



Case Study Five

Provision of Agricultural Technology (Drip-Irrigation), Chiredzi District, Zimbabwe

Who

ActionAid, in partnership with Linkages for the Economic Advancement of the Disadvantaged (LEAD), targeting three thousand households infected and/or affected by HIV and AIDS, identified by community support groups facilitated by a local AIDS Service Organisation (ASO).

Why

In the context of repeat crop failures and increasing food insecurity in south and west Zimbabwe, the project was intended to:

- Stimulate and strengthen community coping strategies and responses to the socio-economic consequences of the HIV and AIDS pandemic through the provision of direct material needs (agricultural technology) for identified community members in Chiredzi;
- Strengthen the capacity of communities to respond effectively to the pandemic and to curb further transmission of HIV;
- Through the use of technology (drip-irrigation), reduce the reliance of vulnerable communities on rain-fed agriculture;
- Diversify sources of food for HIV and AIDS affected households;

- Improve the productivity of HIV and AIDS affected households to ensure that they are food-secure through the reduction of labour, time and capital required to produce food.

The objective was to minimise the gap between relief and development through building a strong element of sustainability into the intervention.

What

Distribution of drip-irrigation (micro-irrigation) kits for community nutrition gardens for households worst affected by HIV and AIDS. All households within these communities are judged by LEAD and ActionAid to be affected by HIV and AIDS; but households worst affected are selected through community support groups established and facilitated by a local ASO. These are households with orphans, child-headed households and grandparent-headed households.

The use of drip-irrigation is a necessary strategy to reduce the reliance on rain-fed agriculture in a drought-prone region, and was complemented by the distribution of vegetable seeds and pesticides, and the training of beneficiaries on equipment usage, horticulture, food preparation and preservation, and nutrition.

Each drip-kit consists of a 210-litre water tank raised above the garden with a pipe network laid out between the plants. ActionAid and LEAD provide an alternative to the expensive, imported tanks from Italy in the plastic barrels used by industry in Harare. Two thousand barrels have been effectively recycled as water tanks and supplied to the project. Each tank is raised one-and-a-half to two metres above the garden with a t-junction pipe and main distribution pipes leading off the gravity-driven water

source, and an accompanying network of smaller pipes and micro-pipes lead off into the fields. Each tank supplies water to a 100 square metre garden at a rate of about one tank per day depending on the moistness of the soil.

Each tank is either rain-fed or supplied from a nearby water source such as a river or village borehole. Sourcing an adequate water supply for the technology has not been a problem, as most communities have some access to water. Many such sources were established in the 1980s and 1990s during the Rural Reconstruction Programme where the government provided infrastructure for disadvantaged areas. The Water and Sanitation Programme, which formed a major component of rural restructuring, covered 100 per cent of Zimbabwe and drilled boreholes and supply dams. Maintenance problems have arisen despite locally-based teams being established to keep them at working level, and a major challenge has been how to get the water into the raised tank. ActionAid is considering the provision of treadle pumps as a replacement for manually filling the tank each day.

Where a communal water source such as a borehole or well is used then the use of communal gardens is encouraged to better ensure equitable water management. In a context of gaps between poor villagers and those with greater resources, it is important to ensure that community resources are fairly used. A communal garden is also easier for extension officers to provide support to a group than to a range of individuals. The proximity of the plots within a communal garden also encourages the sharing of knowledge and mutual support. LEAD has staff in the field to provide technical extension

and support for the targeted groups and training materials have been developed for the target communities. Shared learning is encouraged, to build the capacity of both the farmers and the extension officer, with a focus on use of technology and on nutrition and food preparation, particularly for HIV- and AIDS-affected households. The travel allowance and costs of the extension officer, whether employed by LEAD or the government, are covered by ActionAid. In addition, the community is empowered to monitor the extension officer through recording when and how support was provided. ActionAid is thus able to evaluate whether the financial support directed at building the capacity of local extension is having a direct benefit for their projects.

ActionAid has attempted to build local capacity through the establishment of Village Community Workers, who provide further technical support to the project beneficiaries. However, this requires considerable support in the initial stages and also the provision of incentives to ensure that these Workers continue to impart knowledge to the community. While technical capacity is needed to complement their ability to mobilise communities, until February 2004, ActionAid has simply provided these Community Workers with drip-irrigation kits to support their own initiatives.

