

Digital Bridges for Vocational and Educational Training

Final technical report DFID Knowledge and Research Project R8068



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Digital Bridges For Vocational and Educational Training

1 Executive Summary

- The creation of local content and the ability to share this content through networks, in both cases facilitated by ICTs, were the focus for this project.
- Content was focused on the area of Vocational Training, as this is an area where there has been a transition to private provision, but delivery is patchy. Improved delivery would have clear benefits in improving the livelihoods of the poor through enhanced employment opportunities
- East Africa was selected as the region for the study and five collaborators were identified.
- Training and facilitation in using digital video was provided through an iterative programme which was based on several workshops providing inputs, reinforcement and feedback.
- Collaborators moved from a relatively disengaged and hesitant position towards engagement with the medium and acceptance of its application
- Two of the collaborators found problems with sustainable and strategic application of digital video.
- A group of three collaborators have developed competencies in application of the medium and have demonstrated positive impacts.
- The use of the Internet to promote networking was found to have severe practical limitations and had low acceptance. The rich media being created were handled through offline delivery and networking.
- The group of three collaborators have established an apparently sustainable and continuing programme of content creation for vocational training.
- The model of regional collaboration is believed to have wider application in local content creation.

2. Introduction

2.1 Project overview

This project, funded by DFID and undertaken by Big World in collaboration with Gamos Ltd., aimed to assess the value of multimedia and Internet based resource creation and collaboration in extending the ability of training centres to train effectively. The focus was on centres responding to the needs of the poor; delivering training which improves employment opportunities and therefore the livelihoods of trainees and their communities.

It was based on the philosophy that local centres can best judge training needs, and that by empowering them by providing training in tools which they could take ownership of - Internet, video, multimedia, CD Rom etc - they could replicate and reinforce training.

It was also based on the suggestion that enabling centres to dialogue with each other and share experience and concrete training resources would increase the effectiveness of all participating centres.

It took place at a point in the development of ICT based initiatives where there is considerable interest in the possibilities of locally produced content, and dissemination, with associated rights management, of that content. The Open Knowledge network, for example, is attempting to mobilise communities through local 'knowledge workers'. Its web site notes:-

"To reduce dependency on donor funding, OKN aims to unlock the value and social capital inherent in local content. Once the initial support from OKN comes to an end, OKN Hubs must develop sustainable business models in order to continue operations." (<http://www.openknowledge.net/>)

However it appeared that, at least at this stage of that project, the programme depended on the activity of the funded 'knowledge workers' to capture and disseminate material, and the methodology for achieving sustainability was not clear.

'Content' in the abstract is of considerable interest to the development community, as 'capital' which can be exploited for the common good. It may not, however, be of sufficient interest to local groups for them to invest effort in capturing and 'packaging' it. There may be no benefit for such a group in investing effort for the benefit of other groups.

Our research attempted to focus on specifically defined 'content' in the area of vocational training in specific subject areas (agriculture, woodwork and metalwork) which would be relevant and valued by particular groups, allowing them to replicate and extend delivery of training, and where there would be potential benefit to all parties from sharing of this information between groups.

The progress of the project therefore carries, as a subtext, the theme of the conditions under which participating institutions take 'ownership' of content creation, internalising it and progressing sustainably without external intervention.

There have been some interesting positive results from this programme:-

- Centres in both urban and relatively rural locations in East Africa have been able to participate successfully in the project.
- Despite initial concern from collaborators that they couldn't work successfully with unfamiliar technology and create their own resources, they have achieved a substantial output of locally designed and produced resources.
- Groups have shown measurable benefits in delivery of training to improve the livelihoods of the poor.
- The centres have taken their own initiative in instituting collaboration and shared learning between groups distributed across Kenya, Uganda and Ethiopia.
- The groups have now established their own continuing programme of collaboration, production and training, independent of input from the research team.
- There is therefore evidence of sustainability beyond external intervention.

The most notable divergence from the project plan has been in the application of the Internet to facilitate this collaboration. Experience with both the core collaborators and with wider networks has been that despite regular re-enforcement this medium is not perceived as valuable or useful to participants. While the investment in collaboration has been remarkable, this has been mediated through 'traditional' means – face to face, and by fax and phone.

2.1.1 Summary of the specified goals and outputs of the project, and the actual outcomes

Stated Goal and outputs of project (2001)	Identified Outcomes (as at end 2003)	Notes
Goal		
To develop a delivery model with open access content using ICTs for supporting conventional vocational practical skills training of the poor	Three of the five collaborators have created and used content and are continuing to do so. They are also networking locally	Acceptance of the particular ICT (Video) has been high. Acceptance of web based networking has been low due to connectivity issues.
Outputs		
Survey current practice and curriculum	Detailed information was gathered on current practice and curriculum in the regions in which the five collaborators were based.	Detailed reports show the drive for qualifications and certificates, and the challenge of responding to 'shifting goalposts' at governmental level.
Identification and creation of suitable content with identified links to sustainable livelihoods for the poor	All collaborators identified relevant applications of the delivery model with identified links to sustainable livelihoods for the poor	Collaborators also identified other organisational objectives (ie promotion and fundraising) which were strategic from their point of view
Establishment of collaborative hub	The hub was created, partners were consulted, and the hub was used in a limited way.	Bandwidth demands of 'rich media' (video) and the significant problems of connectivity meant the hub was not found to be a valuable way of networking.
Workshop to develop pilot delivery model	This took place with three collaborators in Uganda and two in Ethiopia	Collaborators expressed initial misgivings about their ability to use the delivery model (video), and initial 'ownership' of the concept was not high
Pilot delivery model in 5 centres	Three further workshop events took place, with collaborators in groups and individually	Collaborators rapidly developed confidence in the delivery platform and produced significant outputs, also taking ownership of the concept
Workshop to evaluate and modify	Collaborators initiated their own workshops and developed plans for future work	The engagement of three of the collaborators demonstrated acceptance, ownership and sustainability. The other two collaborators suffered from external pressures (disaster response due to drought in Ethiopia) and internal organisational problems
Pilot of revised model	The model was progressively modified and revised by the collaborators to shape it to their needs, and a range of outputs have been produced and applied in training	Learning during the progress of the project has been captured by the project consultants and collaborators and drawn together in a CD Rom resource for wider application.

2.2 The Research Question

The proposal for this research defined the context as follows: *'There has been a decline in donor support for Vocational and Education Training (VET) since the 1980's. The main criticism of VET was that it was generally poorly related to demands for skills among producers. It also tended to be biased towards particular sectors (central government, parastatals, and manufacturing) and groups (young, urban-based males in high-middle occupations). Recent research (Ed Research Series 28, Benell, DFID Jan 2000) suggests ongoing reforms towards private sector VET with quality control by Government.'*

2.3 The Research Proposal

Linking VET centres across national boundaries will support the reforms mentioned above - targeting curriculum content to labour markets and encouraging innovation in the private sector. ICT offers opportunities for VET centres to share experience together, to develop wider curriculum resources, to disseminate new products and ideas across national barriers, to replicate and reinforce learning and to enhance and strengthen the learning experience. Many ICT projects focus on giving access to ICTs in order to learn ICT skills for use in the new urban economies. However there is a need to support basic skills for sustainable livelihoods in urban and rural settings. This project focuses on the dual role of ICT to strengthen communication within the development sector, and livelihood content delivery.

