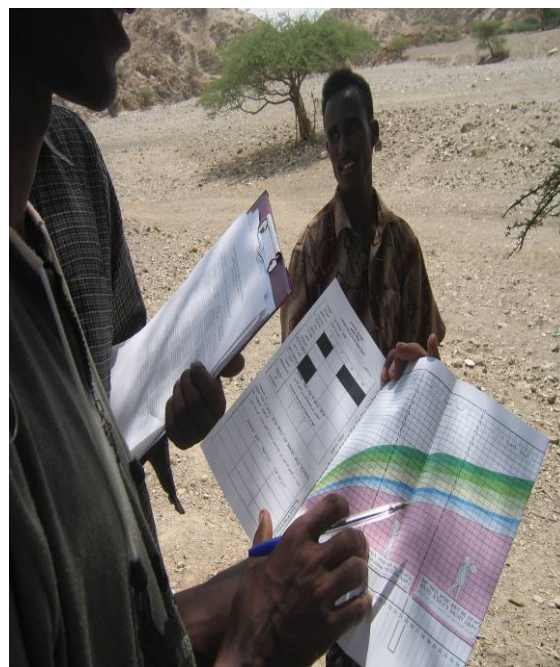


**Implementation of EPI/SOS
in NRS and SRS Zobas of Eritrea,
14 - 23 Aug 2006**

Reaching the Unreached



**World Health
Organization**
REGIONAL OFFICE FOR **Africa**

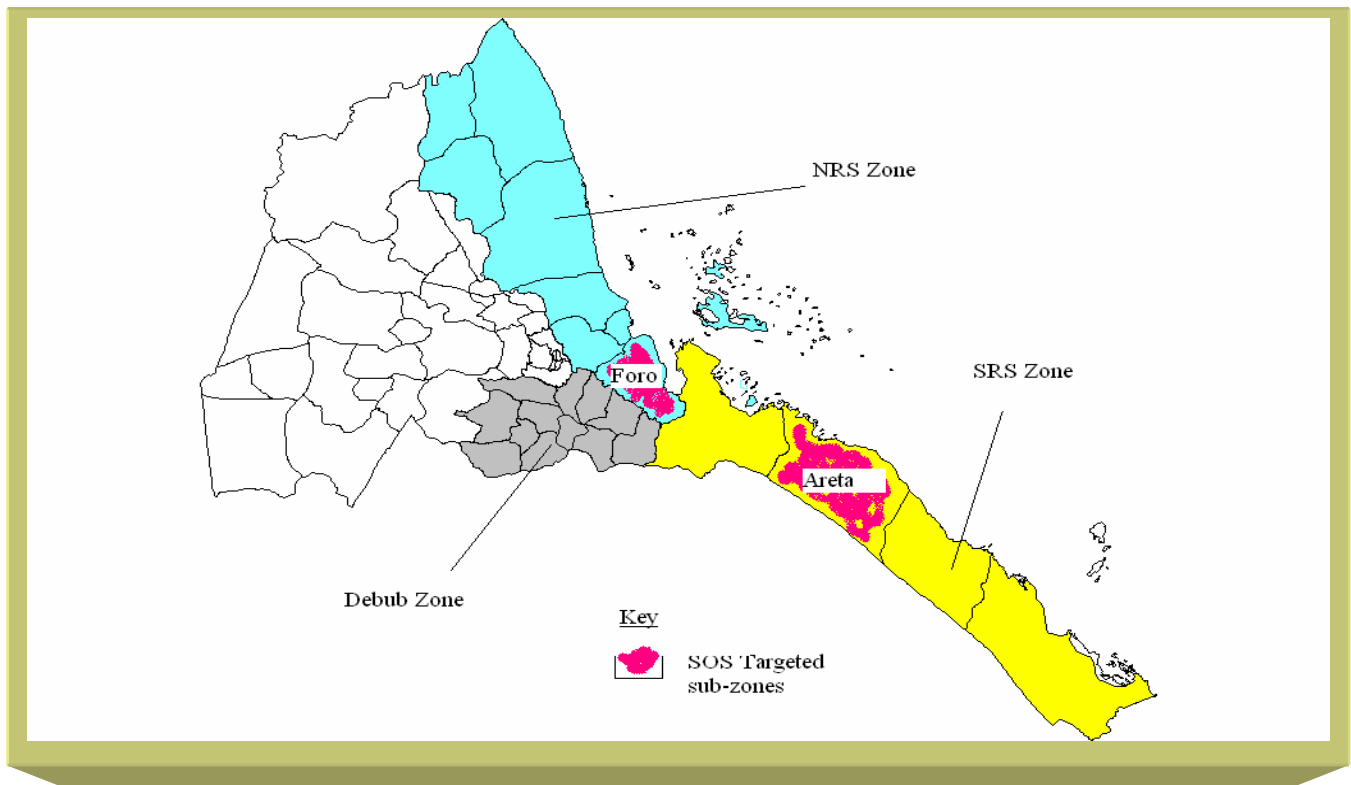
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1.0 Background

