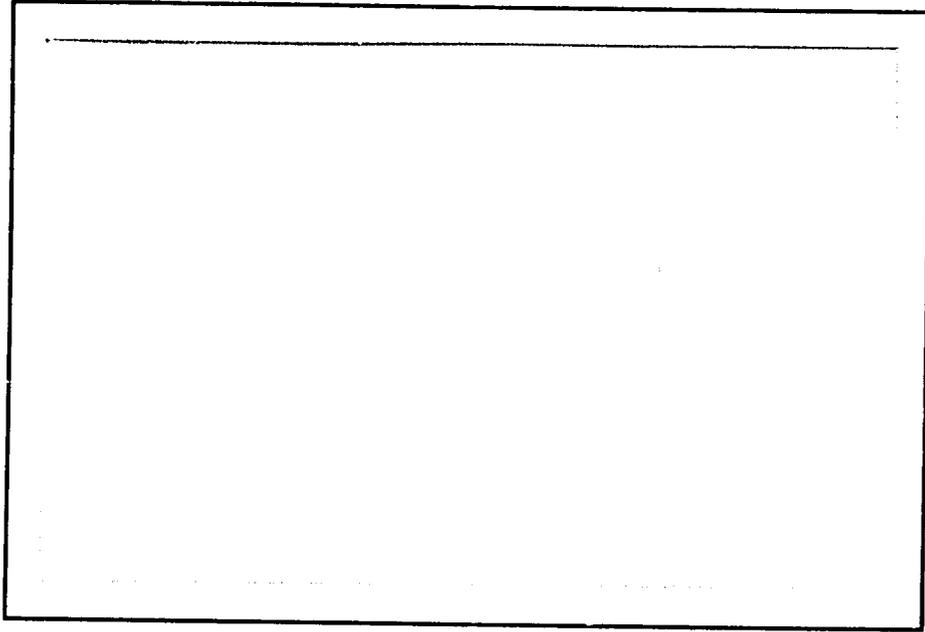


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**UGANDA PROSTHETICS
PROJECT EVALUATION**

**A Report Prepared by PRITECH Consultants:
BERNIE CHAPNICK
MIKE QUIGLEY**

**During The Period:
FEBRUARY 1992**

TECHNOLOGIES FOR PRIMARY HEALTH CARE (PRITECH) PROJECT

Supported By The:

**U.S. Agency for International Development
CONTRACT NO: AID/DPE-5969-Z-00-7064-00
PROJECT NO: 936-5969**

**AUTHORIZATION:
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ASSGN NO: HSS 136-AR**

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UGANDA PROSTHETICS PROJECT EVALUATION
BERNIE CHAPNICK & MIKE QUIGLEY

The team was in Uganda from February 9 to 13, principally in Kampala, with visits to the Ministry of Health in Entebbe and to Mbale (site of one of the three field workshops). An oral debriefing on Feb. 13th was attended by Mission Director Keith Sherper, General Development Officer Holly Wise, and Health Officer David Puckett.

There are three elements of the program: orthopaedic surgery, prosthetics, and physical therapy. Each is the responsibility of a different organizational entity and each is proceeding at a different pace. At the inception of the project in 1989, British Red Cross (BRC) was operating a prosthetics workshop in Kampala, and International Service Volunteer's Association (AVSI) was operating a physical therapy workshop in Kampala with prefabricated workshops located in Mbale, Fort Portal and Mbarara which were not yet staffed or operational. BRC and AVSI had envisioned limited training elements leading to institutional capacity for the Ugandan Government -- both projects had been designed primarily as emergency response, service-provision efforts. The A.I.D. project augmented the training elements of both of these ongoing efforts, and introduced orthopaedic surgery and a new organization, Health Volunteers Overseas (HVO).

All three elements of the program have experienced delays and all three have sought extensions. The Ugandan Government is pleased with the program and wishes it to continue. The Minister of Health, the Permanent Secretary of the Ministry of Health, the Dean of the Medical School of Makerere University and the Director of the Mulago Hospital were enthusiastic about the project, familiar with its operations, and desirous of its continuation. Each, however, was clear about the state of Uganda's finances and the need and desire for continued (and expanded) external support.

From the Mission perspective, the project has been highly visible and photogenic (visited by Senators Leahy and Mikulski and HHS Secretary Sullivan -- the highest ranking U.S. Government official to have ever visited Uganda). The project has not placed a large management burden on the Mission, and, while not a priority area the Mission would have chosen, it is a popular and non-controversial entree in the health field where the Mission has larger investments in the more controversial areas of family planning and AIDS.

ORTHOPAEDIC SURGERY

Of the three project areas, orthopaedic surgery has progressed furthest and has had the fewest problems. While the original timetable for the refitting of the surgical theater proved unrealistically optimistic, HVO is achieving its goals. With the one year extension already granted which compensates for the original delay and with a small addition of funds this year, this element of the project can move to a maintenance level with no need for continuing A.I.D. support. The project is currently scheduled to end in July 1993. The resident surgeon (and field project director) Dr. Rodney Belcher, plans to remain in Uganda at least through the end of the project, and probably through 1993. He claims that HVO will continue to send volunteers after the end of the project with no additional A.I.D. support if there is a staff house for them to use. There is a current request with the Mission for \$150,000.00 to remodel an existing house which belongs to the Mulago Hospital. The team expressed the view to Dr. Belcher and to the Mission that the remodeling of the building at A.I.D. expense would require commitments from the Ugandan Government and HVO. The Government would have to agree to assume all operating costs of the guest house, and to give priority to HVO or other A.I.D.-supported activities. HVO would have to commit itself to a "best effort" to recruit and send volunteers to Uganda with no additional support from A.I.D. According to Dr. Belcher, these conditions were perfectly reasonable, and he felt there would be no difficulty in getting commitments.

Further, the team suggested that the transition of administrative leadership (for which some planning and training had been begun) move forward immediately. The team's suggestion (which appeared to have the strong backing of the Director of the Mulago Hospital) was that one of the two Ugandan surgeons in the program (who would be elected Department Head on a rotating basis) be paid a part-time salary to also serve as the administrative head of the project. Dr. Belcher preferred to split the administrative function between two people. The Ugandan surgeon who is the heir-apparent as rotating department head would take on only those administrative functions which are non-HVO related. A part-time expatriate would be hired for the HVO-related administrative job. [Since the team's visit, HVO has hired Allison Scott, RN, for this position]. Dr. Belcher opposes paying an additional salary to the Ugandan surgeon because it might create frictions and jealousies. A proposal should be forthcoming from HVO which would spell out these details. A request for an additional staff vehicle for transporting local staff to and from work was discouraged by the team, and was deleted from the latest proposal. The orthopaedic surgery component of the project is progressing well, is likely to have a smooth transition to an interim period with non-A.I.D. HVO support, and poses no major issues at this time.

PROSTHETICS/ORTHOTICS

At the time of the grant to British Red Cross (BRC) in 1989, the Mulago workshop (the only prosthetic/orthotic facility in the country) was producing 6 prostheses and 12 orthoses per month. The project target was 100 prostheses fitted per month by 7/90. Actual numbers are far less -- from 6/month fitted in 1989 to 20/month fitted in 1991. BRC claims to be meeting the effective demand in Kampala at this rate and claims the 100/month rate is not possible. The increase that has been achieved in production can be attributed to: easing the low morale and productivity problems in the workshop; repair of the wood duplicating lathe which has allowed mass production of feet and knees (580 feet in 10 sizes and 170 knees in three sizes in 1990); and the establishment of the A.I.D. financed revolving fund which has allowed access to persons who could not afford prostheses under the previous system. [The Mission comment says, "...the wood duplicating lathe was never broken and that it has been operating for four (4) years and has helped production. The reference in the last paragraph of this page to the repair of the wood lathe is also questioned." Mike Quigley was on the 1989 team and clearly remembers the lathe not being functional, and the July 20, 1989 Grant Agreement says, "Also, the addition of the wood copying lathe which can mass produce the external structure of five artificial feet at one time would, along with other new equipment, enable the workshop to increase its production greatly."]

BRC has had significant problems with staff turnover throughout the project, the project administrator Brenda Eastwood's continued service with the project had not been decided at the time of the team visit and prosthetist Shirley Cox has been replaced with another new team member this year.

The training element of the program which was to have been begun in 1989, is still struggling to get off the ground. The curriculum for a three year course (2 year classroom, one year clinical) has just been approved, a new tutor has been hired, and the classroom facility for a single-shot 12 trainee group is nearing completion. The next hurdles include advertising the new course and selecting students. The Ministry claimed that this may occur by November. [Since the team visit, it has been reported that the first intake of students may occur in July 1992].

The original estimate of the survey team, based on WHO guidelines, was 15,000 amputees in Uganda. No hard numbers exist, and the team heard estimates as low as half that number. Rod Belcher still believes the 15,000 estimate, and his statistics based on upcountry and Kampala clinics indicate 15% of the orthopaedic patient load are amputees, and 85% disabled mobility due to polio, osteomyelitis and trauma. The lack of

functioning workshops upcountry, or a sufficient number of trained prosthetists to do field measurements and fittings (with manufacturing done in Kampala), has meant that the "effective" demand for prosthetic services has been kept low by the difficulty and expense of travel to Kampala.

The knee joints being produced are a modified Debre-Zeit design in both the constant friction (free swing) and manual lock design. The feet are SACH design a wooden keel and a foam heel and toe break.

Orthotic production was also assisted by the repair of the wood duplicating lathe. The "Kampala Caliper" is a prefabricated dorsiflexion assist with calf cuff and plaster flexion stop. The wooden clog portion of the brace is mass produced, and the low cost and easy adaptability of this brace has made it the ankle-foot orthosis of choice with 767 fitted in 1990. 992 pairs of orthopaedic shoes were made, and a total of 1300 patients received orthotic assistance.

The most sought after product of the workshop is the wheelchair. A local three wheel design (the small rear caster wheel is solid wood wrapped with a strip of old tire), it is completely fabricated in the workshop with the exception of the two large bicycle wheels. It is more durable on uneven terrain than conventional wheelchairs, and over 400 were produced in 1991. The largest volume item produced are crutches, with over 2500 pair produced in 1991.