The proposed approach emphasises audio visual content delivery to circumvent barriers of literacy and allow collaborative versioning into different languages.

2.4 Summary of the approach adopted in the project

Over the last 20 years or so, there has been a shift in the provision of vocational training in Africa from government run organisations to the private sector, often NGOs. This was documented in the studies of the contexts of the collaborating groups. The independent nature of informal institutions means that they are better able to respond to local needs, and the wide variety of institutions results in a rich mix of types and levels of training. However, one of the disadvantages of independent institutions is that they are independent! Small training schools provide a local service, but usually with the minimum of external support and coordination, which can result in duplication of effort and mistakes.

One of the areas where modern information and communication technologies offer most potential in development is in networking. Independent vocational training centres are just one of many types of organisation that stand to benefit from the ability to share information and experiences cheaply and quickly. The collaborators indicated a range of perceived benefits from networking.¹

A central theme of the research is the development of local content to enhance existing curricula e.g. use of video for teaching craft techniques, photography and electronic media for documenting designs. Language is often a barrier that needs to

be overcome for effective communication and trainingⁱⁱ. In the East African context the official teaching language may be the second or even third language for students, but new technologies, such as digital video editing, now offer cost effective ways of overcoming these. Throughout the project, the focus is on existing training activities rather than the introduction of new computer training.

The project looks at the needs, resources, and ways of operating of different vocational training centres, with a view to using ICTs for networking organisations together. Networking can help strengthen institutions in both their core activities (training curricula and methods), and management. Centres can share locally generated content, including ideas on products and teaching methods, all of which will help stimulate innovation. Managers benefit from improved information e.g. awareness of statutory requirements and how to meet them, and from the sharing of ideas and experiences e.g. how to generate income.

2.5 Project methodology

The methodology adopted for the progress of the project was based on experience of two earlier projects:-

'On Solid Ground': (Tearfund, UK, 2001) was an 'operational' rather than a research project, published by Tearfund, which was designed to enable a group of NGOs and communities in Central America to collaboratively capture experience gained in response to 'Hurricane Mitch' using a participative video model and new digital video technology. The programme was based on initial training of key members of NGOs and communities, and the progress of the project demonstrated the need and the benefits of iterative training and feedbacks to the widening team, and also the possibility of broadening capabilities through a 'training the trainers' model.

'Digital Tools' (<http://www.big-world.org/projects/20.asp>) is a project exploring the ability of communities to generate training on themes such as basic health messages in various locations in Eastern Europe and Asia. It demonstrated that with relatively limited guidance participants could successfully create training content, and that this content was welcomed by audiences because of its local context. Again the 'new generation' digital video tools created a new opportunity for the participative production of resources for basic health education.

On the basis of this experience the methodology adopted for this project was based on:-

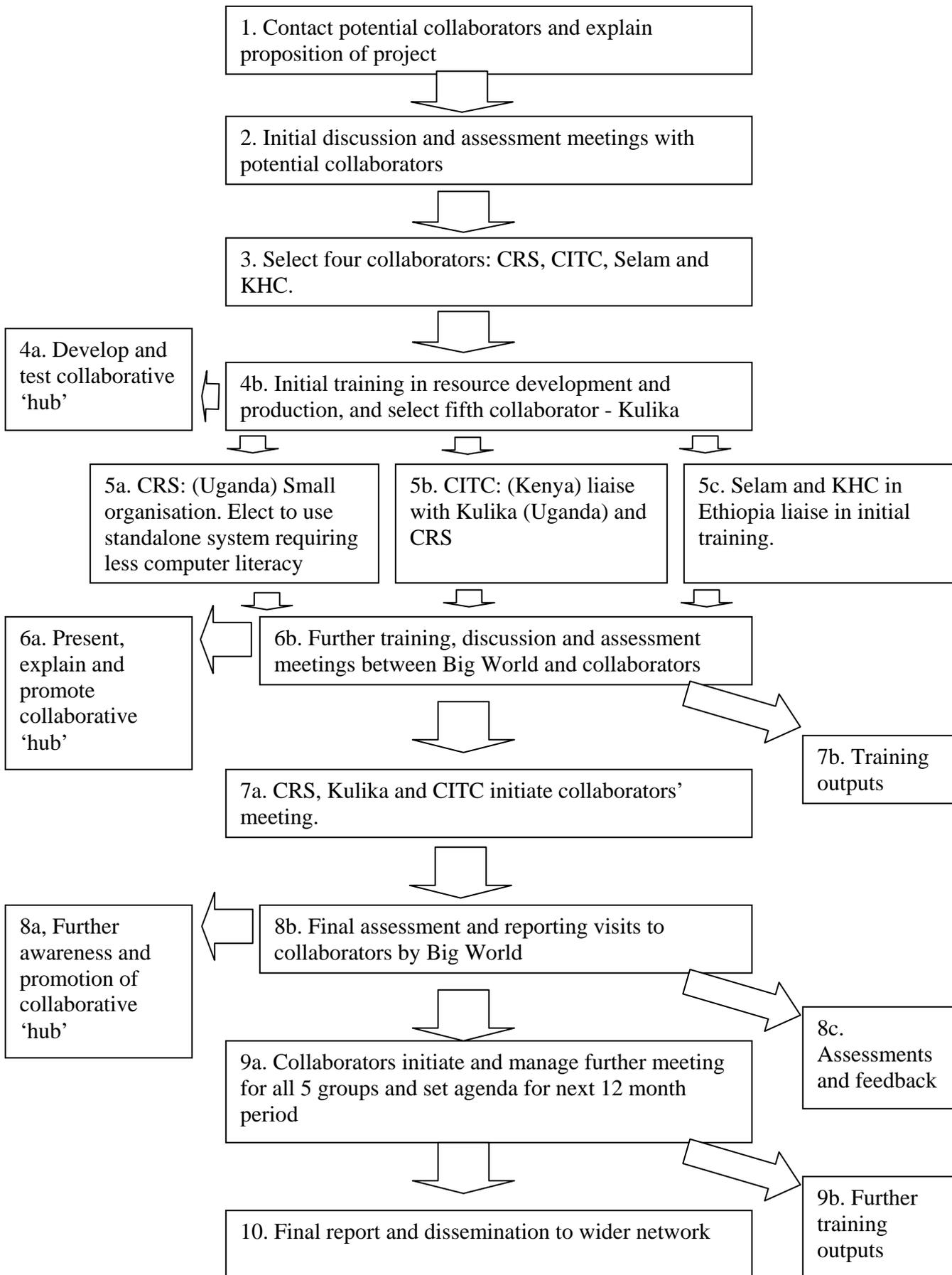
- a) Utilising DV digital video cameras, laptop computer based editing systems, and 'user friendly' editing software.
- b) An iterative programme of training which pursued a descending gradient of training inputs, and an ascending gradient of ownership and sustainable application of the medium resulting from:-

- Feedback on concrete exercises,
- Objection handling
- Problem solving
- Matching the medium to situations regarded as relevant and strategic by collaborators
- 'Training the Trainers' – trainees sharing knowledge and skills with further trainees.
- Increasing 'ownership'.

c) Development of an inherently low bandwidth-requiring web environment for networking between collaborators, with regular introduction and demonstration of this 'hub'.