Northern Red Sea (NRS) and Southern Red Sea (SRS) are among the Zobas in Eritrea with relative low immunization coverage due to presence of hard to reach areas and population segments. These populations, “unreached” by immunization services are rural populations who are nomadic, seasonally mobile, or simply live so far from the national infrastructure that they have difficulties to make contact with routine immunization services.

During the MoH/ WHO/UNICEF/UNFPA/OCHA joint emergency assessments in March 2006, Areta sub Zoba of SRS Zoba and Foro sub-Zoba of NRS Zobas were identified as target areas that need outreach EPI support by WHO/Central Emergency Response Fund. In line with the EPI Reaching Every District (RED) strategy, the Sustainable Outreach Service (SOS) was chosen to be the best strategy to reach these hard to reach populations as it is periodic, covers children less than 5 years of age and encompasses a package of other basic health services.



Micro-Planning for EPI/SOS with the MoH and respective Zobas was conducted from 25 July - 05 Aug 06, although the proposal and draft plan was prepared in May 06. Based on the revised plan, the implementation of the SOS for SRS was scheduled for 14 -21 Aug 06 and for NRS the schedule was from 15-23 Aug 06.

1.1 Objectives of the SOS

- To immunize children less than five years of age and women of reproductive age in the hard to reach communities against vaccine preventable diseases.
- To provide basic PHC service package to these hard to reach communities.
- To document outcome of the exercise and lessons learnt

1.2 Monitoring:

A joint WHO/MOH team monitored the exercise in the 2 areas. The team comprised of:

- I. Dr. Eyob Araya, WHO/EPI
- II. Mrs Azmera G/Selasse, WHO/Data Manager
- III. Mr Filli Said Filli, MoH/EPI
- IV. Mr. Robel Teklye, WHO supported Health Information Expert

The objective of the monitoring exercise was:

- a. To Participate and assist in the training of SOS teams in Areta and Foro sub-Zobas of SRS and NRS Zobas respectively.
- b. To observe implementation of SOS in the two Zobas.
- c. To participate in the SOS post implementation evaluation meetings in both Zobas and contribute in outlining strategies for improvement of implementation of subsequent rounds.
- d. To document outcome of the exercise in both Zobas

The monitoring team accomplished the following tasks:

- Assisted the two Zobas in finalization of SOS micro-plan and training of teams before their deployment.
- Supervised implementation of SOS
- Assisted the Zobas in preparing team debriefing template and post SOS review meeting agenda.
- Participated in the post implementation evaluation meeting of both Zobas.
- Assisted Zobas in compilation, analysis and documentation of the campaign

2.0 SOS Implementation

2.1 Micro-planning

Prior to the campaign, detailed plan was prepared in conjunction with the 2 Zobas. The detailed is summarized below.

Table 1: Summary of SOS micro plan, Areta and Foro sub-Zobas

Planning element	Foro/NRS Zoba	Areta/SRS Zoba	Total
1. Dates of implementation	14 – 21 Aug 06	15 – 23 Aug 06	
2. Administrative Kebabis	5	6	11
3. Target pop			
<i>Total Pop</i>	12, 857	10,067	22,924
<i>< 5 yrs children</i>	1,929	1,413	3,342
<i>Women 15-49 yrs</i>	2,571	1,883	4,454
<i>Pregnant mothers</i>	643	471	1,114
4. Personnel			
<i>No. of teams</i>	6	3	9
<i>No. of health workers</i>	36	18	54
<i>No. of community mobilizes</i>	20	20	40
<i>No. of coordinators</i>	3	3	6
5. Transport			
<i>Vehicles</i>	6	5	11
<i>camels</i>	12	4	16
6. Health services	<ul style="list-style-type: none"> – Child immunization (< 5yrs) & TT, – ANC/PNC, – GMP, – Health Education 	<ul style="list-style-type: none"> – Child immunization (< 5yrs) & TT, – ANC/PNC, – GMP, – Health Education 	

2.1 Training

Training was conducted to give orientation to team members for both sub-Zobas prior to implementation on 14 and 16 August, 2006 at Tio and Foro for Foro and Areta Sub Zobas respectively.