BRC, in conjunction with the Ugandan Red Cross, runs a hostel for prosthetic patients in the Kampala suburb of Rubaga. While the location requires transporting patients to and from the workshop, the facility was made available by the Ugandan Red Cross, and is suitable for its function. The hostel had 17 boarders during the team visit and has housed as many as 25. The average stay is two to three weeks. There is a cook, a watchman and a resident caretaker/manager. This aspect of the project appears to be running smoothly.

PHYSICAL THERAPY AND THE UPCOUNTRY WORKSHOPS

These two aspects of the project are the responsibility of AVSI. Upcountry workshops are located in Mbale, Fort Portal and Mbarara. A fourth site in the north is being discussed, with Gulu or Arua most commonly mentioned. The first three sites had Italian donated prefabricated workshops at the beginning of the project. The workshop at Mbale and all of its equipment were lost in a fire, and have been replaced by a permanent structure financed by the project. The team visited the new building which appears to be ready to have its final connection to the main power line, and the equipment sent up from the A.I.D. warehouse. The problem with this and the other workshops is the lack of trained staff to operate them at anything approaching capacity. The AVSI staff now "rides circuit" and visits these centers for a few days each month. The graduates of the BRC prosthetics course will be stationed in these centers as will the graduates of the AVSI physical therapy course. [Since the team visit, as of April 1992 AVSI has agreed to run these workshops on a regular basis through the Kampala Workshop Committee, including appointment of full-time managers, local piece-workers, and the posting of at least one prosthetist/orthotist to each location].

Unfortunately, the physical therapy course is also behind schedule with only 3 students in their second year of a three year course and 7 in their first year. Offers of volunteer physical therapists from HVO have been turned away on the grounds that the project was not ready for them yet.

The targets for the upcountry workshops are ambitious. The target is to see 1000 patients per year total, with 120 wheelchairs per year per workshop produced.

NEXT STEPS

1. Agreement with HVO, the Mulago Hospital and the Mission with commitment by HVO for continued "best efforts" to recruit and field orthopaedic surgeons for three years after the July 1993 termination date of the project at no cost to A.I.D.; commitment by the Hospital to cover all maintenance costs of the staff house and to give priority to HVO, or other A.I.D.-related projects; and a commitment by the Mission to contribute the shilling equivalent of \$150,000.00 either from local currency generations of the Mission or project funds. The team agrees with Rod Belcher's view of the importance of this recommendation, and urges prompt action.
2. Continued efforts by all concerned to assure the earliest possible start for the prosthetics training course. The Permanent Secretary and/or Ministerial level contacts by the Mission and Dr. Belcher would appear to be called for.
3. Discussions of the future of the BRC project were hampered by two problems. There has been a recent review of the Uganda program by BRC, but the results of the review were not yet known. With a three year prosthetics training program not yet started, a strong multi-year commitment by BRC is needed, or the wisdom of beginning the course is questionable. The impending change of staff (again) also made discussions of the future more difficult. In response to a generic request by the Mission, the BRC had prepared an outline of an increased budget request. Closer discussion with Brenda Eastwood made it clear the BRC is not prepared to discuss future budget needs until it receives the results of their review from England. [Since the team visit, BRC has apparently recommended continued involvement from 1992-1995, or until the first group of students is fully qualified].
4. AVSI has requested \$250,000.00, largely for supplies, also in response to a generic Mission question of possible future budget needs. The supplies would be used in the upcountry workshops for the fabrication of wheelchairs and calipers. There was also preliminary discussion of contracting out the fabrication of wheelchairs to a local bicycle plant. The lack of a professional review of the physical therapy portion of the project left the team uncomfortable. In discussions with Dr. Belcher, he shared our discomfort, and our lack of professional competence to judge the work and/or training curriculum. The team recommends the use of an HVO physical therapist to review this aspect of the project before additional funds are added. [The recommended visit took place in May but the results are not known to the team as of this writing]. If short-term physical therapist volunteers are available through HVO, every effort should be made to utilize them -- the apparent reluctance of AVSI on the excuse that they aren't ready is strange -- if they had more human resources they could presumably speed up their rather relaxed pace.

RANDOM THOUGHTS

1. The relative speed and success of the orthopaedic surgery portion of the project appears to be related to two factors: the continuous presence of a dedicated energetic leader; and the fact that this was a new portion of the project designed from scratch with a new implementor, whereas the other portions were an attempt to change two service-provider, emergency-mentality organizations into institution-building trainers -- a role they accepted slowly and with difficulty.

2. The three aspects of the program are physically close together, and the people are cordial, but they are three separate activities which do not intertwine despite the efforts of a Workshop Management Committee chaired by Dr. Belcher. If the problem in Uganda was 15,000 amputees needing prostheses, that problem remains largely unsolved, the success of the surgery aspect notwithstanding. Rod Belcher's presence allowed the Mission to take a very relaxed position because he was seen as the de facto project manager. Dr. Belcher, although the Chair of the Workshop Committee, considers himself responsible only for the HVO activities and never felt he could impose anything on BRC or AVSI, despite the specific activities cited in the HVO grant,

"...3. Development of training curriculum and materials in conjunction with other agencies, including British Red Cross Society, for improving skills and techniques of prosthetists, orthotists, and physical therapists

4. Recruitment, transportation and in-country support for volunteer prosthetists, orthotists, and physical therapists.

5. Implementation of training programs within existing and new orthopaedic workshops in Uganda, in conjunction with the British Red Cross Society and other Uganda agencies concerned with prosthetic, orthotic, and physiotherapy services..."

[Dr. Belcher strongly disagreed with this point, and said, "... as Chair of the Workshop Committee, I have a strong voice in the overall programs of both BRCS and AVSI. However, HVO does not and cannot dictate policy and procedure to either of these organizations and has no mandate to do so. Both receive outside funding separate from USAID!" The team is not impugning Rod's intentions, and saying he doesn't consider himself responsible for...and never felt he could impose anything on... appear to be fully consistent with Rod's statement "... that HVO does not and cannot dictate policy" -- the team concurs, and does not believe there is any disagreement. The point is, A.I.D. attempted to design a much more coordinated project than it turned out to be, and the fault for that is partly design, partly implementation, and partly the monitoring. It is not intended as a personal

criticism, but rather as a design consideration for future projects and a recommendation for more forceful Mission involvement -- a key aspect of this or any evaluation].

3. The Uganda team went on directly to Mozambique and became part of a larger team reviewing a similar project. Some comparative observations are inevitable:

a) ICRC and HI are tightly run efficient organizations which have high morale and productivity -- BRC and AVSI are not in the same league.

b) Mozambique offers even worse conditions than the very poor conditions in Uganda, and yet production is higher, training is progressing more rapidly, and the morale of the expatriate and local staffs are higher in Mozambique. In part this is due to broader control over the total operation by ICRC and HI in Mozambique, than either BRC or AVSI have in Uganda.

c) The transit centers are the biggest problem in Mozambique, but the transit center in Kampala seems to be running smoothly. The performance of the responsible grantee in Mozambique (and the lack of effective Mission follow-up) appear to account for this.

d) The Mission management input is quite different in the two programs. It is not a priority in either country, and neither Mission seeks to spend much management time on it. The Uganda program has a much larger health component, with three full-time U.S. health officers, compared to one in Mozambique. The health officer in Mozambique, however, spends far more time on the details of the project, and has a full-time Mozambican physician as a contract project coordinator. Neither Mission has been involved in critical analysis of the progress and problems of the projects, and neither, in our opinion, has moved in a decisive or timely way to break logjams.

[Mission comment on point 3d was:

"Finally, in the last paragraph, the last sentence should either be substantiated or omitted. If the team has concrete examples of not 'moving in a decisive or timely way to break logjams' and recommendations to improve and correct the situation, then they should be included. Without validation, the statement serves no useful purpose and should be removed".

Apparently the Mission does not consider training being years behind schedule or production figures being a fraction of projected totals to be examples of logjams about which it did not

move in a decisive or timely manner -- the team does. As for recommendations to improve and correct the situation, item 2 under RANDOM THOUGHTS states, "Rod Belcher's presence allowed the Mission to take a very relaxed position because he was seen as the de facto project manager" -- the team understands that management time is a scarce commodity, but the team believes that the Mission has abdicated too much of the monitoring responsibility to the contractor].

MULAGO ORTHOPAEDIC WORKSHOP
ANALYSIS OF CLIENT REFERRALS
DEC 1990 TO SEPT 1991

**REPORT ANALYSIZES DATA RECORDED ON
REFERRAL/REGISTRATION FORMS SENT FROM
25 OF THE 38 DISTRICTS IN UGANDA**

**DATA SUMMARY PREPARED BY DR. W. DON SUTHERLAND
FOR NILS GUSSING DEVELOPMENT CONSULTING SERVICES**

MULAGO ORTHOPAEDIC WORKSHOP REFERRAL FORM DATA ANALYSIS DEC 1990 TO SEPT

DISTRICT	TOTAL REFERRALS	ABLE TO WALK?	YES	NO	POLIO REFERRALS	TOTAL	0-14 YRS
NORTHERN							
GULU	6						
KITGUM	10		5	1			
APAC	65		5	1		1	1
ARUA	0		62	3		0	0
MOYO	14		0	0		35	6
			10	4		0	0
						0	0
EAST							
KUMI	2						
SOROTI	17		0	2			
KAPCHORWA	0		9	8		1	0
BUSIA	0		0	0		0	0
TORORO	55		0	0		0	0
MBALE	0		8	47		0	0
IGANGA	75		0	0		39	4
JINJA	28		29	46		0	0
KAMULI	27		4	24		70	32
			6	21		24	8
						26	14
WEST							
HOIMA	14						
MASINDI	12		2	12		9	4
BUSHENYI	3		5	7		3	1
BUNDIBUGI	5		0	3		0	0
KABAROLE	14		2	3		0	0
KASESE	67		3	11		11	2
MBARARA	25		5	62		33	13
KOALE	12		7	18		20	0
KISORO	13		1	11		0	0
RUKUNGIRI	5		3	10		0	0
			0	5		1	0
CENTRAL							
MASAKA	0						
RAKAI	12		0	0		0	0
MUBENDE	12		1	11		12	7
LUWERO	6		1	11		3	0
KAMPALA	30		1	5		4	1
MPIGI	0		3	27		18	10
MUKONO	20		0	0		0	0
			1	19		18	7
TOTALS							
CENTRAL	80		7	73		55	25
WEST	170		28	142		77	20
EAST	204		56	148		160	58
NORTHERN	95		85	10		36	7
UGANDA	549		76	373		328	110