The detail of the programme and timetable is given on page 21

2.4.1 Flowchart of project process



3. The Project Programme

3.1 Introduction

Diagram (1) above is an overview of the approach which was adopted. This builds on the Research question, and Research Proposal. The proposal translated into two specific strategies:-

1. Developing a programme to enable a core group of collaborators to make use of video-related media to replicate and extend delivery of training.
2. Developing a facility to enable both the core group and a wider group of collaborators to share information and experience, and to share resources which are produced.

3.2 Developing a programme to enable a core group of collaborators to make use of video-related media to replicate and extend delivery of training.

3.2.1 Core collaborators

In relation to (1), a core group was identified, consisting of five Vocational Education centres in Kenya, Uganda and Ethiopia.

Kale Heywet Church (KHC) in Ethiopia is a large denomination, with approximately five million members. It has a substantial Development programme and within this there are several Vocational education centres, based in Addis Ababa and in other locations. The group considered that replication of training in agricultural techniques would improve their training delivery.



Training in welding at Selam, Addis Ababa, Ethiopia. Still from training video produced during this research project. © Selam 2003.

The **Selam Technical Training Centre** in Ethiopia focuses on a ‘training with production’ strategy at its centre in Addis Ababa. The centre has a well organised training programme which teaches a range of engineering skills, and delivers training partly through its product ranges of appropriate pumps, appropriate cookers etc. The centre considered that ICT based training resources could be used at the centre for skills training (welding, design etc) and in the field to educate end users in the applications of their products.

The **Child Rehabilitation Service (CRS)** is based in Uganda. Originally focusing on the needs of orphans, and on primary education, it identified a niche for basic skills training that would enable children to get a job in the local economy; the buoyant building industry provides opportunities for building and carpentry skills. In 2001, CRS rented a workshop and enrolled students in the Teso Technical School of Apprenticeship (TETESA). This operates as an informal entity under the auspices of CRS and has no long term funding. The possibility of replicating training in basic woodworking skills (for example) was of great interest to CRS.



Woodworking skills at CRS, Soroti, Uganda. Still from training video produced during this research project. © CRS 2003.

The **Christian Industrial Training Centre (CITC)** is an engineering training centre based in Kenya, with similar concerns to the Selam centre in Ethiopia. It highlights issues such as safety and skills training in the workshop context.

A further group was identified after the initial consultations, as it was seen to be advantageous to test the benefits of networking by involving groups in different locations with similar concerns:-

Kulika Trust, Uganda. The Kulika Trust is attempting to disseminate methods of improving agricultural production in a rural setting, and has a requirement for educational materials to broaden awareness and understanding of these techniques, including methods of land management to maximise rainwater retention, methods of crop management and techniques such as grafting.



How to make and use an 'A Frame'. Still from training video produced by Kulika (Uganda). © Kulika Trust 2003.

The capabilities and interest levels of these groups were assessed during initial survey visits. These visits considered the extent to which the proposed production of ICT based learning materials would be relevant to the fundamental objective of improved delivery of training leading to improved livelihoods. The collaborators themselves identified resources and methodologies which they considered would be of value. These included replicating skills and techniques, as well as providing an alternative source of textbook type information, drawings etc.

3.3 The life situation of trainees – Enangu’s story

Surveys were carried out among the groups being trained by the collaborators. The example of Enangu below is typical.

Enangu is a complete orphan who has been sponsored through the TETESA vocational training school under the CRS programme. He is 15 years old. He was classed amongst the poorest children attending TETESA by the staff, but he was regarded as better off by his peers (CRS support in paying school fees being the principal factor).

He clearly believes that electronics education will provide a better outcome for he and his family than farming the land.

This table, using a Sustainable Livelihoods framework, is abridged from the full survey report of November 2001.

3.3.1 Vulnerability context

Shock (Social)	The electronics man left Soroti secretly and Enangu has no idea why. He had placed high hopes of building up this skill for making a living, so he was discouraged when he left.
Trend (Financial)	After leaving primary school, he wanted to go to the Church of Uganda vocational training institute, but they would accept only boarders and the fees were too high (70,000 USH/term).
Shock	Madness (possible cerebral malaria) – his grandfather was killed by his father.
Trend	As the number of children increase, inherited land is divided, leading to land shortages.
Seasonal	Food is his greatest problem – they are unable to grow enough food, and need money to buy extras from the market (e.g. meat, fish).
Seasonal	Crop disease – they tend to lose 1 or two crops a year, possibly all (cassava mosaic, maize stalk borer, potato weevils)
Shock	Drought – if the dry season extends, drawdown is a problem at the borehole so long queues form.

3.3.2 Livelihood Strategies

	He was not very successful at school so he didn't want to continue with academic study. He was good at physics and accounts, and he is at drawing, so he wanted to do something technical.
	After the electronics man disappeared, he wanted to take the opportunity of joining TETESA in order to gain another skill in case he fails to make a success of electronics.
	He wants to open two workshops – he will run the electronics workshop, and one of his brothers (also in TETESA) will run the carpentry workshop.
	He needs to buy his own land, in addition to his inheritance – because his father did.
	Food is cited as his main problem, but although the family have plenty of land, he (and his brothers) has chosen to attend education in preference to cultivating the land full time.
	He and his brothers go to the village at weekends to cultivate as much land as they can.

3.3.3 Livelihood Outcomes

	As all the brothers attend education in Soroti, there is nobody available to cultivate the land in the village, which leads to reduced food security.
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3.4 Developing capability to create ICT based training resources

3.4.1 Previous experience

Experience of related projects in Honduras (participative video for NGOs capturing experience in disaster response: *'On Solid Ground': Tearfund, 2001*) and in various locations in Eastern Europe and Asia (participative production of resources for basic health education *'Digital Tools'*: <http://www.big-world.org/projects/20.asp>) led the project to consider methods of creating highly visual training resources. The methodology emphasised appropriateness to the target audiences. Work in creating primary healthcare resources had already demonstrated acceptance by a wide range of users with varying literacy levels for audio visual resources, and also highlighted the value of local production, compared with accessing remotely produced materials.

This project, and the work in Honduras, had demonstrated that people at community level without prior computer literacy or other ICT skills could successfully engage with the use of these media.

Experience had shown that whilst the media were regarded *a priori* as highly technical, a relatively short training programme led to people establishing basic competency in creation of educational resources.