With whom

LEAD has established both networks in the Chiredzi area and a network of suppliers of drip-irrigation kits. ActionAid and LEAD work with households worst affected by the AIDS pandemic, selected through community support groups established and facilitated by a local ASO. The partnership has worked well, particularly as ActionAid has been able to build an

effective programme on an existing concept established by LEAD, and then improve it by persuading partners of the benefits of communal gardens rather than single plots, and the importance of using locally based ASOs. The project is thus directly managed and driven by local people rather than relying on outsiders. These principles of partnership and flexibility to meet local conditions mean that the project is easily replicable in other areas.

How

The LEAD project is a component of ActionAid's Emergency Response Programme, itself part of a broader programme, Strategies for Action (SFA). The SFA supports community responses to HIV and AIDS and builds local AIDS service organisations in Zimbabwe, Malawi, Uganda and Zambia, focussing on the provision of grant financing for community-level activities. Eight local AIDS service organisations were identified in Zimbabwe and partnerships established using a grant from the Disaster Emergency Committee. Food, seed and agricultural tools have been distributed to communities through the eight organisations. Beneficiaries are identified through local structures and networks of community support groups. In this particular project, the targeted community select the most vulnerable households to benefit from the project.

Benefits and Impact

Drip-irrigation is inexpensive (GBP27 each) compared to conventional irrigation. In addition, it ensures three crops a year rather than a single crop dependent on the rainy season. The technology has a strong HIV and AIDS mitigating component in that it is suitable for growing AIDS-relevant crops, utilises a minimum of water and

reduces the labour required.

The technology has been used to grow immune-building varieties of crops that benefit people living with HIV and AIDS. Emphasis is placed on the use of sustainable farming methods such as organic fertiliser and natural pest management that reduce the use of expensive inputs such as pesticides. The training programmes and support materials ensure that skills are transferred to the targeted households. Excess produce can be sold to generate income to meet the other needs of the households, thus reducing the need for adopting risky coping strategies.

The project also strengthens community-based initiatives by supporting labour-sharing and mutual assistance arrangements, and has re-invigorated community institutions that are under pressure from increasing poverty.

Timeline

The Zimbabwe Emergency Response Programme started in 2000/2001 with the advent of the food crisis in the country, while the LEAD Pilot Projects have been running since 2002.

Gaps in evidence

Concerns about the costs of drip-irrigation schemes have been articulated in the 2004 DEC Report by Valid International (2004). Drip or trickle irrigation systems have pipes laid permanently on the ground with a single water source providing a trickle of water to each plant. Drip irrigation systems were originally developed for high value crops in high labour cost countries with arid conditions. The systems need clean water to prevent the drip tubes being blocked; careful management to keep the system operating; and a secure environment to

prevent the drip tubes being stolen. These conditions are rarely found in rural Africa and, therefore, while drip irrigation systems may have a role in market gardening in Africa, they do not really have a role in smallholder production (Valid International, 2004). These systems are being heavily promoted by USAID as being more water-efficient, promoting higher yields, and being less likely to cause salinity. According to the DEC Report, if ActionAid had technical competence in irrigation they would not promote these relatively expensive systems for household food security. There are also concerns about working with an agency that is not focused on humanitarian issues with expertise in HIV and AIDS and food security.

How is this different from standard interventions?

The project explicitly focuses on building the capacity of local AIDS service organisations and locally based extension services, whether from the government or the partner organisation. According to Harvey, the impetus for considering HIV and AIDS in the recent humanitarian response in 2002/2003 came largely from the top down, prompted by the Lewis report in September 2002 and the Lewis and Morris report in early 2003, along with pressure from donors and headquarters. The issue initially remained largely at the level of rhetoric; the practicalities of engaging with HIV and AIDS in humanitarian programming was only addressed in 2002/2003, with the obvious exception of agencies or their partners with ongoing long-term HIV and AIDS programmes. An excellent example of this is the ActionAid programme in Zimbabwe and the

relationship with AIDS service organisations to provide seeds and tools, which takes cognisance of the history of rural restructuring and builds on this, ensuring that projects are targeted at the local economy.

The intervention acknowledges the strengths, particularly the knowledge base, that exists within communities. Such Indigenous Knowledge Systems should be a formal feature of initiatives driven by ActionAid, and there are a number of simple yet effective technologies that could be further harnessed to strengthen its overall impact. The intervention was effective because beneficiaries were involved in deciding what the project should do for them.

Enabling factors

The work builds on the strengths of the partner organisation and complements these where possible. A dynamic feature of such a relationship is the broadening of experience and sharing of perspectives that this approach brings. LEAD is increasingly adapting its other projects to encompass lessons learnt from ActionAid.

Communities work through their traditional and local governance structures to facilitate the implementation of the project, particularly through the resolution of conflict. Through the tradition of mutual assistance for vulnerable people such as the aged and children, engendered in a concept known as *zunde ramambo*, community structures mobilise labour on behalf of households not able to provide it. The use of local institutions is thus a crucial component of the success of this project.