1991 PREPARED BY DR.DON SUTHERLAND FOR BRITISH RED CROSS

15-49 YRS	50+ YRS	UNKNOWN	AMPUTEE REFERRALS	TOTAL	0-14 YRS	15-49 YRS	50+ YRS
0	0	0		5	0	4	1
0	0	0		10	0	6	4
22	1	6		30	0	25	5
0	0	0		0	0	0	0
0	0	0		14	0	9	5
0	1	0		1	0	1	0
0	0	0		17	2	8	7
0	0	0		0	0	0	0
0	0	0		0	0	0	0
35	0	0		16	1	9	6
0	0	0		0	0	0	0
36	2	0		5	0	3	2
15	1	0		4	0	1	3
9	3	0		1	0	1	0
1	4	0		5	0	2	3
2	0	0		9	0	6	3
0	0	0		3	0	1	2
0	0	0		5	0	4	1
9	0	0		3	0	3	0
20	0	0		34	3	28	3
20	0	0		5	0	5	0
0	0	0		12	0	2	10
0	0	0		13	1	5	7
1	0	0		4	0	2	2
0	0	0		0	0	0	0
5	0	0		0	0	0	0
2	1	0		9	0	7	2
3	0	0		2	0	1	1
6	2	0		12	4	6	2
0	0	0		0	0	0	0
9	2	0		2	0	0	2
25	5	0		25	4	14	7
53	4	0		93	4	58	31
95	7	0		44	3	23	18
22	1	6		59	0	44	15
195	17	6		221	11	139	71

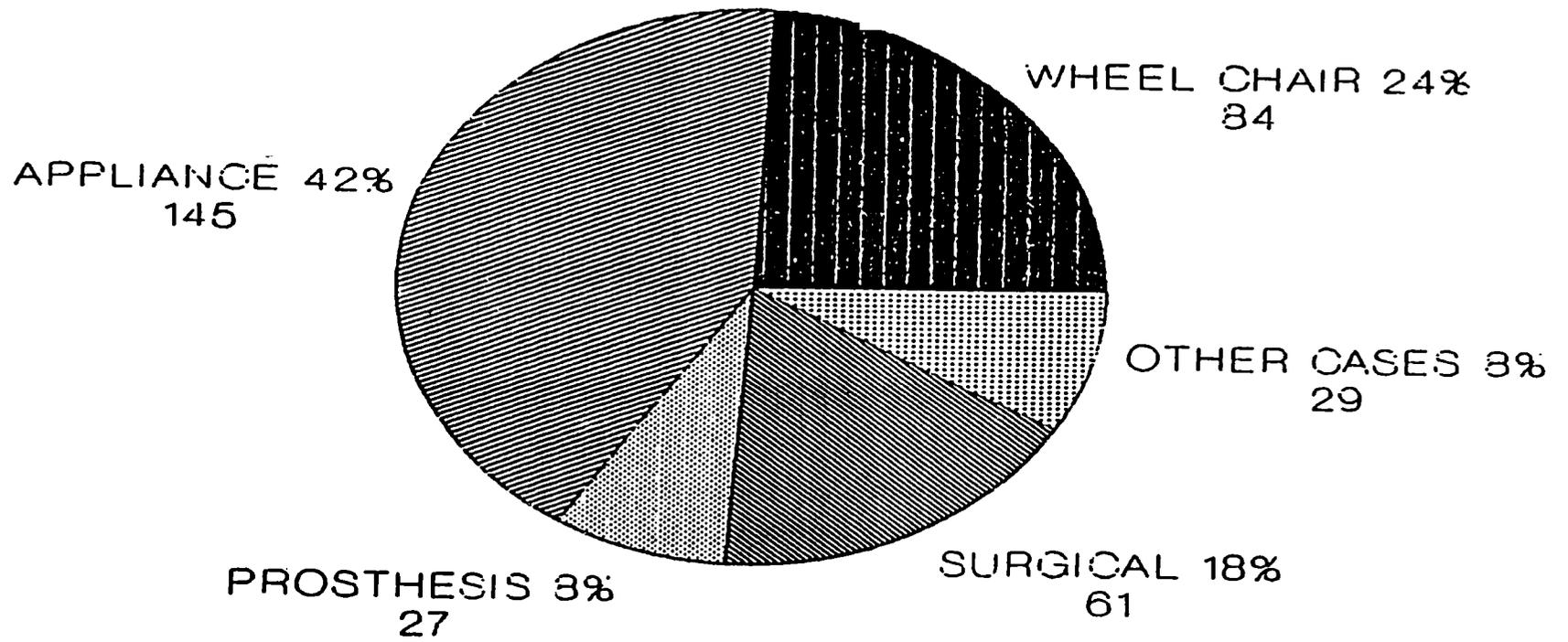
UNKNOWN	SITE OF AMPUTAT'N	BELOW KNEE	ABOVE KNEE	BELOW ELBOW	ABOVE ELBOW	CAUSE OF AMPUTAT'N	DISEASE
0		3	2	0	0		1
0		3	5	1	1		3
0		14	13	1	2		18
0		0	0	0	0		0
0		6	5	0	3		8
0		1	0	0	0		1
0		11	2	0	4		9
0		0	0	0	0		0
0		0	0	0	0		0
0		9	4	1	2		4
0		0	0	0	0		0
0		3	2	0	0		3
0		1	3	0	0		1
0		0	1	0	0		1
0		1	4	0	0		2
0		1	7	0	1		4
0		2	1	0	0		1
0		5	0	0	0		4
0		2	1	0	0		1
0		19	15	0	0		9
0		3	2	0	0		3
0		8	4	0	0		4
0		9	1	2	1		6
0		4	0	0	0		3
0		0	0	0	0		0
0		0	0	0	0		0
0		3	6	0	0		5
0		0	2	0	0		2
0		7	5	0	0		7
0		0	0	0	0		0
0		2	0	0	0		0
0		12	13	0	0		14
0		54	35	2	2		37
0		25	12	1	6		19
0		26	25	2	6		30
0		117	85	5	14		100

13

EXPLOSION	ACCIDENT	GUNSHOT	UNKNOWN	REFERRAL SOURCE	UGANDA RED CROSS	NUDIPU	OTHER
0	4	0	0				
3	3	1	0		6	0	0
4	7	0	0		10	0	0
0	0	0	1		65	0	0
2	4	0	0		0	0	0
					14	0	0
0	0	0	0				
0	6	2	0		2	0	0
0	0	0	0		14	0	0
0	0	0	0		0	0	0
2	8	0	0		0	0	0
0	0	0	2		55	0	0
0	1	0	0		0	0	0
1	1	0	1		6	0	0
0	0	0	1		18	62	7
			0		13	0	10
						10	4
0	3	0	0				
1	2	0	0		11	0	3
0	2	0	2		10	0	2
0	1	0	0		3	0	0
0	2	0	0		5	0	0
12	18	1	4		2	0	12
0	2	0	0		14	42	11
0	8	0	0		0	0	25
2	5	0	0		11	0	1
0	1	0	0		13	0	0
					5	0	0
0	0	0	0				
0	0	0	0		0	0	0
0	1	0	0		12	0	0
0	0	0	3		12	0	0
2	3	0	0		2	0	4
0	0	0	0		26	0	4
0	2	0	0		0	0	0
					20	0	0
2	6	0	3				
15	34	1	6		72	0	8
3	16	2	4		74	42	54
9	18	1	1		111	72	21
					95	0	0
29	74	4	14		352	114	83