3.4.2 Needs-driven resource production

The programme emphasised needs-driven generation of resources, attached to impact assessment of these resources, rather than having a technology focus. See *10 Tips for Producing Educational Materials*, by Big World consultant Professor Roy Williams. (p67)

3.4.3 Delivery channels

Delivery of audio visual training can be achieved through a number of possible channels. These included:

- DVD based delivery
- VCD delivery
- Online delivery – via the Internet
- Tape based delivery.
- CD Rom based delivery

The assessment of these options took account of the locally available resources and requirements. These indicated that:

3.4.3.1 DVD

while DVD was becoming more widely available in some regions, this wasn't the case in East Africa.

3.4.3.2 VCD

Similarly VCD is very widely used in Asia and is an excellent delivery medium, based on players costing as little as \$40 which are robust, portable and plug into an ordinary TV. Again, this medium is not widely used in East Africa.

3.4.3.3 Online

As far as online delivery is concerned, the promised possibilities of broadband had not really materialised in 2001/2002 in Europe, let alone in Africa. In fact connectivity was rapidly identified as a major problem. One collaborator (CRS) had difficulties getting access to a phone line at all, and the Ethiopian collaborators were limited by the fact that a state monopoly ISP provided very poor levels of connectivity and imposed a ceiling on the maximum file sizes that could be transmitted. Online delivery was therefore discounted as even where access was possible it would be limited to text based delivery and a founding principle of the project was to emphasise visual and audio delivery channels. It was also found, during the progress of the project, that several of the collaborators made use of commercially available cybercafes as a means of accessing email. In fact, as noted above, final assessments indicated that levels of connectivity were so low that the Internet was not used as a primary means of communication.



Demonstrating use of the Internet 'hub', training workshop in Addis Ababa, Ethiopia September 2002.

3.4.3.4 Tape based delivery

VHS machines are freely available in East Africa. Tape based delivery is an option, investigation established that computers are also surprisingly widely available and this opened up the option of delivering training on CD Rom which is more portable and more robust as a medium.

3.4.3.5 CD Rom

As noted above, computers meeting a basic level of specification which enables them to play basic video (MPEG 1) are surprisingly widely available. Discussion with collaborators during the initial meetings established that production of resources using video as a medium, output to CD Rom or tape, was the most suitable option.

3.5 Establishing the project programme

3.5.1 Discussions and communications

Since the project was by definition concerned with a novel approach to delivery of training, using unfamiliar techniques, there was a substantial dialogue between Big World and the collaborators to develop a basic level of understanding. During this process there were mixed expectations. For example, some collaborators perceived the project as being partly concerned with provision of IT related services and equipment. It is certainly the case that provision, within even fairly large and well-funded organisations, remains limited. The Selam organisation, for example, is large and has reliable income streams from its own commercial work and from overseas, and even within this organisation access to staff was through one email address (that of the Director) and networking of computers within the organisation was limited. Other organisations had more limited provision than this, and one of the greatest practical loadings on the project was the limited communications directly to the project stakeholders. As is mentioned elsewhere, this proved to impose a significant limitation on the project goal of electronic networking, as it meant not only that circulation of resources electronically was impossible, but even timely communications between collaborators were severely hampered.

3.5.2 Perceived goals

Despite discussion and written agreements, the 'real' expectations and goals of the participants were diverse. This became clearer during the progress of the project.

The organisations involved all had a primary goal of meeting the needs of their own trainees, and thereby enabling them to improve their livelihoods. They therefore had a secondary goal of ensuring the survival of their own organisations. The stated aims of the research project were inevitably subsidiary to these overarching goals.

In practice, this meant that, as mentioned above, access to improved IT was seen as a possible benefit. As well as this, the possibility of developing a video production capability was seen as supporting the promotion and fundraising objectives of the organisations. Whilst those participating directly in the project normally had a specific training agenda, their superiors in some cases were anxious to emphasise the application of the project to these fundraising and promotional goals.

This emphasis is clearly logical for the collaborators, and Big World therefore attempted to support this aspiration, whilst attempting to secure continuing commitment to the specific aims of the project. The final discussions with collaborators indicated that in a number of cases multiple applications of the media were being considered in order to achieve sustainability.

As will be seen below, many of the collaborators demonstrated remarkable commitment to the goal of applying ICTs to training, and have achieved significant outputs. The lesson to be learnt is that the organisation's general goals and needs must be mapped across specific project goals, and harmonised, if the project is going to be relevant and effective.

3.5.3 Training phase

Initial meetings and dialogue led to agreement over a project programme, based on training, familiarisation, practical application, further feedback and training, and further practical application. General 'high level' questions which lay behind this process were:

- Would collaborators achieve 'ownership' of this approach?
- Would resources which were generated achieve measurable positive impact?
- Would the training approach be sustainable beyond the period where active training and guidance was being offered by Big World?
- Would the underlying technologies be appropriate and sustainable?

An account of the iterative process of training, practice, feedback, further training, further practice and feedback follows.

3.5.3.1 Table: Structure of training programme

Training Phase	Timing	Content
Evaluation and goal setting	December 2001- March 2002	<ul style="list-style-type: none"> • Meetings with each collaborator • Survey current practice • Baseline assessment • Discuss goals, objectives and requirements • Establish agreement to participate
Workshop 1. Goal setting and video familiarisation	June 2002 – July 2002	<ul style="list-style-type: none"> • Confirm project goals • Discuss education strategy • Practical sessions on training video programme design • Practical exercises with video equipment • Feedback and problem-solving • Agree exercises to be undertaken by workshop II • Present application of web-based hub for collaboration
Workshop 2. Feedback on exercises, computer familiarisation and editing training	August 2002 – September 2002	<ul style="list-style-type: none"> • Feedback on exercises • Basic computer operations • Edit software familiarisation • Programme design strategies (voice-over driven, documentary, in-camera edit etc) • Practical exercises and feedback • Goal setting – practical exercises to complete by workshop III • Further demonstration and encouragement to use web-based hub
Workshop 3. Feedback on completed training programmes, applying these in the field, impact assessment	December 2002 – January 2003	<ul style="list-style-type: none"> • Feedback and evaluation of complete training resources • Presentation to wider network of groups • Introducing Impact assessments. • Planning for further development • Discussion of application of web-based networking hub
Evaluation and feedback visit	July 2003	<ul style="list-style-type: none"> • Feedback and problem solving on training resource production • Discussion of use of resources and impact assessment • Planning for further development • Assessment of progress of collaborators
Collaborators' networking meeting	August 2003	<ul style="list-style-type: none"> • Collaborators organise own meeting to plan future work • Feedback on progress • Problem solving • Planning production programme • Planning production of training manual

For detailed information on the workshop programmes see summaries below, and detailed appendices: page 52 *et seq*

4. Training, production, feedback and impact assessment

The programme was based on providing three stages of training, additional follow up and support

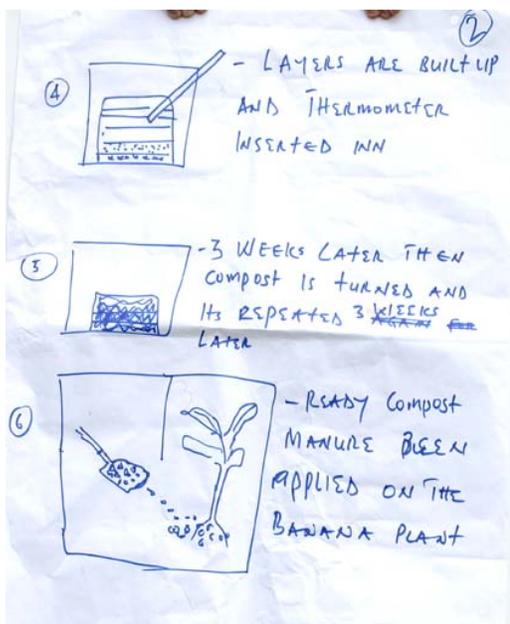
4.1 Basic camerawork training

Big World led a five day basic camerawork and programme production course. This course provided technical training in use and operation of digital video cameras, and an overview of methods of planning and creating simple video programmes.

