

6 Summary of financial expenditure:

**KAR Programme - CI-P12 -Financial Overview at 31 Dec 03**

Invoice No	Period Covered	Mobility India Costs					Jaipur Limb Campaign Costs				Total GIC has been Invoiced by JLC
		Salary	Overhead	Materials etc	Travel etc	MI total	salary	overhead	Travel	JLC total	
1	1/7/01-30/9/01	1626	792	5380	639	8,437	1320	180		1500	9937
2	1/10/01-31/12/01	1657	765	3173	595	6190	1320	180	580	2080	8270
3	1/1/02-31/03/02	1593	781	30,433	600	33,407	1320	180	420	1920	35,327
4	1/4/02-30/6/02	1664	782	5203	586	8235	1320	180		1500	9735
5	1/7/02-30/9/02	1633	769	11832	923	15157	1320	180		1500	16,657
6	1/10/02-31/12/02	1682	762	15738	259	18441	1320	180	1000	2500	20,941
7	1/1/03-31/3/03	1373	738	15692	951	18754	1320	180		1500	20,254
8	1/4/03-30/6/03	1423	611	1985	449	4468	1320	180		1500	5968
<b>Invoiced to DFID so far</b>	<b>1/7/01-30/6/03</b>	<b>12651</b>	<b>6000</b>	<b>89436</b>	<b>5002</b>	<b>113089</b>	<b>10560</b>	<b>1440</b>	<b>2000</b>	<b>14000</b>	<b>127089</b>
Invoices submitted 31.12.03											
No.9	1/7/03-30/9/03	1605	701	2244	502	5052					5051
No 10	1/10/03-31/12/03	1599	691	2303	495	5088	976				6065
invoice totals		15855	7392	93983	5999	123229	11536				138205
<b>Original Budget</b>	<b>1/7/01-30/6/03</b>	<b>12744</b>	<b>5914</b>	<b>98484</b>	<b>7063</b>	<b>124205</b>	<b>10560</b>	<b>1440</b>	<b>2000</b>	<b>14000</b>	<b>138,205</b>
variance		-3111	-1478	4501	1064	976	976	none	none	none	0

7 Name and signature of author of this final report:

**OUTPUT TO PURPOSE SUMMARY REPORT**

**Title: Prefabrication of Knee Ankle Foot Orthoses (KAFO) for low cost mass production and rapid fitting.**

**Country:** India

**MISCODE:** [to be inserted by DFID]

**Report No.** N/A

(A total of 7 quarterly progress reports were submitted, the 8th report was completed but was not required by GIC Ltd)

**Date:** Wednesday, 27  
January 2004

**Project start date:** 1<sup>st</sup> July,  
2001

**Stage of project:** Final

**Project Framework**

**Goal statement:** To provide rehabilitation services to a greater percentage of the estimated 4 million people in India who are in need of wearing an orthotic brace; to prevent further disability, and to enhance individual mobility.

**Purpose statement:** To create a system for mass production of appropriate low cost orthoses for wider distribution, rapid fitting and product testing.

<b>Outputs:</b>	<b>OVI:</b>	<b>Progress:</b>	<b>Recommendation/actions:</b>	<b>Rating:</b>
Dies developed and fabricated	40 dies developed and fabricated	<p><b>Completion of dies</b></p> <ul style="list-style-type: none"> <li>• 40 metal dies have been produced.</li> <li>• 36 dies are 0-8 sizes of left and right legs both lower and upper parts</li> <li>• Size 9 (2 dies) lower parts only</li> <li>• Two dies had to be made twice</li> </ul>	For quality assured mass produced components there is need to invest in injection moulding equipment to improve on blow moulding used in this project.	
Orthotics components mass produced	Prefabricated Orthotic components mass produced	Lower and upper plastic shells, a pair of Universal orthotics knee joints and uprights, 4 pieces of straps and other accessories such as D rings produced	Designed in house and produced by sub contractors. No further recommendations.	
Approximately 8,000 people fitted.	8000 orthotic components produced	8277 orthotic shells were produced. 2558 adults and children have been fitted which requires a maximum 5116 orthotic shells (upper and lower parts). The numbers of people to be fitted was an overestimation within the scope of this project. Numbers were less than planned due to delays in die production and other technical problems that was addressed.	Extension of project was a no-cost one. A top up grant request was turned down by KaR. Any future continuation of trials within Mobility India's current capacity unless more funds are raised.	
Product tested through training institutions	Testing of product by training institutes conducted	220 professionals were given orientation about PFKAFO. Training programmes were conducted in house at MI and at 3 National Training Institutes and approaches made to include this technology in the curriculum.	Training institutes to include PFKAFOs their curriculum. PFKAFO already part of MI's curriculum for one year course in Prosthetics, Orthotics and Community Therapy.	

