Project Appraisal of the DISACARE Wheel Chair Center in Lusaka, Zambia

Wheel Chairs in Zambia

by Kurt Kornbluth and Philip Osafo-Kwaako

This case study examines the DISACARE Wheel Chair Center as social investment in addressing the needs of the disabled in Zambia. As a least-developed country (LDC) in southern Africa, Zambia remains highly dependent on the international donor community to support social investment schemes and also contribute broadly to poverty-reduction programs. The case of the DISACARE Wheel Chair Center provides an interesting example of how aid effectiveness should be assessed. Given competing donor projects (say, in agricultural projects, HIV/AIDS awareness programs etc), it is important that social investment schemes be carefully examined to ensure the highest returns. A comprehensive assessment of such investments must however take into account non-market objectives such as local skills training and capacity building, as well as poverty-reduction among specific under-privileged communities. This case study on the DISACARE Center in Zambia illustrates some of the issues, which need to be examined in any social cost-benefit analyses. The study begins with a broad assessment of Zambia's recent economic history and subsequently examines the specific case of DISACARE as a donor-led investment project.

Zambia:
Population 10,462,436
Area: 743,390 sq, kilometers
Life Expectancy: 35 years
Average Per Capita Income: US$800
Pop. below Poverty Line: 86% (1993)

source: 1

In 1991 Zambia was among the poorest countries in southern Africa. The many people disabled by polio had no wheelchairs or prospects for mobility devices. David Mukwasa, grandson of the then-Zambian president Keneth Kaunda, and a medical student Felix Sulimba envisioned DISACARE in the early 1990s. Felix – who is dependent on leg braces due to an early bout of polio – observed the lack of mobility aids in the local community in Lusaka, Zambia. David also had firsthand experience with the concerns of the disabled – with a medical history of polio, he was also dependent on a wheelchair to facilitate his movements.

The two approached The (Finish International Disabled Development Association) FIDIDA a Finish disability organization Over the next decade FIDIDA's partner organization, Finish Association of People with Mobility Disabilities (FMD), which would play a large role in the shaping and supporting of DISACARE. They also approached Kenny Mubuyaeta, a polio victim trained in metal fabrication. Kenny left his work in the Copper Belt in northern Zambia and moved to the capital, Lusaka, to join DISACARE and take up the challenge of building local wheelchairs.

The DISACARE Workshop in Zambia

DISACARE started in a small rented garage earning income repairing shopping carts and wheelchairs. Kenny and David continued working and trying to get business and raise money, many months not receiving pay. In 1991 Keneth Kaunda's government gave DISACARE a large plot in Libala, on the outskirts of Lusaka. In 1995 money was raised from international NGOs for a workshop and small dorm-style living quarters. Lucy Kasanga, civil engineer and DISACARE board member, oversaw the construction. In 1996 the workshop in Libala was officially opened and is where DISACARE resides today. Since 1991 Kenny and David have convinced many local and international organizations to help and DISACARE.

From its modest establishment in 1991, DISACARE has emerged from a two-man team to an organization with 23 employees and assets over $180,000. It remains a major fabricator of wheelchairs for the domestic market and also provides strong advocacy support on disability issues in Zambia. DISACARE's has also proven fiscally responsible, with excellent financial reporting. Thus, FMD has heralded DISACARE as a model development project from which others can learn. Even with all this acclaim, DISACARE still finds itself struggling to find customers and pay its meager salaries. Was DISACARE worth the trouble? Did the Finnish get a good deal on their money? Were people with disabilities in Zambia helped as much as they could have? In the rest of this case study, we provide a closer examination of the operations and financing of DISACARE, to provide a basis appraise its effectiveness as an example of donor-led social investment.

DISACARE's Philosophy -
Independence through Mobility

Producing durable wheel chairs which are locally-built and repairable using locally-available raw materials and components

Operations of DISACARE

DISACARE currently operates as Trust governed by a Board of Trustees. The estimated value of its assets is presented in Table 1 at right.

DISACARE currently provides a number of products and services on a commercial basis in Zambia. The core product portfolio is comprised of:

a. The Kavuluvulu (Whirlwind) wheel chair – the standard, flagship wheel chair of DISACARE;
b. The tricycle wheelchair – specially designed for long distance journeys;
c. The cerebral palsy (CP) wheel – designed with additional features, such as cushions and tray tables for CP users; and
d. The sports wheelchairs – which is specially designed for users participating in out-door sporting activities such as basketball.

In addition, the organization provides other non-core services such as:

a. Training on wheel chair fabrication;
b. Tailoring and design of wheelchairs;
c. Machining services; and
d. Carpentry and joinery services.