The first training workshops took place in June 2002 in Addis Ababa, Ethiopia and in Mukono, Uganda.

The Addis Ababa workshop (with KHC and Selam) was held at the Selam centre, providing a range of opportunities for camerawork exercises. The training also included a visit to an KHC farming project at Arba Minch.

The record of the workshop notes that the participants were prepared to set goals for initial production of materials. It also noted a tension between the project goal of developing training materials, and a general desire, driven by the leaders of the organisations, to subvert effort to production of promotional and fund-raising materials.



Storyboard for training video *Making Compost* created during workshop in Mukono, Uganda June 2002.

The Mukono workshop (with Kulika, CRS and CITC) took place at the ARDC centre, and followed a similar format to the Ethiopia workshop. Again goals were set for production after the workshop. One of the outcomes of this workshop was

consideration of alternative edit systems. Although only one delegate was able to attend from CITC, (John Thuo) which was a concern at the time, John in fact proved remarkably effective with colleagues following a 'training the trainers' model and transferring his learning from the workshop. See workshop report (p52) by Mike Webb and reports by Kulika (p.113 and) CITC (p.118)

Course members expressed the concern in several cases that given no prior experience of video production they would not be able to grasp the skills. The training was based on identifying training needs and applications, and then building basic skills through a hierarchy of practical exercises in small groups, supported by basic guidelines and 'top tips' derived from experience on similar projects. Experience showed that training resources should be simple and 'common sense' in style – notes such as the 'ten elephants' comment (item 6 below) were well received and were also applied!

4.1.1 Example of course material

10 tips for successful camera work

- **1. Use a tripod where possible** (wobbly shots are wearing for the viewer)
- **2. Use 'wide angle' shots rather than 'telephoto' shots**, where the camera is hand held – as the camera movement is less apparent.
- **3. Use headphones** to confirm that sound is on and OK.
- **4. Be critical of sound quality** – sound is often more important in pictures in helping a programme to communicate effectively.
- **5. Don't pan or zoom unnecessarily.** Programmes are often edited most successfully from a range of static shots.
- **6. Spend long enough on each shot** – it's easy to think you are taking photographs, and to switch to the next shot. When you have framed a shot count to ten elephants at least.
- **7. Avoid things that don't work!** If there is wind noise then move somewhere out of the wind. If there is a strong light behind the subject, turning them into silhouette, move round until the light is better. If it's too dark it will look horrible – go somewhere lighter.
- **8. Make sure that you have pressed the recording button** and the camera is recording . . . it's happened before!!
- **9. Look for the different shots** that make up the story (see separate briefing sheet).
- **10. Log the material** you have shot as soon as possible (same day) after you've shot it – while it is fresh in your mind and you have the names, places and other details.

Course members generally developed confidence to use the technology to communicate their own training messages, skills and 'stories' and agreed goals for practical application to be undertaken before the second workshop. A range of course materials were supplied. (p,66)

A number of advantages to use of digital video in vocational training were identified by participants. This list was generated by the collaborators at the initial workshop in Uganda (see full list on page 56)

4.1.2 Some advantages of video in training: From Uganda workshop

- Practical demonstrations
- People can see the process from beginning to end
- Video programmes (on tape, cd, vcd etc) can be played over and over again
- Enhances learning: 'I see, I remember'
- Can view the shots immediately
- Can get in close to your subject eg close up shots of finger joint (may be difficult for students to see this close all together)
- People can see, without having to go and see eg seeing compost in the field
- Can see what is being talked about: visualisation helps learning
- Can see the bigger picture: eg process of making roof tiles, then see tiles being laid on a roof
- Can show a process through time eg crops growing in different seasons; from seed, to plant, to fruit. The Soya bean leaves are now dry; we could show the green leaves on video (if we had remembered to film them at the time)
- The final (edited) programme can bring together different activities, in different locations
- Can promote good practice: eg could film individual farmers who are good examples. This could work well in the community, because these people are known; it affirms the individuals (they are on TV)
- Could save time and money: it is easier/cheaper to visit and film 20 farms, and show to 100 people, than for 100 people to visit 20 farms themselves
- You can watch video at any time
Can show (future) benefits of agricultural extension work: programme can include farmers showing and telling how

techniques have benefited them



Kulika (Uganda) produced training videos about beekeeping. © Kulika Trust 2003.

4.2 Basic editing and programme production

Big World led a five day basic editing and programme production course, which took place approximately three months after the initial camerawork course at two locations – Addis Ababa, Ethiopia and Nairobi, Kenya - allowing delegates to record material in preparation for the editing course. The programme for the second course provided feedback on work that course members had done in the interim period.

‘One course member said: ‘It seems very difficult, but I will do my best and I hope by the end I will be able to do it.’ Another said: ‘I like the way you are teaching it in simple steps.’

Feedback from training workshop, Addis Ababa, Ethiopia Sept 2002

The collaborators had achieved varying results. Where little progress had been made the reasons included other calls on staff time, and geographically distributed staff with little opportunity to work together or to access equipment. Levels of technical ‘literacy’ did not appear to be a significant variable at this stage; all participants appeared to find the process of recording material was viable for them.

One course member said: ‘I learned that I can edit!’, and another later added: ‘Wah! It was excellent! After the first video training, I very much wanted to come on the editing workshop. Now I have done much more than I thought I would be able to do!’

The editing and programme production course provided technical orientation in the use and maintenance of computers for editing, in the use of editing software, and in the process of editing together simple video programmes. The course also highlighted alternative strategies such as editing 'in camera'.

In practice the underlying computer operations proved a greater hurdle to some participants than the processes of programme design and of editing. This 'IT housekeeping' aspect is the least 'user friendly' aspect of the process in our opinion. The technology involved in computer based editing puts severe demands on the hardware and software and this can generate problems if processes of file management, disc management, preserving disc space and defragmenting discs are not understood and followed. It was for this reason that Big World agreed with one collaborator (CRS) to use a dedicated 'black box' system which requires far less understanding of computer operations. The system used was a 'Casablanca Avio' which implements a complete editing and data storage system in hardware and firmware. It removes the requirement to understand the operating system, and offers the user direct access to a user friendly editing interface. There was initial concern about this option as it meant that the other functionality of a computer was not available, but the users rapidly became enthusiastic about the system. This approach has proved robust and successful to date.