The training sessions were officially opened by the sub-Zoba administrators of Areta and Foro sub-Zobas. Also in attendance were the Medical Officer and the PHC coordinator for the Tio training and the representative of the ZMO and PHC coordinator at the Foro training.

The agenda included specific objectives of the SOS in the respective Zobas, briefing on EPI, SOS strategy, data collection tools & documentation of lessons, and fine tuning of the micro plan.



2.2 Implementation

The campaign was implemented in Areta and Foro sub-Zobas from 15 – 21 Aug and 17 – 23 Aug 2006 respectively. In both sub-Zobas, the teams provided immunization for children less than 5 years, TT immunization for mothers of child bearing age, Antenatal & Postnatal care with Iron Folate supplementation, Growth Monitoring and Health Education.

In Foro sub-Zoba small scale curative service was provided. These included treatment of minor ailments with Tetracycline eye ointment, Oral Rehydration Salt (ORS) and mild analgesics & antipyretics.

In hard to reach areas of Areta sub-Zoba, three teams were deployed to cover six Kebabi (Village) Administrations. The MO of SRS, PHC coordinator & WHO staff participated in the exercise.

Table 2: Village (Kebabi) administrations and team deployment for SOS in Areta sub-Zoba

Village administration	Distance from base (Tio town)	Responsible team
Asagal	160 Kms	Team 1
Ayumen	120 Kms	
Egrol	80 Kms	
Ferer	130 Kms	Team 2
Hamerti	70 Kms	
Aleti	32 Kms	
* Meriam Seghen (in Maekel sub-Zoba) was also covered	150 Kms	

Pic 2: Operational map of SOS, Areta sub-Zoba



SOS Teams in action, Areta



SOS Teams in action, Areta



NRS Zoba deployed six teams to cover the hard to reach areas of Foro sub-Zoba. The teams left Massawa in the afternoon of 16th August 2006 after finalizing logistics preparations.

Since the areas are inaccessible through Foro itself, all the teams except one had to go through adjoining sub-Zobas (Dekemehare, Segheneyti and Adikeih) of Debub Zoba as is illustrated in the figure 3.