14

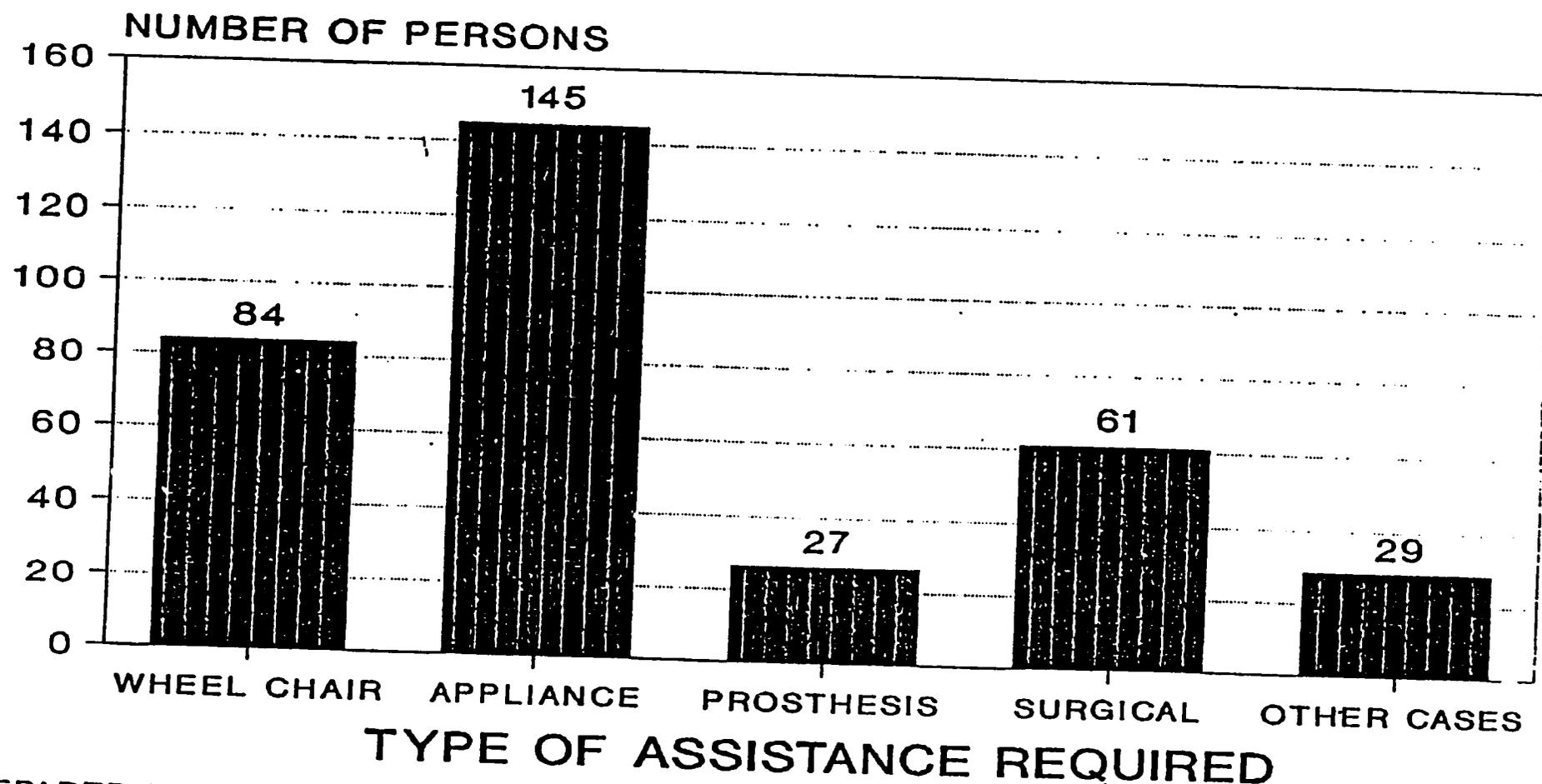
AVSI ORTHOPAEDIC PROJECT FIELD CLINIC CLIENT ANALYSIS 1990



PREPARED BY DR. DON SUTHERLAND FOR BRCS

15

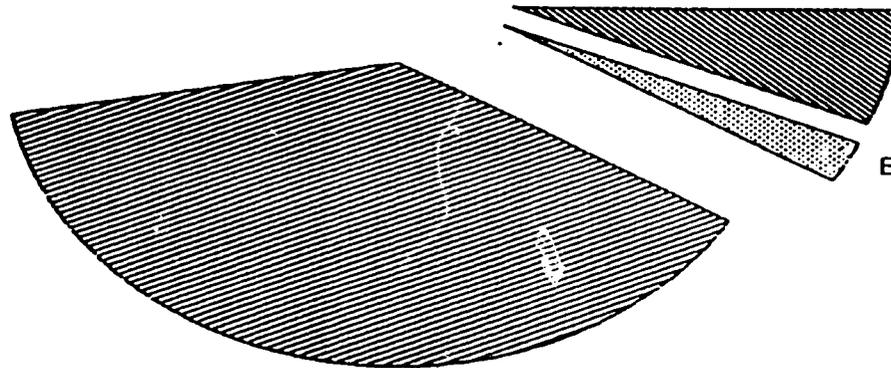
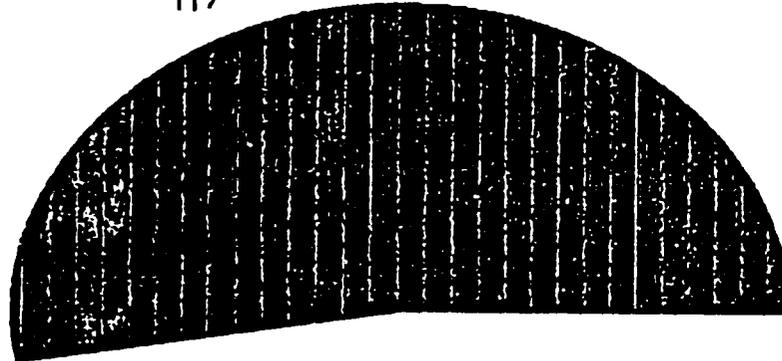
AVSI ORTHOPAEDIC PROJECT FIELD CLINIC - CLIENT ANALYSIS 1990



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AMPUTEE -TYPE REFERRED UGANDA DEC/90-SEPT/91 (No.& %)