Prices for DISACARE's wheelchair products are summarized below:

Table 2: Price of DISACARE Products

Description	Price
Kavuluvulu (Whirlwind) Wheelchair	US$ 280
Tricycle	US$ 220
Cerebral Palsy Wheelchair	US$ 300
Sports Wheelchair	US$ 220

Source: Marketing Department, DISACARE (Lusaka, Zambia)

Table 1: Estimated Current Assets in US Dollars (as of December 2003)

Land	$25,000
Buildings	$80,000
Sports toilets	$2500
Basket ball court	$2000
Inventory	$12,000
Containers	$4000
Machinery	$30,000
Office equipment	$10,000
Cash	$7,000
Furniture	$2,000
Vehicles	$7,500
TOTAL	$182,000

Source: DISACARE (Lusaka, Zambia)

Benchmarks for DISACARE

1991	Beginning
1993	WC training, started production of Whirlwind II
1995	1st WC congress in Harare
1996	Moved to Libala
1996	DISACARE visits FMD
1997	2nd WC congress (Limuru)
1997	Introduced Africa 1
1998	Built Basketball court
1999	Trained UWZ
1999	Started gardening
2000	Opened W/S extension
2001	Established RRTC and trained LOREWO (Zimbabwe)and MAP (Malawi)
2001	Introduced BB wheelchair
2002	Trained at TATCOT
2002	FMD visits DISACARE
2003	3rd WC congress
2004	DISACARE visits MIT
2004	Tricycle production

The institution currently faces low growth in sales – partly due to weak purchasing power in the domestic market. A summary of previous sales is summarized in Table 3 at right.

Providing employment also forms an important objective of the operations of DISACARE. With the expansion of its operations in the past decade, DISACARE has increased the size of its workforce, generating employment within the local economy (see Table 4 below).

Table 4: DISACARE Employment Levels (1991-2004)

Year	Labor Force			
	Mechanics	Administrators	Other	Total
1991	2	1	-	3
1992	2	1	-	3
1993	3	1	-	4
1994	3	2	-	5
1995	3	2	-	5
1996	3	3	-	6
1997	4	3	-	7
1998	5	4	1	10
1999	5	5	1	11
2000	6	5	1	12
2001	7	7	1	15
2002	7	8	3	18
2003	8	9	5	22
2004	10	10	5	25

Source: Marketing Department, DISACARE (Lusaka, Zambia)

Table 3: Wheel Chair Production Statistics

Year	Wheel Chairs Produced	Wheel Chairs Repaired
1991	0	15
1992	0	200
1993	5	120
1994	7	100
1995	8	60
1996	12	60
1997	20	80
1998	50	100
1999	70	60
2000	80	50
2001	115	40
2002	190	50
2003	197	40
2004	100 (August)	20

Source: Marketing Department, DISACARE (Lusaka, Zambia)

Financing of DISACARE

Throughout its short history of operations, DISACARE has relied heavily on external donor support as a source of financing. In recent times, the organization has made efforts to become more financially self-sustaining. Previous donor assistance has taken various forms – including direct financial support, equipment donations, and technical assistance in the form of external consultants.

Table 5: Sources of DISACARE Funding

Year	Donor	Monetary Value	Description
1991	FIDIDA	US$80	tools
1991	Meal a day	$3500	tools, equip
1991	Dutch emb.	$3000	equip, matl's
1992	KK (govt)	$200	3.5 acre plot
1992-1997	FMD	$10,000 (est)	forequip. mat'ls, machinery
1993	FMD	$15,000	WWI training
1995	Beit Trust	$25,000	accommodation blocks
1995	Irish aid	$20,000	main workshop
1997	FMD	$1000	BB court
1999	Abillis	$5000	office equip, mat'ls
1999	British emb	$7000	office equip, mat'ls, capacity building
2000	German emb	$9,000	lathe
2001	Irish Aid	$11,000	mill machine
2001	Danish emb	$8000	mat'ls, equip
2001	Beit trust	$6000	workshop extension
2001	FMD	$4500	vehicles
2002	US AID	$5,000	office equip, furniture, kitchenware
1998-2002	FMD	$60,000 (est.)	wheeling wheels project
2003	FMD	$8,000	capacity building, shop upgrade
2003	Barclays bank	$ 400	machine tools
2004	FMD	$1000	vehicles

Source: DISACARE (Lusaka, Zambia)

Assembling a Wheel Chair Frame at DISACARE

Table 6: External Consultancy Support to DISACARE

Year	Consultant	Specialty	Comments
1991-1997	Marku Ripati	Prothetist	Finish volunteer
1993	Ralf Hotchkiss	Wheelchair designer	WWI paid consultant
1997	Laurie Loivitz	Wheelchair Sports	Paid consulatant
1997-2001	Jan Sing	Wheelchair designer	WWI paid consultant
1997-present	Kurt Kornbluth	Wheelchair designer	WWI paid consultant
2001, 2004	Matt MacCam-bridge	Product designer	DEKA Volunteer
1999-2001	Sarah Ingleby	Admin/Fundrais-ing	VSO
2002	Anne Bell	Admin/Fundrais-ing	VSO
2002	Marc Braithwhite	Accounting	VSO

Source: DISACARE (Lusaka, Zambia)

DISACARE's Strategy for the Future

The current strategy for DISACARE is to reduce its level of donor dependency, and improve it's financing by becoming self-sustaining from sales of its products. The firm however faces a number of strategic difficulties in capturing the domestic Zambian market (and also expanding into the southern and eastern Africa region). A number of obstacles currently experienced are summarized below:

High costs
Wheelchairs produced domestically face stiff competition from other (used and new) wheelchairs imported into Zambia from Asia. DISACARE faces high overhead costs locally – partly due to the high cost of doing business in Zambia. Moreover, as DISACARE sources most of its products domestically, it may not be using the cheapest possible sources of raw material imports.