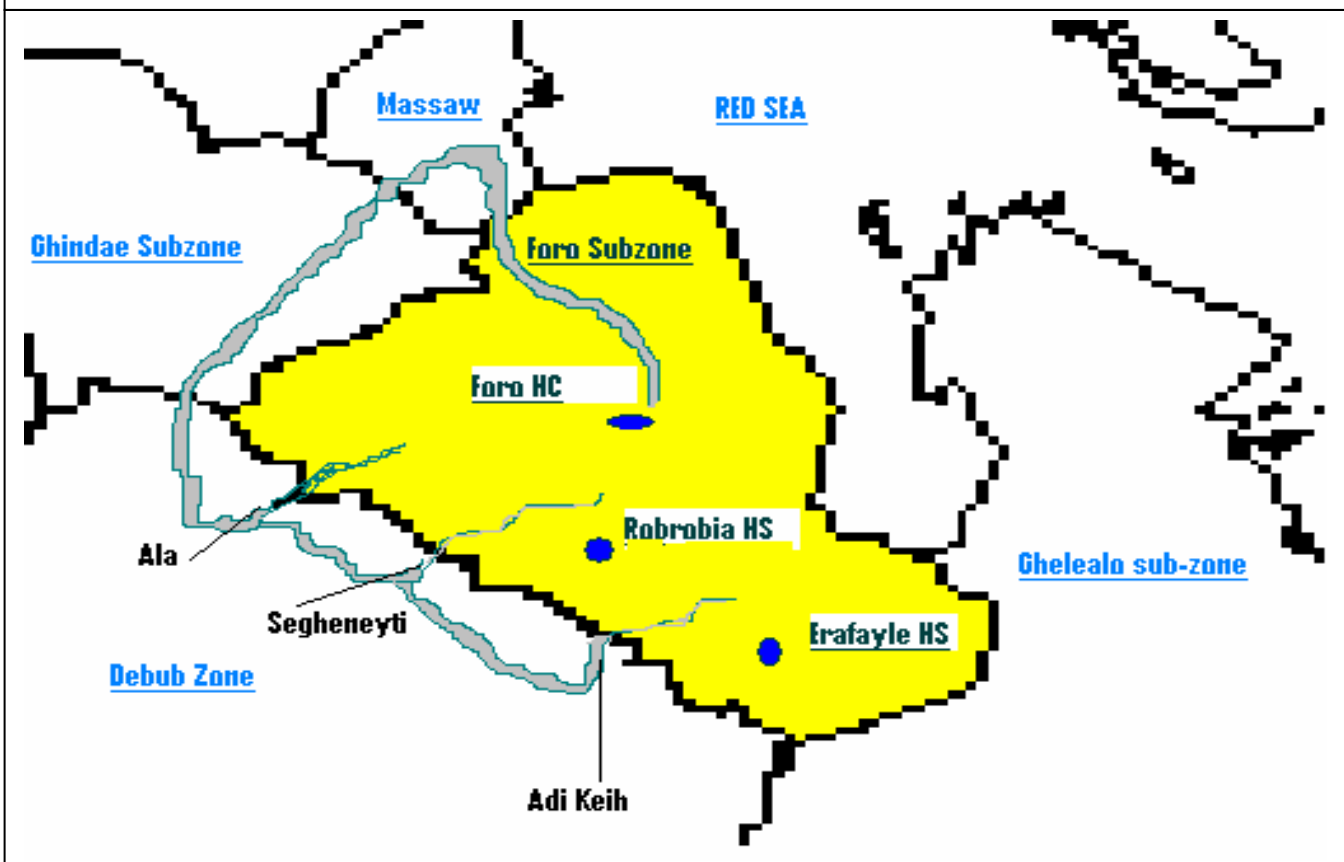
On arrival at the adjoining villages of Debub Zoba by vehicles, teams had to use camels and foot to reach the target people residing in the mountains and gorges.

The service was provided in points agreed and arranged by community leaders.

Table 3: SOS team deployment in Foro and access route

SOS Targeted Village Administration in Foro	Responsible Team	Access route
Kumhele	Team-6	Segheneyti via Adi Fighne (Debub Zoba)
Mehafid	Team-1	Segheneyti via Adi Fighne (Debub Zoba)
Arabto	Team-5	Dekemehare via Adroso(Debub Zoba) Asplited group went via Foro
Denalo/Baknaf	Team 4 & 2 respectively	Adi-keih via Ruba Hadas-Halai(Debub Zoba)-Team 4 Adi-keih via Ruba Hadas-Hadish Adi(Debub Zoba)-Team 2
Ruba-Hadas	Team-3	Adi-keih via Ruba Hadas-Hadish Adi(Debub Zoba)

Pic 3: Sketch map of travel route of SOS teams to hard to reach areas of Foro through Debub Zoba



Foro SOS teams waiting for Camel pickup



Using Camels to support SOS logistics transport



2.3 SOS Evaluation

The SOS evaluation meeting was conducted for both sub-Zobas after implementation of the activity. SRS conducted the review meeting on 20 Aug 06 in Tio Hospital with the participation of the Sub-Zoba Administrator, Zoba MO, PHC Coordinator and WHO Staff.

NRS Zoba conducted the evaluation on 25 Aug 06 at the NRS/MoH office. EPI/MoH Manger, NRS/ZMO, NRS/ PHC IDSR/HMIS coordinators and other ZHMT members, WHO/EPI Officer, UNICEF/EPI Officer and the six SOS team leaders participated in the evaluation meeting.

Each team leader presented team report using flip chart. The content of the report included team composition, village administration and hard to reach communities covered, activities/interventions delivered results of interventions, constraints, lessons learnt and recommendations. Thorough discussion was made by participants after each group presentation and recommendations were outlined to improve subsequent rounds of SOS.

SOS Review meeting in Areta, 20 Aug 06



Foro SOS Review meeting in Massawa, 25 Aug 06



2.3 Results

The results summarized in this section are tally sheet data for NRS Zoba and for SRS Zoba data presented by teams in the post implementation review meetings.

2.3.1 SOS Immunization Coverage

Child immunization for children less than five years and Tetanus Toxoid (TT) for women of reproductive age groups (15-49 years of age) were administered to target populations in the hard to reach village administration (Kebabis) of Foro and Areta sub-Zobas.