BELOW KNEE 53%
117



ABOVE ELBOW 6%
14

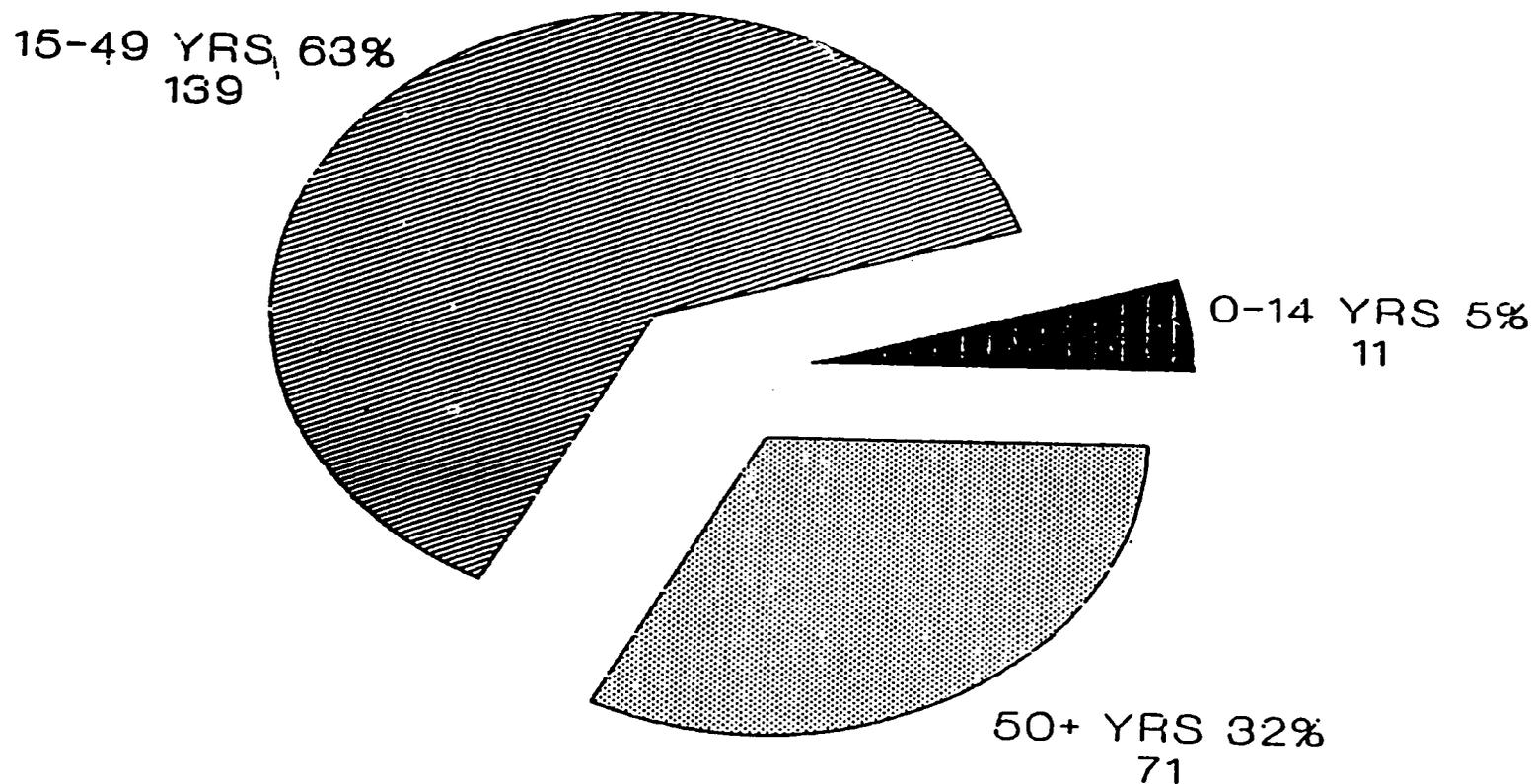
BELOW ELBOW 2%
5

ABOVE KNEE 38%
85

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AMPUTEE REFERRALS BY AGE

UGANDA TOTAL DEC 1990-SEPT 1991

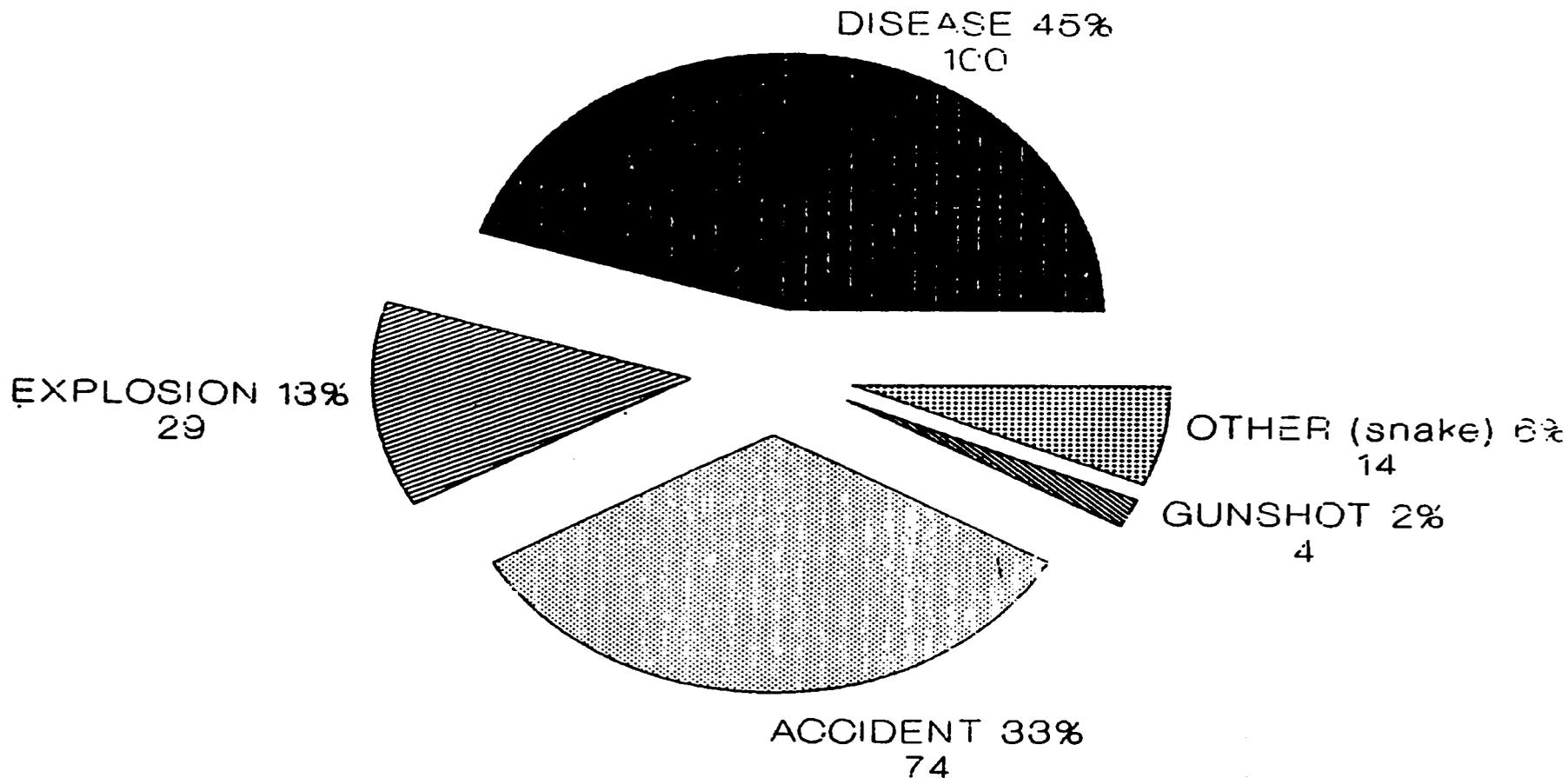


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18

AMPUTEE REFERRAL BY CAUSE

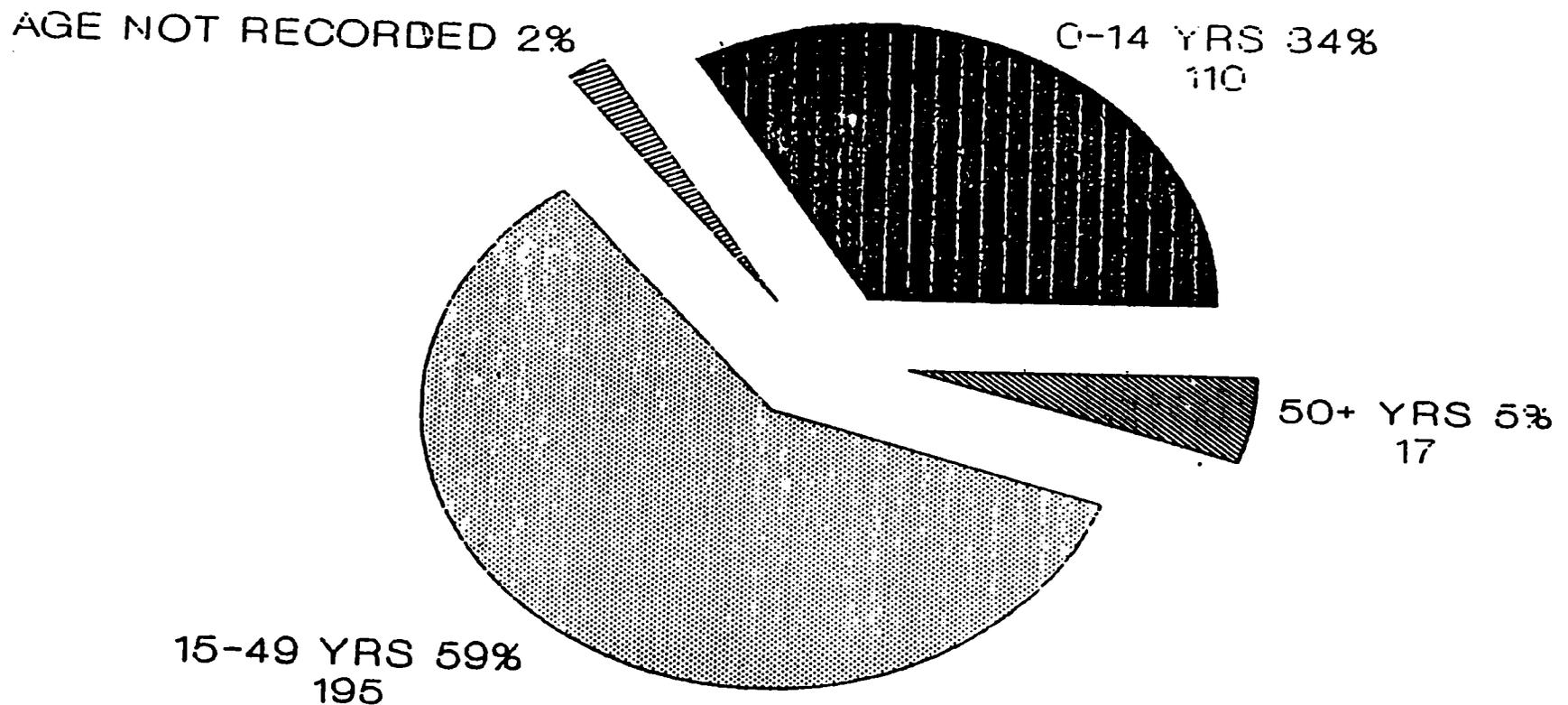
UGANDA DEC/90-SEPT/91 (No.& %)



PREPARED BY DR.DON SUTHERLAND FOR BRCS

POLIO REFERRALS BY AGE

UGANDA TOTAL DEC 1990-SEPT 1991

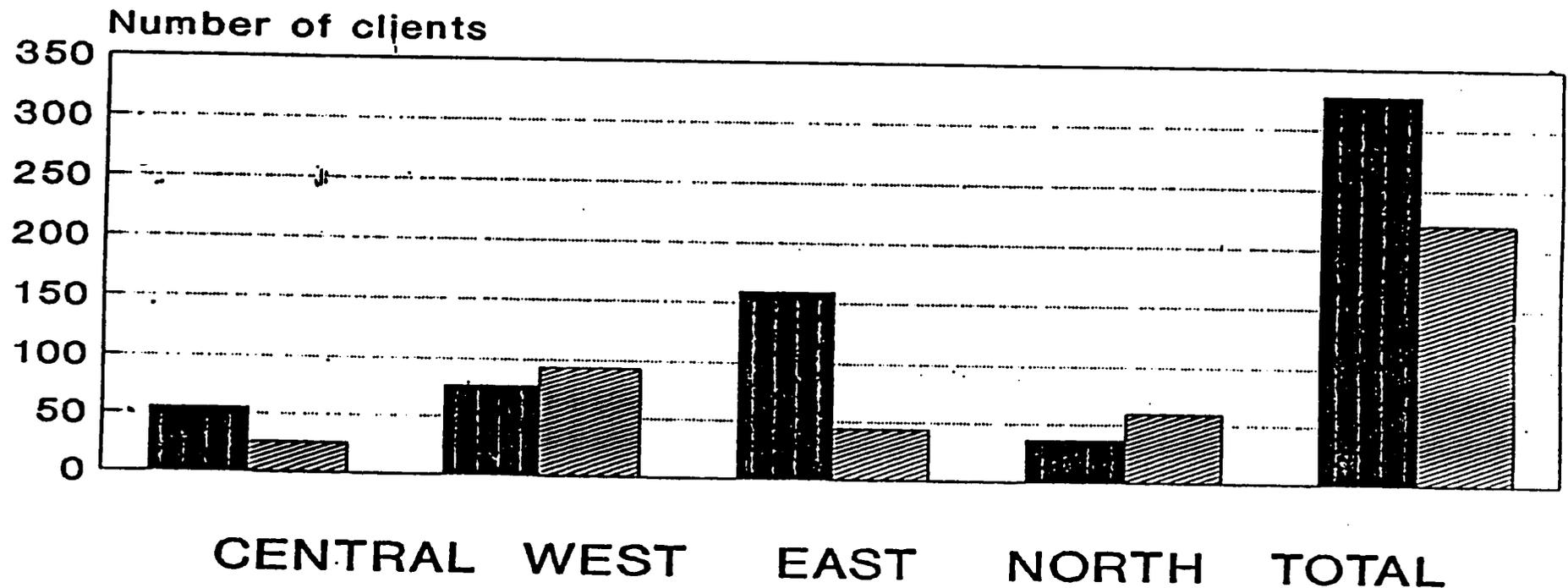


PREPARED BY DR.DON SUTHERLAND FOR BRCS

90

REFERRAL TYPE BY REGION

Referral Forms Dec1990-Sept1991



Regions of Uganda

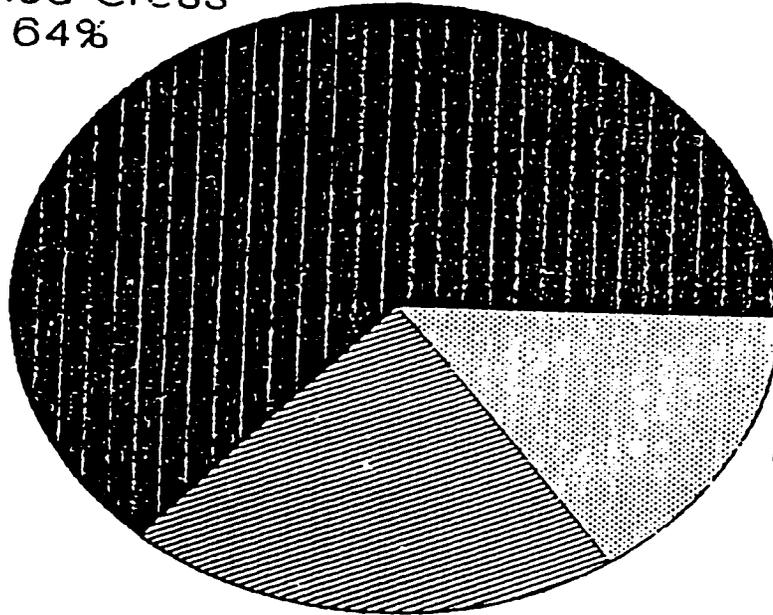
Polio etc.
 Amputees

PREPARED BY DR.DON SUTHERLAND FOR BRCS

12

UGANDA REFERRAL FORM ANALYSIS BY REFERRING AGENCY

Uganda Red Cross
352 64%



NUDIPO
114 21%

OTHER RC, HOSP, ETC
83 15%

PREPARED BY DR. DON SUTHERLAND FOR BRCS

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MULAGO ORTHOPAEDIC WORKSHOPS

WORKSHOP PRODUCTION FIGURES - PROSTHETIC/ORTHOTIC WORKSHOP

For the Year ending 1991 _____

NAME OF APPLIANCE	NUMBER COMPLETED
A.K. Prostheses	68
B.K. Prostheses	97
Through knee Prostheses	14
Through hip Prostheses	2
Symes Prostheses	9
Pylon Prostheses	47
Above elbow Prostheses	6
Below elbow Prostheses	3
Other Prostheses:	4
TOTAL PROSTHESES 250	
Prostheses repairs:	56

Completed by:

contd...