<p>Product field-tested by rehabilitation NGOs</p> <p>Awareness rose about the need and benefit of wearing orthoses.</p> <p>System adopted and replicated nationally by orthopaedic workshops and government agency.</p> <p>Complicated polio cases due to lack of treatment reduced.</p> <p>Orthoses production costs reduced</p>	<p>Field testing by several Rehabilitation NGOs conducted</p> <p>Publicity campaign, (TV, newspapers) conducted. Exhibitions, seminars and conferences attended. Publicity materials produced.</p> <p>Technology introduced to NGOs, government centres and commercial workshops</p> <p>Long term outcome</p> <p>Calliper cost reduced.</p>	<p>Field testing was carried out by MI partners (25) and other rehabilitation NGOs (14) throughout the country. Product improvement based on user and technicians' feedback via completed checklists. Problem of shrinkage was identified and as a result plastics technologists, the industry and raw material suppliers co-operated to come up with solutions. At initial stages 2 out of 10 lower shells were breaking at the foot part.</p> <p>A TV campaign fronted by Indian pace bowlers shown nationwide. Video clips, Power point presentations, posters were exhibited and distributed at seminars, training workshops and conferences.</p> <p>Mobility India partners organisations (25); commercial workshops (15); other rehabilitation NGOs (14) and government rehabilitation centres (3) are using PFKAFO technology. PFKAFO also introduced to Government of India ministry through participation in their Access 2003 programme, national seminar and training Institutes. Early use of orthoses prevents secondary disabilities, contractions etc. These are long term outcomes which cannot be proved within the timescale of this project.</p> <p>The total cost of a PFKAFO orthosis came down to a quarter of a conventionally produced calliper set at market rates. Indirect costs – related to beneficiaries - lowered as time taken be fitted and use is much less. Provision of orthoses at MI centre increased fourfold.</p>	<p>90% of the shrinkage problem has been solved by choice of raw materials and cooling process. The rest accepted due to the moulding technique used during this project. Field testing to continue within MI's capabilities.</p> <p>Continuation of these activities in India and in other developing countries at current capacity unless more funds are available.</p> <p>Continuation of these activities towards some sort of formal agreement with Government ministry and its agency ALIMCO – the largest provider of mobility aids and appliances to government centres.</p> <p>Plan a long term survey to research this?</p> <p>Cost can be reduced further in future if injection moulding is used and a well organised distribution system is developed.</p>
<p><b>Purpose:</b></p> <p>To create a system for mass production of appropriate low cost orthoses for wider distribution, rapid fitting and product testing</p>	<p><b>OVI</b></p> <p>All activities to develop mass production process and testing planned were carried out.</p>	<p><b>Progress:</b></p> <p>A complete system for the mass production of prefabricated orthotic components (PFKAFOs) for wider distribution and rapid fitting was developed and tested.</p>	<p><b>Recommendations/action</b></p> <p>Continue dissemination of PFKAFO technology in India and other countries; and gain greater acceptance for its use with beneficiaries, key people in government, commercial and non governmental agencies, training institutions; fund raising and marketing strategy for injection moulding production process and distribution system.</p>