Antigens included for child immunization were OPV and DTPHepB. Measles and vitamin A were excluded from the SOS since measles SIAs was conducted recently. However, some teams had carried measles vaccines for immunization of children missed in the preceding campaign.

Out of the total of 3,342 children targeted for immunization, 3,491 (104%) were vaccinated for OPV/DTPHepB. Measles was also administered to 119 (6%) children missed in the measles SIAs.

In Foro sub-Zobas majority of children received 1st and 2nd doses of OPV/DTPHepB while in Areta the majority received the 3rd dose as shown in the table below. This shows the relatively better access to service in Areta than Foro sub-Zoba. In Foro, those taking the 2nd dose were children that received 1st dose of OPV/DTPHepB during the June Measles SIAs.

Table 4: Child Immunization Coverage in Areta and Foro sub-Zobas, Aug 2006
Child Immunization Coverage in Areta and Foro sub-zones, Aug 2006

No.	SOS Targeted Village Administration	Children under 5 yrs (0-59 months)	Total Immunized for OPV/DTPHep		OPV/DTPH epB1	OPV/DTPH epB2	OPV/DTPH epB3	Measles	
			No	%				No	%
	FORO Sub-zone/NRS	=15% of total pop							
1	Kumhele	473	465	98%	51%	47%	0%	30	6%
2	Mehafid	444	415	93%	52%	36%	5%	15	3%
3	Arabto	259	316	122%	66%	39%	17%	40	15%
4	Denalo/Baknaf	373	335	90%	46%	43%	1%	34	9%
5	Ruba-Hadas	380	433	114%	34%	80%	0%	0	0%
Sub-Total		1,929	1964	102%	49%	49%	4%	119	6%
	ARETA Subzone/SRS								
1	Asagala & Ayumen	568.2	485	85%	9%	9%	67%		
2	Egrolu & Ferer	565	584	103%	17%	19%	68%		
3	Hamerti & Aleti	279	458	600%	3%	8%	153%		
Sub-Total		1,413	1527	261%	11%	13%	84%		
Grand Total		3,342	3,491	104%	33%	34%	38%	119	6%

Out of the total of 4,454 women aged 15-49 years targeted for TT, 1952 (44%) received vaccine with 16% taking the 1st doses and the remaining 28% two or more doses of TT. As shown in table 5, the overall coverage in both sub-Zobas is similar except in Areta sub-Zobas the majority had received TT2+.

Table 5: TT Immunization Coverage in Areta and Foro sub-Zobas

No.	SOS Targeted Village Administration	Women of reproductive age group (15-49 yrs)	No. of women Immunized with TT			% of women Immunized with TT		
			All doses	TT 1	TT2+	All TT doses (%)	TT 1(%)	TT2+ (%)
FORO Sub-Zoba/NRS		20% of total pop						
1	Kumhele	631	188	94	94	30%	15%	15%
2	Mehafid	592	294	162	132	50%	27%	22%
3	Arabto	345	227	84	143	66%	24%	41%
4	Denalo/Baknaf	497	191	81	110	38%	16%	22%
5	Ruba-Hadas	506	206	110	96	41%	22%	19%
Sub Total		2,571	1106	531	575	43%	21%	22%
ARETA SubZoba/SRS								
1	Asagala & Ayumen	758	351	75	276	46%	10%	36%
2	Egrolu & Ferer	753	211	21	190	28%	3%	25%
3	Hamerti & Aleti	372	284	69	215	76%	19%	58%
Sub Total		1,883	846	165	681	45%	9%	36%
Grand Total		4,454	1,952	696	1,256	44%	16%	28%

2.3.2 Antenatal care (ANC), Post natal care (PNC) & Iron Folate supplementation

ANC, PNC and Iron supplementation was among the services provided by the SOS team. Among the total of 1,114 expected pregnant women and 139 post partum mothers in both Zobas, only 132 (11.9%) pregnant mothers & 19 (13.6%) postpartum mothers received service. Iron folate was supplemented to all mothers during the ANC/PNC (see table 6) Cultural taboo of revealing status of pregnancy and difficult terrain were mentioned to be among the reasons for low turnout of women in Foro sub-Zoba

2.3.3 Growth Monitoring and Promotion (GMP)

Anthropometric measurement (Wt for Age) was done on 3, 086 (92%) children less than five years to assess nutritional status of children in the hard to reach areas of both sub-Zobas. The findings demonstrate a similar nutritional profile of children in both sub-Zobas (see table 7).