23

WORKSHOP PRODUCTION FIGURES - PROSTHETIC/ORTHOTIC WORKSHOP (2)

NAME OF APPLIANCE	NUMBER COMPLETED
A.K. Callipers	139
B.K. Callipers	17
Corsets	190
Cervical Collars	73
Arch supports	29
Shoe adaptations	5
Splints	107
Other Orthoses:	2
TOTAL ORTHOSES	
	562
Calliper repairs	27
Other repairs:	-
TOTAL REPAIRS	
	27

Completed by:

24

MULAGO ORTHOPAEDIC WORKSHOPS

WORKSHOP PRODUCTION FIGURES - LEATHER WORKSHOP

For the Year ending 1991

NAME OF APPLIANCE	NUMBER COMPLETED	
Surgical boots	992	
Clog boots	434	
Knee boots	46	
Raised boots	195	
Hand boots	64	
Calliper padding	115	
Ankle straps	533	
Knee caps	495	
Crutch padding	664	
Others:	184	
TOTAL APPLIANCES		3722
Boot repairs	182	
Other repairs:	1	
TOTAL REPAIRS		183

Completed by:

25

MULAGO ORTHOPAEDIC WORKSHOPS

WORKSHOP PRODUCTION FIGURES - METAL WORKSHOP

For the Year ending 1991

NAME OF APPLIANCE	NUMBER COMPLETED	
Wheelchairs	405	
Calipers (Kampala)	767	
Elbow crutches	289	
Walking sticks	302	
Others:	286	
TOTAL APPLIANCES		2049
Wheelchair repairs-	81	
Tricycle repairs	11	
Elbow crutch repairs	17	
Other repairs:	3	
TOTAL REPAIRS		112

Completed by:

26

MULAGO ORTHOPAEDIC WORKSHOPS

WORKSHOP PRODUCTION FIGURES - METAL MAINTENANCE

For the Year ending 1991

NAME OF APPLIANCE	NUMBER COMPLETED	
Casterwheel forks	486	
Knee mechanisms	86	
Others:	284	
TOTAL APPLIANCES		856
Repairs:	11	
TOTAL REPAIRS		11

Completed by:

MULAGO ORTHOPAEDIC WORKSHOPS

WORKSHOP PRODUCTION FIGURES - WOOD WORKSHOP

For the Year ending 1991

NAME OF APPLIANCE	NUMBER COMPLETED	
Crutches	2521	PAIRS
Caster wheels	861	EACH
Component feet	580	EACH
Component knees	170	EACH
Clogs	868	PAIRS
Foot rests	605	EACH
Seat bases for wheelchairs	811	EACH
Others:	425	
TOTAL APPLIANCES		6841
Crutch repairs	22	
Other repairs:	1	
TOTAL REPAIRS		23

Completed by:

28

FINANCIAL STATUS REPORT

(Follow instructions on the back)

1. FEDERAL AGENCY AND ORGANIZATIONAL ELEMENT TO WHICH REPORT IS SUBMITTED
 2. FEDERAL GRANT OR OTHER IDENTIFYING NUMBER
 OMB Approved No. 80-RO18N
 PAGE OF

U.S. Agency For International Development
 617-0121-6-00-89-02-06
 1 | 3 PAGES

3. RECIPIENT ORGANIZATION (Name and complete address, including ZIP code)
 HEALTH VOLUNTEERS OVERSEAS
 c/o WASHINGTON STATION
 P.O. Box 65157
 WASHINGTON D.C. 20335-5157

4. EMPLOYER IDENTIFICATION NUMBER
 52-1485477

5. RECIPIENT ACCOUNT NUMBER OR IDENTIFYING NUMBER

6. FINAL REPORT
 YES NO

7. BASIS
 CASH ACCRUAL

8. PROJECT/GRANT PERIOD (See instructions)
 FROM (Month, day, year) TO (Month, day, year)
 08/01/89 07/31/93

9. PERIOD COVERED BY THIS REPORT
 FROM (Month, day, year) TO (Month, day, year)
 10/01/91 12/31/91

10. STATUS OF FUNDS

PROGRAMS/FUNCTIONS/ACTIVITIES ▶	(a) SALARY	(b) TRAVEL	(c) SHIPPING	(d) PSC	(e) HOUSING	(f) COMMODITIES	TOTAL (g)
a. Net outlays previously reported	\$ 178,433.13	\$ 43,660.07	\$ 21,578.78	\$ 11,488.63	\$ 76,548.47	\$ 225,762.65	\$ 929,014.98
b. Total outlays this report period	24,337.57	4,570.41	141.60	3,232.49	388.08	22,445.89	71,907.23
c. Less: Program income credits							
d. Net outlays this report period (Line b minus line c)	24,337.57	4,570.41	141.60	3,232.49	388.08	22,445.89	71,907.23
e. Net outlays to date (Line a plus line d)	202,770.70	48,230.49	21,719.78	14,721.12	76,936.55	248,177.23	1,020,922.21
f. Less: Non-Federal share of outlays							
g. Total Federal share of outlays (Line e minus line f)	202,770.70	48,230.49	21,719.78	14,721.12	76,936.55	248,177.23	1,020,922.21
h. Total unliquidated obligations							
i. Less: Non-Federal share of unliquidated obligations shown on line h							
j. Federal share of unliquidated obligations							
k. Total Federal share of outlays and unliquidated obligations	202,770.70	48,230.49	21,719.78	14,721.12	76,936.55	248,177.23	1,020,922.21
l. Total cumulative amount of Federal funds authorized	421,151.00	218,971.00	42,625.00	80,900.00	124,600.00	474,200.00	2,122,000.00
m. Unobligated balance of Federal funds	218,410.30	170,743.52	20,905.22	66,178.88	47,663.45	226,022.77	1,001,077.79

11. INDIRECT EXPENSE

a. TYPE OF RATE (Place "X" in appropriate box) PROVISIONAL PREDETERMINED FINAL FIXED

b. RATE 10%

c. BASE 83,552.03

d. TOTAL AMOUNT 8,355.20

e. FEDERAL SHARE 8,355.20

13. CERTIFICATION

I certify to the best of my knowledge and belief that this report is correct and complete and that all outlays and unliquidated obligations are for the purposes set forth in the award documents.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL
 [Signature]
 TYPED OR PRINTED NAME AND TITLE
 NANCY A. KELLY EXECUTIVE DIRECTOR

DATE REPORT SUBMITTED
 1/31/92

TELEPHONE (Area code, number and extension)
 (202) 296-0529

29

FINANCIAL STATUS REPORT

(Follow instructions on the back)

3. RECIPIENT ORGANIZATION (Name and complete address, including ZIP code)

HEATH VOLUNTEERS OVERSEAS
c/o WASHINGTON STATION
P.O. Box 65167
WASHINGTON D.C. 20035-5167

1. FEDERAL AGENCY AND ORGANIZATIONAL ELEMENT TO WHICH REPORT IS SUBMITTED

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

2. FEDERAL GRANT OR OTHER IDENTIFYING NUMBER

617-0121-G-00-89-02-00

OMB Approved No. 80-RO180

PAGE OF

2 3 PAGES

4. EMPLOYER IDENTIFICATION NUMBER

52-1495 477

5. RECIPIENT ACCOUNT NUMBER OR IDENTIFYING NUMBER

6. FINAL REPORT

YES NO

7. BASIS

CASH ACCRUAL

8. PROJECT/GRANT PERIOD (See instructions)

FROM (Month, day, year)

08/01/89

TO (Month, day, year)

07/31/93

9. PERIOD COVERED BY THIS REPORT

FROM (Month, day, year)

10/01/91

TO (Month, day, year)

12/31/91

STATUS OF FUNDS

PROGRAMS/FUNCTIONS/ACTIVITIES ▶	(a) REVENUES	(b) MISCELLANEOUS	(c) SUBCONTRACTORS	(d) CONTRACTOR LEASES CONTINGENCY	(e) OVERHEAD	(f)	TOTAL (g)
a. Net outlays previously reported	\$ 187,726.79	\$ 59,793.25	\$ 39,577.30	\$ -	\$ 84,455.91	\$	\$
b. Total outlays this report period	11,175.00	5,159.32	-	12,133.58	8,355.20		
c. Less: Program income credits							
d. Net outlays this report period (Line b minus line c)	11,175.00	5,159.32	-	12,133.58	8,355.20		
e. Net outlays to date (Line a plus line d)	198,901.79	64,952.57	39,577.30	12,133.58	92,811.11		
f. Less: Non-Federal share of outlays							
g. Total Federal share of outlays (Line e minus line f)	198,901.79	64,952.57	39,577.30	12,133.58	92,811.11		
h. Total unliquidated obligations							
i. Less: Non-Federal share of unliquidated obligations shown on line h							
j. Federal share of unliquidated obligations							
k. Total Federal share of outlays and unliquidated obligations	198,901.79	64,952.57	39,577.30	12,133.58	92,811.11		
l. Total cumulative amount of Federal funds authorized	232,600.00	120,870.00	58,075.00	64,772.00	183,813.00		
m. Unobligated balance of Federal funds	33,698.21	55,917.43	18,477.70	52,638.42	91,001.89		

11. INDIRECT EXPENSE

a. TYPE OF RATE

(Place "X" in appropriate box)

PROVISIONAL PREDETERMINED FINAL FIXED

b. RATE

c. BASE

d. TOTAL AMOUNT

e. FEDERAL SHARE

12. CERTIFICATION

I certify to the best of my knowledge and belief that this report is correct and complete and that all outlays and unliquidated obligations are for the purposes set forth in the award documents.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL

TYPED OR PRINTED NAME AND TITLE

DATE REPORT SUBMITTED

TELEPHONE (Area code, number and extension)

13. REMARKS: Attach any explanations deemed necessary or information required by Federal sponsoring agency in compliance with governing legislation.