This course also maintained the focus on the role of resources in training, and introduced the idea of impact assessment of training. At the conclusion of the course further practical goals were set, including programme production, usage of completed training resources, and assessment of their impact.

The collaborators experienced a sharp learning curve, and in general were able to achieve better results than they themselves expected:-

'We had a good workshop with wonderful facilitators. I had gone to the workshop as a co-ordinator but I also got an added advantage to train in editing skills. John had introduced me to filming so I had no problem in catching up with the old group. We are now able to develop our video, capture, edit and make a movie though we need to create a lot of time for practices.'

Anne Ngethe CITC

4.3 Follow-up, support and development

It was clear from previous projects that developing understanding and achieving ownership depends on an iterative process which allows two way dialogue, negotiation, feedback and re-enforcement.

The programme therefore included a total of five visits with each collaborator:

1. Initial survey visit

2. Initial training workshop (focus on video skills) (p.52)
3. Second training workshop (focus on programme composing skills) (p.75)
4. Third training workshop (follow up and project development) (p 90)
5. Final assessment and feedback visits

These visits and workshops for collaborators were designed to support increasing competencies, to shape the programme to the goals of the collaborators, to agree further programmes of training production, and to gather information on impact assessment of the resources which had been created and used.

The outcomes and conclusions of these visits are summarised in the table below: -

4.3.1 Progress of collaborators during the workshop phase

Training Phase					
	Initial workshop	Editing and production	Follow up 1	Follow up 2	Final evaluation
Kulika (Uganda)	Groups uncertain about ability to make use of the delivery platform, but rapidly gain confidence	Uncertain about ability but rapidly grasp concepts	Group have already produced several programmes on their own initiative	Range of programmes produced by group	Three groups working together to plan future activities, evaluate outputs and create training manual for other groups
CITC (Kenya)		Uncertain about ability but rapidly grasp concepts	Main trainee has passed on training to several others after workshop	Range of programmes produced and applied in classroom situation	
CRS (Uganda)		Uncertain about using 'edit system in a box' as alternative to computer	Acceptance of edit system and positive results	Range of programmes produced by group	
KHC (Ethiopia)	Groups uncertain about ability to make use of delivery platform but rapidly gain confidence	Problems with change of staff	Staff widely geographically distributed and unable to progress	Group diverted on to relief activities (drought in Ethiopia)	No outputs from group due to distributed and changing staff and focus on relief activities
Selam (Ethiopia)		Dedicated member of staff joins team	Unclear goals within organisation for use of platform	Dedicated staff member being used primarily to make promotional programmes	No outputs from group due to focus on promotional activities

What is notable is a divergence in the progress of groups. In one case most of the effort had been devoted to promotional and informational resources about the organisation. The agenda for this group appeared to be set by the organisation's director. Another group was under severe pressure as a result of drought and consequential famine in Ethiopia, and therefore had little capacity to apply to the project. Other groups had continued to develop and apply materials, in agricultural, engineering and woodworking applications.

What is also notable is the view of several collaborators that sharing of expertise, experience and problem-solving is valuable. Three groups organised a joint meeting on their own initiative for this purpose, and they organised a further meeting, again at their own initiative, to which all five collaborators sent representatives. (Big World sent a representative to this meeting, but did not in any way initiate or drive the meeting). Given that the groups were geographically distributed through Kenya, Uganda and Ethiopia this represented a significant commitment and investment of time, money and energy.

4.3.2 Equipment

Big World guided the collaborators in the selection of camera equipment, including digital video camera, tripod, microphone, tapes etc to each group. It also advised on the provision of a suitable laptop computer and additional external hard drives, and editing software. For all collaborators other than CRS the suggested solution was based on DV camera equipment, which is portable and user friendly.



Familiarisation with laptop-based software.

This equipment interfaces (via 'firewire') with computer based editing systems. Laptops were suggested in preference to desktop hardware for portability and to allow them to be also used for presentations.

Editing software can be complex, requiring high levels of computer literacy. A package which had already been tested in the field – ‘Pinnacle DV’ – is very intuitive and clear, and was readily accepted by trainees.

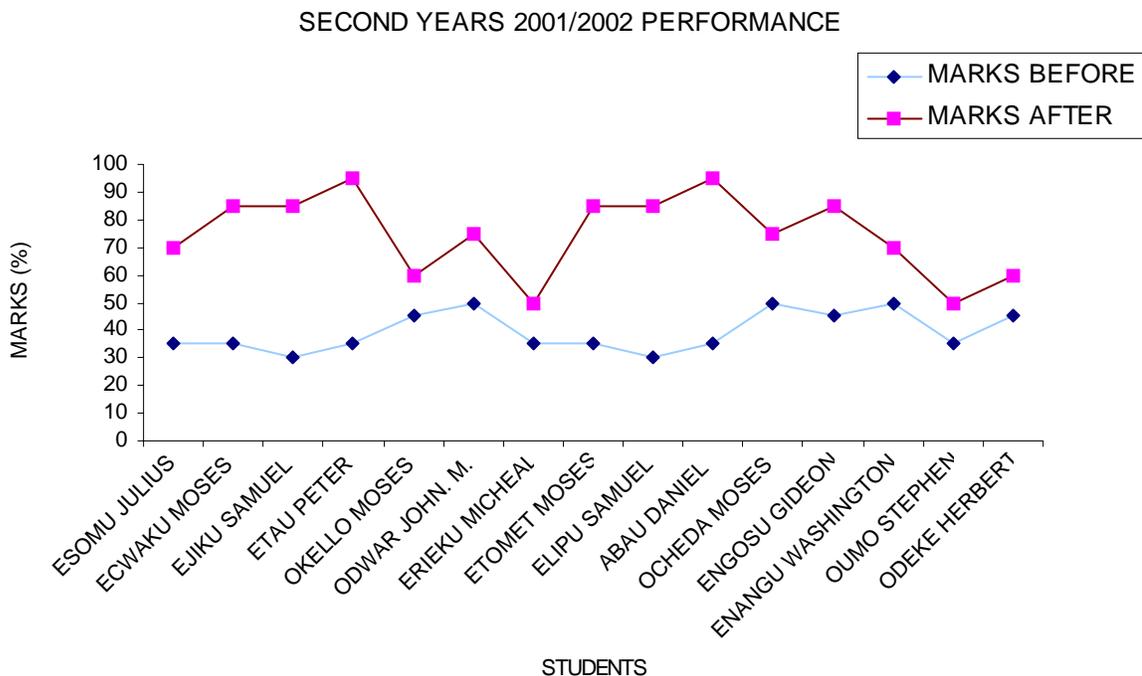
CRS were concerned about low levels of basic computer literacy in their team, so an integrated hardware system, ‘Avio Casablanca’ , was suggested. This system is less flexible than a computer based system, but does not require underlying familiarity with computer operations such as managing files.