Assessment of edema was not uniformly done by teams. The problem of accurate age estimation by parents was also one constraint observed during wt/age measurements. In line with these limitations, the findings should be interpreted with caution but may serve us a base line data for follow up GMP and possible nutritional interventions by the Zoba in these areas. During the measurement, teams referred children with sever malnutrition to nearby health facilities for supplementary feeding and also gave nutrition advices to those with moderate malnutrition. During the supervision, one severely malnourished child brought from Egroli area by the teams was admitted to Tio community hospital.

Table 6:
ANC/PNC Coverage in Areta and Foro sub-zones

No.	SOS Targeted Village Administration	Pregnant women	Post partum mothers	ANC				PNC		FeFolate supplementaion	
				No	%	No of High Risk	proportion of High Risk Mothers	No	%	No	%
FORO Sub-zone/NRS		5% of total pop	0.6% of pop								
1	Kumhele	158	20	5	3.2%	1	20.0%	2	10.1%	7	3.9%
2	Mehafid	148	18	28	18.9%	17	60.7%	0	0.0%	28	16.8%
3	Arabto	86	11	4	4.7%	0	0.0%	0	0.0%	4	4.1%
4	Denalo/Baknaf	124	16	20	16.1%	3	15.0%	0	0.0%	20	14.3%
5	Ruba-Hadas	127	16	5	3.9%	0	0.0%	0	0.0%	5	3.5%
Sub-Total		643	80	62	9.6%	21	33.9%	2	2.5%	64	8.8%
ARETA Subzone/SRS		5% of total pop	0.6% of pop								
1	Asagala & Ayumen	189	24	15	7.9%	0	0.0%	2	8.4%	17	8.0%
2	Egroli & Ferer	188	24	30	15.9%		0.0%	15	63.7%	45	21.2%
3	Hamerti & Aleti	93	12	25	26.9%	0	0.0%	0	0.0%	25	23.9%
Sub-Total		471	59	70	10.9%	0	0.0%	17	28.9%	87	12.4%
Total		1114	139	132	11.9%	21	15.9%	19	13.6%	151	13.6%

Table 7: GMP Coverage in Areta and Foro sub-Zobas

No.	SOS Targeted Village Administration	Population profile		Anthropometry measurement (Wt for age)							
		Total Population	Children under 5 yrs (0-59 months)	children measured		Nutritional Status of Children (WT for Age)					
FORO Sub-zone/NRS			=15% of to	No	% of < 5yrs	< 70% (PEM)		70-80% (Under weight)		> 80% (Normal)	
						No	Proportion	No	Proportion	No	Proportion
1	Kumhele	3156	473	312	66%	18	5.8%	104	33.3%	190	60.9%
2	Mehafid	2959	444	523	118%	70	13.4%	300	57.4%	153	29.3%
3	Arabto	1725	259	158	61%	17	10.8%	61	38.6%	80	50.6%
4	Denalo/Baknaf	2486	373	349	94%	1	0.3%	137	39.3%	211	60.5%
5	Ruba-Hadas	2531	380	413	109%	2	0.5%	35	8.5%	376	91.0%
Sub-Total		12,857	1,929	1755	91%	108	6.2%	637	36.3%	1010	57.5%
ARETA Subzone/SRS											
1	Asagala & Ayumen	3788	568	564	99%	86	15.2%	197	34.9%	281	49.8%
2	Egrol & Ferer	3767	565	577	102%	8	1.4%	29	5.0%	540	93.6%
3	Hamerti & Aleti	1862	279	172	62%	1	0.6%	66	38.4%	105	61.0%
Sub-Total		9,417	1,413	1,313	93%	95	7.2%	292	22.2%	926	70.5%
Total		22,274	3,342	3,068	92%	203	6.6%	929	30.3%	1,936	63.1%

2.3.4 Health Educations

Among the health promotive activities conducted in the targeted areas of Foro and Areta sub Zobas was community health education. In order to address health problems of the most vulnerable parts of the community i.e. children and women, the health education focused on immunization, Antenatal care, skilled delivery attendance, postnatal care, breast feeding, nutrition and personal hygiene. A total of 2,823 community members were educated as shown in the table below.