29

FINANCIAL STATUS REPORT

(Follow instructions on the back)

3. RECIPIENT ORGANIZATION (Name and complete address, including ZIP code)

HEALTH VOLUNTEERS OVERSEAS
 C/O (WASHINGTON) STATION
 P.O. Box 65157
 WASHINGTON, D.C. 20035-5157

1. FEDERAL AGENCY AND ORGANIZATIONAL ELEMENT TO WHICH REPORT IS SUBMITTED

U.S. Agency for International Development

2. FEDERAL GRANT OR OTHER IDENTIFYING NUMBER

617-0121-G-00-89-02-00

OMB Approved No. 80-RO18N

PAGE OF

3/3 PAGE

4. EMPLOYER IDENTIFICATION NUMBER

52-1495477

5. RECIPIENT ACCOUNT NUMBER OR IDENTIFYING NUMBER

6. FINAL REPORT

YES NO

7. BASIS

CASH ACCRUAL

8. PROJECT/GRANT PERIOD (See instructions)

FROM (Month, day, year)

08/1/79

TO (Month, day, year)

07/31/83

PERIOD COVERED BY THIS REPORT

FROM (Month, day, year)

10/1/81

TO (Month, day, year)

12/31/81

10.

BREAKDOWN OF EXPENDITURE

STATUS OF FUNDS

PROGRAMS/FUNCTIONS/ACTIVITIES ▶	(a) USAID/UGANDA	(b) AID/WASHINGTON	(c)	(d)	(e)	(f)	TOTAL (g)
a. Net outlays previously reported	\$ 759,066.93	\$ 169,848.05	\$	\$	\$	\$	\$ 929,014.98
b. Total outlays this report period	12,133.58	79,773.65					91,907.23
c. Less: Program income credits							
d. Net outlays this report period (Line b minus line c)	12,133.58	79,773.65					
e. Net outlays to date (Line a plus line d)	771,200.51	249,721.69					1,020,922.21
f. Less: Non-Federal share of outlays							
g. Total Federal share of outlays (Line e minus line f)	771,200.51	249,721.69					1,020,922.21
h. Total unliquidated obligations							
i. Less: Non-Federal share of unliquidated obligations shown on line h							
j. Federal share of unliquidated obligations							
k. Total Federal share of outlays and unliquidated obligations	771,200.51	249,721.69					
l. Total cumulative amount of Federal funds authorized	771,200.51	1,250,799.49					1,020,922.21
m. Unobligated balance of Federal funds	0 - 0 -	1,001,077.79					2,022,000.00

11. INDIRECT EXPENSE

a. TYPE OF RATE

(Place "X" in appropriate box)

PROVISIONAL PREDETERMINED FINAL FIXED

b. RATE

c. BASE

d. TOTAL AMOUNT

e. FEDERAL SHARE

12. CERTIFICATION

I certify to the best of my knowledge and belief that this report is correct and complete and that all outlays and unliquidated obligations are for the purposes set forth in the award documents.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL

DATE REPORT SUBMITTED

TYPED OR PRINTED NAME AND TITLE

TELEPHONE (Area code, number and extension)

13. REMARKS: Attach any explanations deemed necessary or information required by Federal sponsoring agency in compliance with governing legislation.

3/1

THE USAID MID - PROJECT EVALUATION TEAM'S VISIT SCHEDULE FEBRUARY, 1992

	PLACE	TO MEET	DATE	TIME
1.	USAID OFFICES (NAKASERO)	MS. H. WISE MS. J. LAROSA MR. D. PUCKETT	MONDAY 10TH FEBRUARY	2 P.M.
2.	OLD MULAGO HOSPITAL	PROF. R. L. BELCHER	MONDAY 10TH FEBRUARY	3 P.M.
3.	NEW MULAGO HOSPITAL	THE MEDICAL SUPERINTENDENT & THE SCF/ODA MGT ADVISOR	TUESDAY 11TH FEBRUARY	8.30 - 10 A.M.
4.	MAKERERE UNIVERSITY MEDICAL SCHOOL	THE DEAN FACULTY OF MEDICINE	TUESDAY 11TH FEBRUARY	10 - 11 A.M.
5.	ORTHOPAEDIC WORKSHOPS OLD MULAGO	BRCS & AVSI ADMINISTRATORS	TUESDAY 11TH FEBRUARY	11 A.M. - 2 P.M.
6.	RUBAGA HOSTEL	ORTHOPAEDIC PATIENTS BEING HANDLED BY ORTHOPAEDIC WORKSHOPS	TUESDAY 11TH FEBRUARY	3 P.M.
7.	MINISTRY OF HEALTH (HQs) ENTEBBE	THE PERMANENT SECRETARY/ DIRECTOR OF MEDICAL SERVICES OF MINISTRY OF HEALTH	WEDNESDAY 12TH FEBRUARY	9 A.M.
8.	ORTHOPAEDIC OFFICES OLD MULAGO	ORTHOPAEDIC STAFF	WEDNESDAY 12TH FEBRUARY	10.30 A.M. - 1 P.M.

..../2.

22

.../2.,

	PLACE	TO MEET	DATE	TIME
9.	WARD 7 & ORTHOPAEDIC THEATRE OLD MULAGO	THEATRE STAFF & ORTHOPAEDIC PATIENTS (SURGICAL WARD)	WEDNESDAY 12TH FEBRUARY	1.05 - 2 P.M.
10.	DEPARTURE FOR MBALE	MBALE ORTHOPAEDIC WORKSHOPS	WEDNESDAY 12TH FEBRUARY	2.30 - P.M.
11.	MBALE ORTHOPAEDIC WORKSHOPS	WORKSHOP TOUR & RECONSTRUCTION WORK ASSESSMENT	THURSDAY 15TH FEBRUARY	8 A.M. - 10 A.M.
12.	USAID OFFICES NAKASERO	BRIEF THE USAID DIRECTOR	THURSDAY 13TH FEBRUARY	8A.M.

W

Feb. 13, 1992

Memo to U.S.A.I.D./Kampala

Re: Additional funds for Uganda Orthopaedic Project, for
1991-92

USAID Grant NO. 617-0121-G-00-89-02

In a previous memo, (Nov. 14, 1991, attached), I discussed the need for additional funds for the Uganda Orthopaedic Project with particular regard to sustainability of the Project after the end of the grant in July, 1993.

The greatest need and most vital element in continuing the Project is the provision of accomodation and housing for the volunteer surgeons, physical therapists, prosthetists and other medical specialists recruited by Health Volunteers Overseas in the ensuing years. Housing in Kampala is very expensive and is likely to remain so for many years. The HVO house in Kampala with its small guest house has proved inadequate to accomodate more than two volunteers at a time over the past two years. Also, the lease will expire at the end of July, 1992, and will have to be renegotiated for the additional year of the grant.

Hotel accomodations are very expensive with the lowest rooms offered at \$68/day at the Fairway hotel. This is far more than volunteers can afford for periods of one or more months.

Mulago Hospital has offered to give us a large house on the hospital grounds, capable of housing up to 8 volunteers at a time for extended periods. The house would be only for volunteer medical personnel from HVO primarily, with other medical volunteers allowed when space was available. The house is now virtually a derelict and will require complete renovation. The estimated cost of renovation is \$150,000. This is reasonable for current costs in Kampala, and far less than the cost of building a new, comparable house or continued leasing of a house, which could not be sustained after the grant period. It can be renovated and made ready for use in about six months from the time that funds are made available. Mulago Hospital would provide supporting staff, housekeepers, cook, etc., as well as operational costs at no additional cost to the Project.

Looking toward the end of the grant period, the provision of housing for HVO volunteers is the biggest problem to be solved in ensuring continuation of the program in the long term. The HVO program can be continued long term from

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the professional and teaching side, but the cost of housing for volunteer doctors and other medical personnel will seriously endanger the sustainability of the program. The additional costs of the renovating the Mulago guest house for HVO volunteers will be worthwhile if it ensures the long term continuation of the program after the grant expires in July, 1993. I strongly recommend that USAID approve this request for additional funding.

Rodney L. Belcher, M.D.
Medical Director, HVO/Uganda

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Nov.14, 1991

Memo to Dave Puckett,
Joan LaRosa,
Holly Wise,

Yesterday, when I talked to Joan about additional funds for the Project, I didn't have a clear idea of the most needed priorities.

I have thought about it since then and the following is a realistic list of needs that additional funds would definitely help:

1. Housing is the highest priority. We could renovate a fairly large house on the Mulago compound for visiting doctors and health personnel. The cost of hotels in Kampala is very high and there are no alternative resources. Our current HVO house is not large enough for more than one couple or two single volunteers, besides which, after we leave, it could not be sustained by Mulago or the University. I discussed this with the Medical Superintendent, Dr. Apuuli, at Mulago and he is highly in favor of such a proposal. (They are paying 10 million shillings over the past 4 months for a young Psychiatrist and his wife to stay at the Fairway Hotel, since they have no alternative place for them). The Guest House at the University is poorly maintained and not adequately secure. Anyway, Mulago would provide one large or two smaller houses for up to 8 visiting health workers, provided that we renovate and furnish them. They would also take over all recurring costs and upkeep. The estimated cost of this is \$150,000, including renovation, security and furnishing.