4.3.3 Impact assessment

As in any education and training, it is important to assess the impact of the resource. The basic method employed during this project was to invite the partner organisations to create a simple questionnaire style test of the knowledge of users before the video-based training, directly after the training, and after a period of time had elapsed after the training. This assessment allows an objective measure of the effectiveness of the training on knowledge and skills in the target audience.

Collaborators performed basic measures of the impact of training. The example below is from CRS (and includes as a participant Enangu Washington, whose life situation is tabled above). The collaborators tested knowledge of trainees before and after the video based training.

4.3.3.1 Impact assessment of video based training at CRS



The diagram above was produced by CRS to graph the change in performance of students in an evaluation of their knowledge before viewing the video programme, and after viewing it. For full date see the Final Report from CRS p 125 This CRS assessment did not compare the use of the video-based training with traditional

teaching methods (chalk and talk). This was addressed in the methodology adopted by CITC (see below).

4.3.3.2 Impact assessment of video based training at CITC

CITC also performed impact assessments of students using the training videos. They taught one group with the video, and another without. This exercise was performed for two groups. The full data appears on page 119.

Fitting and Turning Students: CITC.	General Knowledge questions: Average test score.	Specific fitting and turning knowledge: Average test score.
Taught without the video (13 Students)	3.7	2.5
Taught with the video (10 Students)	2.8	5.7

This data demonstrated that the performance of students who had used the video training was significantly better than that of students who had been trained without the video.

The project consultants worked with the collaborators in the final visits to make further assessments of the impact of the project by getting additional feedback from both trainers and trainees.

4.3.3.3 Resources produced by collaborating groups

These are examples of some programmes produced by the collaborators and included on the CD Rom which accompanies this report

Collaborator	Video resource
Kulika	Using an A Frame
	Beekeeping
	Producing Compost
	Double Digging
	Grafting (combined powerpoint and videos)
CRS	Finger Joints
	Tenon Joints
CITC	Safety in the workshop
Selam	Applications of Pumps
	Applications of Hand Mills
	Safety in the workshop

5. Developing wider collaboration

5.1 Introduction

The second aspect of the project was based on the concept of creating 'bridges' between institutions. The purpose of this was to enable sharing of expertise and experience between different centres, and further to this to encourage the sharing of resources created in part (1) of the project. It was anticipated that this would be achieved by an Internet based collaboration.

5.2 Pilot collaborative hub

On the basis of initial information on standards of connectivity and access to ICTs among the collaborating groups a pilot 'hub' was specified. Part of the estimate of connectivity was aspirational rather than actual, as support for improved connectivity was budgeted as part of the project. The hub was intended, as far as possible, to enable access to a wide range of users, whether connecting directly to the Internet, visiting a cybercafe, or accessing content downloaded to a local machine or copied from there onto CD Rom.

The hub was intended to meet the following specification:-

1. To provide effective information and collaboration given a 'slow' connection (28K).
2. To provide a clear and intuitive interface for users
3. To limit access to users who elected to register to the facility
4. To provide registration information on the site to all registered users in order to facilitate networking
5. To provide the ability to post 'rich media' content, including finished multimedia resources, where bandwidth permitted.
6. To allow download of the site to local machines for copying to CD rom, to allow dissemination beyond the reach of Internet connections.

5.3 Implementation

The first version of the 'hub' was developed in time for the first round of workshops, and was available to trainers both offline (loaded onto laptops for demonstration and explanation) and online, for Internet access.

As an exercise, members of the first workshops were invited to register their organisations to the hub, which they did. However, it did not appear to be perceived as a useful medium for sharing of information.



The hub was re-presented at the second round of workshops. However, it was becoming clear by this time that despite the offer of support for upgrading of Internet connectivity, there were real hurdles to this taking place:

1. In some cases (ie for KHC and Selam) the monopoly ISP offered a very limited service, so increased bandwidth, and the opportunity to transfer large files, was not possible.
2. The organisations as a whole were not implementing network and Internet access, and in several cases only had an account for one person (for example the director) within the relevant unit of the organisation.
3. Given competing demands for resources, our perception was that collaborators were unwilling to invest funding in Internet connectivity
4. Because many participants did not have personal email accounts, reliable or timely receipt, or forwarding of messages, could not be guaranteed, and it appeared that phone, fax or even 'snail mail' were therefore preferred.
5. As a result, the Internet was not perceived as the medium of choice for communication and collaboration.

Points (4) and (5) were illustrated by the fact that the organisations did progressively develop collaboration, but this was mediated through face-to-face meetings, arranged through phone calls and faxes.

This situation may be transitory, at least at a technical level, as various initiatives at the micro and macro level progressively open up access to communications via the Internet. However our experience in this project, in the countries in which it was situated, was that the gulf between the possibilities of the Internet for communication and collaboration and the cultural and technical reality was very wide.

The project did demonstrate, independent of the technologies explored, that the participants appeared to value collaboration, to the extent that in the later stages of the project they initiated this collaboration themselves.

5.4 Wider networking

In discussion with the leaders of an agricultural network in Central America experience has shown that it has taken that project over four years to achieve a 'critical mass' at which point participants make use of the network without substantial input from its initiators. It has certainly been the case in this project that progress in developing networking at both the core and the wider level has been slow. In addition to activities with the core group above, the programme has included progressive dissemination and invitations for involvement with a wider group.

Wider networking has been based on creation of a CD Rom based resource including an overview of the project, guidance on how to replicate its approach, explanation on how to communicate and collaborate through use of the 'hub', and invitation to share basic information with the project. As an additional incentive to participate in this the project (separately from the DFID project funding) offered participation in a competition to specify and storyboard an educational resource, with the offer of production hardware to the winners of the competition.



Letters of explanation and invitation, with copies of the CD Rom, were distributed to 50 organisations selected from a UNESCO listing of centres involved in Vocational Training. The centres were selected to be, as far as possible, active training centres (rather than, for example, academic institutions) and to represent diverse regions.

The initial response rate was very low, and the initial approach was reinforced by email contact inviting a response or comments on the resource disc. As a result of this further contact it became clear that a fault on the accompanying website had led to this response form not working. A fresh link and request for feedback was therefore circulated to all centres, however very few responses were received to this follow up.

5.5 Local networking

In addition to networking via the hub, each collaborator conducted surveys of local VET institutions and their course materials; and shared information about the progress of this research with those organisations during the course of the project. This included, for example, presenting some of the findings, and samples of training materials, at small conferences.

6. Results and Conclusions

As noted in the introduction to this report, initiatives based on capturing and disseminating local knowledge and content raise questions about methodology and sustainability. The current project was stimulated by work undertaken in Honduras, which facilitated local capture and dissemination of knowledge and experience about disaster response after Hurricane Mitch; and on local production of material at locations in Eastern Europe and Asia, concerning basic health messages.