The Roles of Non Governmental Organizations (NGOs) in Disability

Although donor programs in Zambia have broadly targeted poverty-reduction programs, formal effort to support particularly disadvantaged or vulnerable groups were not often pursued. Indeed, in most developing countries, social welfare is often provided by informal family networks, faith-based organizations, and increasingly, by non-governmental organizations. Formal state support to welfare programs are often under-funded, and poorly implemented.

For most sub-Saharan African countries, official national disability policies are often non-existent or are yet to be implemented. In a survey of national disability policies in 83 countries (industrialized, middle-income and developing countries), the UN Social Commission for Social Development observed widespread gaps in support provided to persons with disabilities in developing countries (Michailakis, 1997). For example, in the case of Zambia, Michailakis (1997) reports the lack of regulations to provide accessibility of public buildings to persons with disabilities, and poor national coordination and dialogue on disability issues.

The lack of a formal government provision of social services creates space for various non-state actors to fill the perceived welfare gap. Non-state actors may comprise private sector institutions and civil society organizations (such as churches and non-governmental organizations). In this vain, with personal initiative, an enterprising spirit, and donor support, Kenny and David teamed up to develop DISACARE as an institution, which addressed some of the needs of the disabled in Zambia.

Weak local purchasing power
Although there are many people with disability in Zambia, low per capita incomes in Zambia and widespread poverty greatly diminish domestic purchasing power. According to the World Bank, per capita income in Zambia is close to $300, with over 70 per cent of the local population subsist on less than $1 per day (World Bank, 2003).

Financing schemes
If DISACARE is to reduce its level of donor dependency, and thrive as a profitable business, it is important that creative financing schemes be developed to boost sales of wheelchairs both in Zambia, and in regional markets in Eastern and Southern Africa. For example, DISACARE may establish partnerships with local sponsors such as NGOs, churches and private institutions which may participate in cost-sharing financing schemes to support the disabled users. In such as case, the sponsor may provide an initial down payment (of say 1/3 the product cost), with the beneficiary completing the payment over, say, a 10-month period.

Manufacturing versus Assembly
A final objective may be to consider additional ways of rationalizing production at DISACARE. In most cases, imported (used) wheelchairs from Asia tend to be cheaper than locally-fabricated wheelchairs. DISACARE may therefore explore options of moving further up the value chain: possibly moving into assembly rather than complete manufacture of wheel chairs. This may have consequences for job losses and development of local capacity in machining and manufacturing.

Changing Development Theory

1970 – 80s: Following independence, most African states pursued state-led industrialization strategies, aimed at strengthening local industries and spurring economic growth. In most cases, such 'infant industries' were established under highly protectionist economic policies. In most cases, these 'import substitution' industries tended to be inefficient, resulting in large fiscal deficits for several governments.

1990s: By the 1990s, most developing countries (particularly in Africa) were in economic decline. Under various adjustment schemes proposed by international donors, a number of market liberalization programs were proposed. Programs were aimed at opening up these economies to market forces, and stimulating economic growth in these countries.

2000: At the end of the 1990s however, the anticipated economic growth in most countries had not been achieved. Although there had been modest growth in certain sectors of the developing country economies, there was an overall increase in levels of poverty and inequality in most communities. For most Southern African states, there was an additional drain on government revenues due to increasing prevalence of HIV/AIDS. Donor policies in most developing countries shifted accordingly, from the previous emphasis on economic growth to greater discussion on poverty reduction and HIV/AIDS.

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Was DISACARE a good donor investment? Is it possible to provide an economic appraisal of the DISACARE project, taking into account its diverse goals of generating revenue from sales, creating employment, and building local capacity in manufacturing?

Suppose you were Head of the USAID Mission in Zambia. Would you consider further investments in DISACARE Zambia? Would you pursue similar projects in other sectors?

Attaining financial sustainability remains an important goal of DISACARE in Zambia. Can you identify additional strategies to enable DISACARE achieve its stated goals, and reduce its level of donor dependency.?

To take advantage of quantities of scale (low price, high quality) an approach that has been suggested is to find an appropriated wheelchair design and build the wheelchairs in Asia. DISACARE could prescribe, assemble, distribute, and repair them locally.

How can DISACARE benefit from this strategy? What is the possible fallout from this strategy?

What should DISACARE do next?