Additional ideas or potential improvements

The project could be adapted for the production of organic vegetables for export markets, in partnership with another organisation focused on such production and which promoted alternatives to pesticides and inorganic fertilisers. The use of such inputs is likely to impact on the nutritional benefits of the produce for communities living with HIV and AIDS, as well as having high costs, which have impacted negatively on other projects. The use of drip-irrigation would be suitable for organic farming, particularly through the use of highly soluble compound fertilisers, which could be mixed into the water tanks and fed into the plants via the drip system. This is, however, an expensive option, which should be piloted effectively before being considered.

Another major issue is the sourcing of export markets for organic produce. LEAD already has established linkages with buyers and traders for excess produce from the existing farmers, which could be extended to include markets for organics, particularly into the European Union. Extensive research into the regulations set by the EU for such exports will be required before such an option is pursued.

Implications of scaling up / scaling out

Dissemination of information about the project can be done through the Emergency Response Programme, which is already established in Zambia, Malawi and Uganda.

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Broad conclusions

These strategies imply that the agricultural sector cannot continue with “business as usual”, and will have to revise the content and delivery of its services; and with the process of transferring agricultural knowledge, essential to development, to farming communities. Appropriate technologies and the integration of indigenous knowledge are needed. The sector will therefore have to:

- be more creative in the delivery of services;
- work multi-sectorally with other stakeholders;
- provide a co-ordinated response;
- provide a decentralised process in which the local capacity of rural institutions is strengthened and local safety nets supported to promote community-based initiatives.

The challenge is to deliver a responsive service when agriculture institutions are experiencing acute staff shortages and associated costs as a result of increasing HIV and AIDS mortality and morbidity.

4.8.3 Seed Fairs, Marracuene District, Maputo Province, Mozambique

Mozambique experienced cyclical disasters (floods in 2000 and 2001 and droughts in 2002 and 2003) that dramatically affected food security. As part of a greater international assistance effort, free distribution of seed kits has usually been done to allow the rehabilitation of agricultural activities. Seed fairs were another means to provide access to seed. The pioneer of this new method; Catholic Relief Services, introduced it first in Tanzania, Kenya, Uganda and Sudan. After the floods in February 2001, ActionAid together with the Food and Agricultural Organization supporting the Mozambican government, tested these methods in South and Central Mozambique, and these are now successfully being expanded into other areas. The core objectives of the seed fairs are:

- To ensure that subsistence farmers affected by drought have seeds for the next campaign
- Promotion of seed fairs as a new method of seed distribution
- Promotion of the local economy through producers, traders and community-based organisations
- Strengthening co-ordination at local government level under supervision of the local authority, and exchanging knowledge
- Contribution to food security.

ActionAid and the local government conducted a participatory diagnostic with the communities in Manhiça (13 689 families) and identified 9 000 needy families. In Marracuene, 29 481 needy persons were identified in 2002. An emergency action plan was drawn up which included seed distribution of cassava and sweet potatoes to reactivate the farming systems. Seed fairs were organised to facilitate the marketing of seeds according to the farmers' needs and strategies. The intervention was based on a participatory approach at community level, with a number of

meetings being conducted. Vouchers to be used at the fair were printed and verified by *brigadistas*. Two days before, the area was demarcated with the community and included a space for recipients, a space for trading, and a space for *brigadistas* to register the transactions. Traders and recipients seem to appreciate this initiative but the impact on the general access of the community to seeds is not yet clear. While collection of data has been done, the analysis has not, and there has been no feedback at community level.

The project takes an approach very different to the common pattern of assistance. A solidarity scheme based on recognising the poorest of the poor inside the community is combined with boosting the local economy by procuring seed supply at local level. Seed choices are strengthened to ensure a better use of seed in the field, taking into account subsistence practices and indigenous knowledge.

ActionAid, with its strong funding ability, has worked in the area for the past six years, providing participatory methods of assessment; ensuring the strong participation of community-based organisations; and improving the financial capacity of local government. ActionAid, however, has previously taken a paternalistic approach to working at community level, and the previous provision of emergency aid still impacts negatively on possibilities of real development: "The local people see us like a father and question our involvement in development issues. They are used to seeing us as a donor that helps for free".

The huge education programme that ActionAid works with is likely to show results in the longer term; the jump from seed distribution to the local seed fair is significant, and provides much rich experience that should be empirically documented and disseminated. ActionAid could usefully work more closely with academic institutions to ensure that training programmes systematically include linkages with academics and research that will inform the debate from local to national and international perspectives.