Table 8: Health Education in Areta and Foro sub-Zobas:

No	SOS Targeted Village Administration	Topic	No. of sessions	Total no. of community members sensitized/educated
FORO Sub-zone/NRS				
1	Kumhele	EPI, ANC	-	150
2	Mehafid	EPI, ANC	8	388
3	Arabto	EPI, ANC	2	267
4	Denalo/Baknaf	EPI, ANC, Breast feeding, nutrition, personal hygiene	7	493
5	Ruba-Hadas	EPI, ANC	-	315
Sub-Total				1,613
ARETA Subzone/SRS				
1	Asagala & Ayumen	EPI, ANC &PNC, Nut, GMP, hygein	12	591
2	Egrolu & Ferer	EPI, ANC	—	325
3	Hamerti & Aleti	EPI, ANC	—	294
Sub-Total				1,210
Total				2,823

3.0 Constraints

For both sub-Zobas

- Inadequate time for social and community mobilization.
- Unfavorable season (hottest season for the lowland sections and rain & floods for highland settlers).
- Parents have difficulties in knowing the exact age of child. This makes difficult to do a reliable growth monitoring.

For Foro sub-Zoba

- Some of the village administrators couldn't arrange camels to teams, and gather communities in the agreed sites and dates.
- Undefined population settlements and population movement. In some communities unexpected large number of target people came to sites. As a result teams were forced to collect additional doses of vaccines from Dekemehare hospital and were forced to give temporary immunization cards after stocks were exhausted.
- Shortage of personnel and implementation days.
- Too long travel days in some areas taking three days to walk up in the mountains.
- Too difficult terrain creating inconvenience for both vaccination teams and served community (particularly pregnant mothers and young children)

For Areta sub-Zoba

- No back up vehicle in such a hostile environment (a convoy of two vehicles is required).
- Some mothers forgot to bring child immunization cards that made it impossible to know previous dose of antigen taken.

4.0 Lessons Learnt

- SOS was found by health workers the best strategy to deliver integrated basic health services to unreached populations. There was also remarkable acceptance of the service by the hard to reach communities as was shown by the magnitude of support rendered to teams by communities.
- Some parents were observed to try to re-start immunization for their fully immunized children not to miss the opportunity. This is a sign of knowledge of communities on advantage of immunization to the wellbeing of their children.
- Communities missed in the measles SIAs were identified. This shows the need to periodically map population movement and settlements and doing detailed plan for hard to reach communities.
- The SOS was a big opportunity to liaise, discuss and identify priority community health problems. Fore example
 - In Mehafid village administration, it was revealed that out of 25 deliveries as of August 2006, four mother died of events associated with pregnancy & child birth (MMR of 16%).
 - In all Kebabis in Foro, there were no trained TBAs, few CHAs exist but non functional.
 - An outbreak of persistent cough associated with vomiting mainly affecting young children was identified and notified by the teams deployed in Foro (presumably whooping cough). The Zoba IDSR office immediately initiated epidemiological investigation of the event.

5.0 Conclusions

The SOS strategy was found to be a convenient and effective strategy of reaching hard to reach communities. It was an opportunity to establish link between the health care services and the hard to reach communities, to identify priority public health problems in the areas and outline strategies for improving service provision to target population.

6.0 RECOMMENDATIONS

For both sub-Zobas

- Ensure involvement of all Village administrators in planning for subsequent rounds of SOS.
- Conduct extensive social mobilization activities for at least 2 weeks prior to campaign.
- Ensure continuity of SOS in hard to reach areas of Foro & Areta sub-Zoba and extension to other hard to reach areas in the country.
- Provide packed foods to SOS teams in subsequent rounds.
- Consider inclusion of additional basic services in consultation of the Zobas and served communities.

For Foro sub-Zoba

- Ensure adequate number of health workers and implementation dates for subsequent rounds of SOS.
- Conduct Mop up measles immunization in the identified pockets of communities unreached in the preceding measles SIAs.
- Develop communication strategy to address the cultural taboo of pregnant mothers of avoiding being known as pregnant, as this is an obstacle for ANC visits during the outreach services.
- Train TBAs in the areas and improve linkage of CHAs with health facilities and their functionality by conducting regular meetings.
- Consider use of helicopters to transport SOS teams and logistics.

For Areta sub-Zoba

- In subsequent SOS rounds, plan convoy of two vehicles/team