2. Transportation: Since we cannot "top up" the salaries of our Ugandan employees, we really could assist them by providing transportation to and from work. Many of them have to pay as much as 2000-2500/= daily to get to and from work, on salaries of 2500 to 6000/= per month! I don't know how they manage. (I do, because sometimes they never make it to work)! We could purchase another vehicle, preferably a van type, holding 9-15 people to use for local transportation, as well as helping disabled patients to get to and from their homes both here and upcountry. The cost of such a van would be about \$25000, plus maintenance, insurance, petrol of about \$6500/year, plus a driver for about \$5000/year, for a total of \$36500.

mb



**INTERNATIONAL SERVICE
VOLUNTEER'S ASSOCIATION**

ASSOCIAZIONE VOLONTARI PER IL SERVIZIO INTERNAZIONALE
ASSOCIACIÓN VOLUNTARIOS PARA SERVICIO INTERNACIONAL
ASSOCIATION VOLONTAIRES POUR SERVICE INTERNATIONAL
ASSOCIAÇÃO VOLUNTÁRIOS POR SERVIÇO INTERNACIONAL

U.S.A.I.D. GRANT

Sum of money received	75,000	\$
Cost of the equipment for the school of physiotherapy	32,256	\$

Ist balance	42,744	\$
Cost of the swimming pool conversion	21,000	\$

IInd balance	21,744	\$

To cover the last balance A.V.S.I. proposes to buy some equipment for the school of physiotherapy and for the physiotherapy in the satellite workshops:

School of physiotherapy	- Photocopy machine
	- Shortway therapy machine
Satellite workshops	- Ultraviolet end infrared lamps
	- Beds for traction

Kampala 06/02/1992

Dr. Angelo Mainini
A.V.S.I. Orthopaedic Project
Manager

COST OF SWIMMING POOL CONVERSION

Removing of the pool and construction of a floor	2,250,000 Ug Shs	2,500	\$
Construction of wall partitions	7,600,000 Ug Shs	8,000	\$
Electrical system	4,200,000 Ug Shs	3,800	\$
Painting	2,100,000 Ug Shs	1,900	\$
Linoleum floor 5,212,000 It.Lire +	500,000 Ug Shs	4,800	\$
Total		21,000	\$

RESOURCES

a) Personnel to supervise the conduction and the management of the three workshops:

- 1 medical doctor
- 1 physiotherapist
- 1 general technician

This personnel based at Mulago will visit regularly the satellite workshops to:

- Supervise the clinical aspects as identification, assessment, prescription of required treatment to the patients.
- Follow-up the production and the distribution of the appliances.
- Follow-up of the physical rehabilitation of the patients.
- Ensure regular maintenance of the premises and of the equipment.
- Provide the required raw materials necessary to the production.

b) Personnel to run each workshops:

- 1 physiotherapist
- 1 orthopaedic technician
- 1 shoe maker
- 1 metal worker
- 1 sweeper/porter

This personnel will be based at each workshop.

c) Premises:

Each workshop should be organized as follow:

- 1 workshop/fabrication room
- 1 waiting room
- 1 room for physiotherapy
- 1 room for patient examination
- 1 store
- 1 toilet
- 1 house to accomodate the technician in-charge of the workshop

d) Equipment:

Each workshop should be equipped with machinery and tools to enable it to produce the required orthoses and appliances.

At present ~~some~~ ^{few} machinery and tools for the workshops of Mbarara and Fort Portal need to be replaced. Mbale workshop is already well equipped.

Basic equipments for physiotherapy are also required.

e) Raw materials:

Iron, wood, leather, glue, nails, etc.. are required in a proper quantity to produce every year about:

360 wheel chairs
3,000 callipers
3,000 pair of crutches

f). Transport:

To ensure proper organization and coordination between the three satellite workshops and the central one it is necessary the availability of:

1 pick-up and maintenance

g) miscellaneous:

running cost of the vehicles
stationary
contingencies

BUDGET

Costs estimation for 3 years : 1992-1994

a) Expatriate personnel	57,600
b) Local personnel	32,400
c) Premises	28,000
d) Equipment	20,000
e) Raw materials	210,000
f) Transport	23,000
g) Miscellaneous	20,000
Grand Total	US \$ 391,000

A.V.S.I. will cover the cost of points a,b,c, and f, (i.e. 141,000 US \$) and will provide the personnel for supervision and management of the workshops.

This project will be implemented by A.V.S.I. as part of the Othopaedic Programme for Disabled in Uganda under the supervision of the Management Committee of the Programme.

STRENGTHENING OF SERVICES RENDERED BY THE ORTHOPAEDIC
WORKSHOPS OF MBALE, FORT PORTAL, MBARARA.

The orthopaedic programme started in 1989 as a joint programme implemented by A.V.S.I. and British Red Cross with the support of I.C.R.C. and Uganda Red Cross.

The aim of the project is to provide the motor disabled with prostheses, orthoses, wheelchairs, crutches, etc.. and offer an appropriate physiotherapy treatment to complete their physical rehabilitation.

During these years the programme has rehabilitated the orthopaedic workshop of Mulago making it fully productive.

A.V.S.I. has also developed up-country clinics to assess and treat patients in rural area.

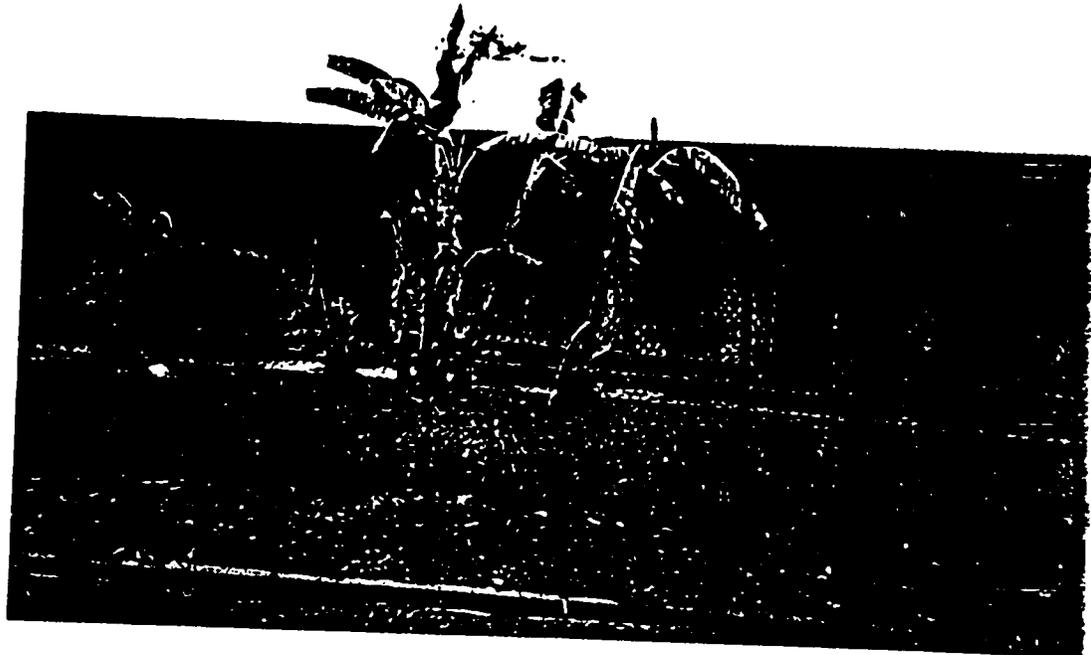
Through this work we have realized that:

- The great majority of patients with motor disability assessed up-country are polio victims requiring callipers, crutches, wheelchairs, surgery, physiotherapy.
- These patients have very great difficulties in moving for long distances: their condition, lack of transports, lack of money, etc..

All these facts have been discussed by the Executive Committee of the programme and it has been decided that as soon as possible the three satellite workshops should be put in operational conditions.

Therefore taking into consideration also the lack of orthopaedic technologists able to make artificial limbs it is necessary:

- To plan in order to make the satellite workshops capable to serve about 3,000 patients a year.
- To concentrate the work on polio-victims, supplying them with wheelchairs, callipers, crutches.



**Thw new Mabale workshop,
rebuilt with A.I.D. funds
after the previous building
burned.**



**Amputee waiting area in the
Mbale workshop. This is the only
workshop outside of Kampala.**

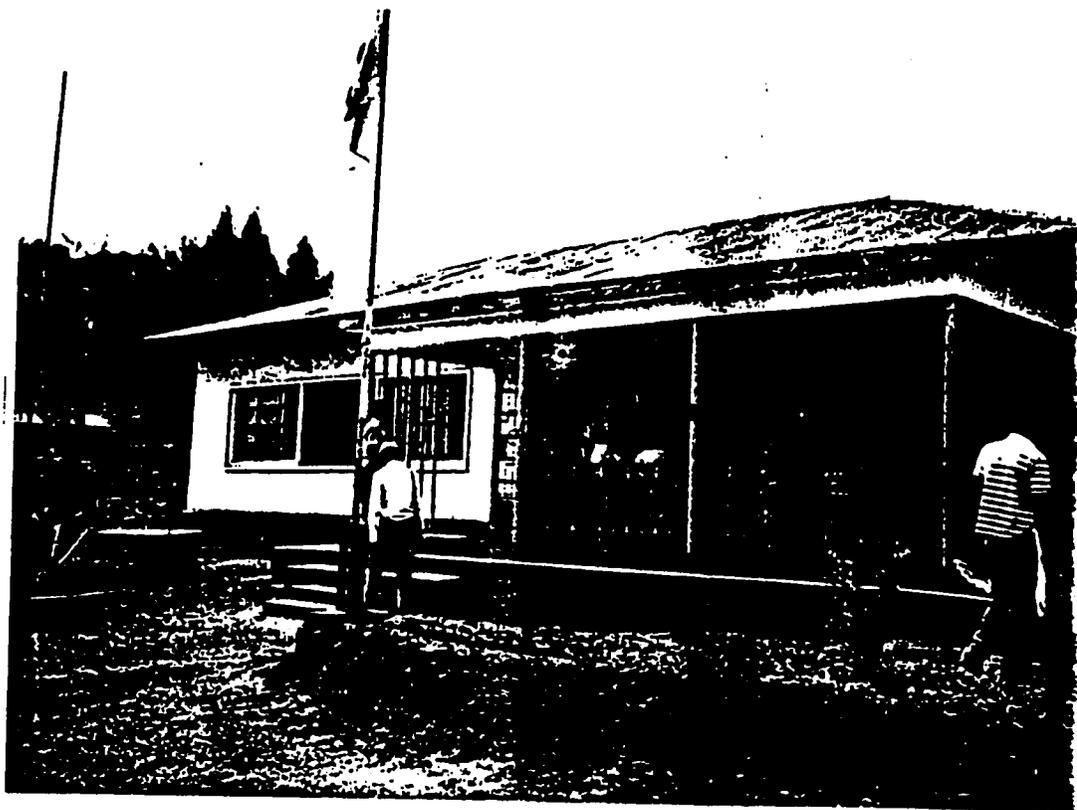
The Director of the British Red Cross Society Orthopedic Workshop explaining the production of artificial feet.



A bilateral amputee being fit with prostheses.



The Hostel, remodeled with A.I.D. funds, can house 17 patients waiting for prostheses.



Polio patients in the remodeled hostel.