These pre-project experiences pointed to the ever-changing opportunities of using ICTs to enhance educational activities, and in particular to making education relevant to the local context by using local content. Given the view by many that vocational training is outdated and detached from the local market and local context, the specific challenge of this research project was that of improving and extending delivery of Vocational Training in specific disciplines, using open access content for ICTs. It specifically considered how the benefits of the new technologies could enhance the livelihood training given by vocational centres to the poor.



Training in video production with KHC

Indeed during the lifetime of the project, this aspiration has been captured and promoted by the global community in the Millennium Development Goals, Goal 8, Target 18, which states "In Cooperation With The Private Sector, Make Available The Benefits Of New Technologies - Especially Information And Communications Technologies". This project was about working with private sector and civil society to make sure the potential benefits of using ICTs for education and development of local content, were used with the poor.

The project focused, in the main, on five core collaborators. It demonstrated very striking outputs with a group of three, and more limited results with the remaining two. The three collaborators based in Kenya and Uganda, moved from being sceptical about the realities of ICT use in their current educational systems, to a positive ownership of the ideas, an ongoing sustainable creation of local content and a collaboration between themselves and others. In addition, the study recorded evidence that the three 'active' collaborators were continuing the initiative after the conclusion of the formal study. The two collaborators who had more limited results were based in Ethiopia. Here it was the combination of external factors, such as the State monopoly on Internet connections, and institutional factors such as management structure and physical locations, that limited the outcomes. The Ethiopian partners will continue in a limited way to develop the role of ICTs in their teaching systems.

The project attempted to ensure that the clients of the vocational communities were the poor, and this has been presented in the livelihoods outlines for several students and exercises such as wealth ranking conducted among students. A significant portion of the students can be classified as poor.

The project also worked with the teaching staff to assess whether the resultant locally-produced teaching materials communicated to the students. It found that students found the materials useful and were able to attain higher test scores on subjects delivered by video.

6.0.1 Table: Summary of results at each stage of project

Project Stage	Consultant comments	Collaborator comments	User feedback	Outputs
<i>Evaluation and goal setting</i>	Collaborators have diverse and often very limited access to ICTs.	Positive in general about application of Digital Video. Request help with PC provision.	N/A	N/A
Workshop 1. <i>Goal setting and video familiarisation</i>	Mixed expectations and goals from collaborators. Varying confidence levels.	Uncertainty about ability to use medium. Further requests for help with PC provision.	N/A	N/A
Workshop 2. <i>Feedback on exercises, computer familiarisation and editing training</i>	Increasing confidence in using video medium. Diverse goals for use of video.	Surprise at ability to make use of medium. Enthusiasm to pursue practical exercises. Little interest in web-based hub	N/A	N/A
Workshop 3. <i>Feedback on completed training programmes, applying these in the field, impact assessment</i>	Significant production of resources by some groups. Others hampered by changing personnel and organisational priorities.	Some collaborators appreciate benefits of video-based resources and are testing them.	Acceptance and some demonstration of positive impact assessment by users of resources.	Range of training resources produced on skills, techniques, and safety issues.
<i>Evaluation and feedback visit</i>	Sustainable and continuing use of methodology by three groups, problems due to other pressures in two groups	Ongoing requirement for support. Some groups aiming to achieve this in part by networking between them. Web hub not regarded as useable for this.	Further application of resources in classroom & informal situations. Some formal impact assessments suggest training resources are proving effective.	Further resources produced relating to skills and techniques in workshop and agricultural situations.
<i>Collaborators' networking meeting</i>	Research assistant attended as observer and to assist with problem-solving.	Collaborators have some confidence in ability to proceed, but would welcome further inputs.	Further application in classroom and field situation.	Not Known

There are a number of conclusions that can be drawn from the experience of this project.

6.1 Regarding Local Content

The project outcomes suggest that success in capture and dissemination of local knowledge depends on several criteria:

6.1.1 Defining specific and concrete knowledge areas.

For example, from our experience, disaster mitigation, vocational training, and primary healthcare were all subjects which the participants saw as valuable to their own communities. Without this clear local relevance we suggest that knowledge capture will not be a high priority and will only occur through substantial external intervention (as in the case of 'Knowledge Workers' in the Open Knowledge project). In this project the value of vocational training for the local job market ideal was the driver for the creation and production of local content.

6.1.2 Identifying a core group of organisations

with capacity to undertake development of local knowledge, in line with their own priorities and goals. In the same way that the global community has come to realise that specialist telecentres are limited in the outcomes, and that the better way forward is to build ICT activities on to existing community centres, thereby creating Multipurpose Community Centres (MCC); so too local content Information and Communication for Development (ICD) activities are best developed by existing organisations. Likewise, just as MCCs must have a purpose of serving their community, which can then inform the ICT activities, so too organisations getting involved in local content production should have a purpose that fits. In this project the purpose of vocational training for the local job market ideal suited the creation and production of local content.

6.1.3 Involving "locals" in presenting the video enhances the communication.

Where videos were presented by the classroom trainer, the students responded particularly well to the familiar face. They focused more on what was being said and enjoyed the alternative presentation without it seeming "foreign". In agricultural videos where local farmers were asked to present their farming techniques, the audiences regularly commented on how easy it was to identify with what was being said – the local to local connection strengthened communication. This also reflects our wider experience in use of video based communication for education, which indicates that 'peer to peer' communication is often a more effective channel than 'top down' didactic approaches.

6.1.4 Video gives an opportunity for many alternative presentations.

The resulting videos from the project are quite varied in style. CITC have produced "lectures" where the teacher presents his material on screen and the images are used to illustrate in close up the various points made. The computer training videos do not show the trainer at all but a voice over is used while there are a sequence of close up images. Kulika, for their audience of farmers, made videos which showed farming skills in the context of a real farm. In the workshop safety video, humour and acting has been used to illustrate what can go wrong. Any regular television viewer knows the range of presentations that can be created using current video technology, and the project confirms that even with the relatively simple equipment used in this project, a wide range of alternative presentations is indeed possible. There was also the comment from students that it was helpful to see the same video again and again.

6.1.5 Poor communities can be supported in their fight against poverty by ICTs where ICTs are used to communicate the benefits of local content to the community.

This project was about vocational training (and to a certain extent farmer extension). The products have been used with students who were from poor communities and have enhanced their job skills. The production of the local content has sharpened the relevance of the material to the local context, and this in turn has addressed a criticism of vocational training. Video has communicated to the semi literate, and the participatory aspect of production has enhanced the training.

6.2 Institutional context

6.2.1 Management needs to facilitate to the inclusion of ICTs.

In the three centres that developed significant local material, the management were not only supportive but actively encouraged the project success. In the two centres where outcomes were more limited some of the trained personnel were not then assigned to the production of material and the dispersal of the trained personnel did not allow for systematic creation of training materials.

6.2.2 It is valid for institutions to support related uses of media and technologies.

For example the perceived need to create promotional materials as part of the fundraising programmes of organisations was part of almost every centre, and it has proven to be of some use in institutional support.



From training video made by Kulika (Uganda) demonstrating banana planting. © Kulika Trust 2003.

6.2.3 It seems best to embed the activities into the mainstream training.

In the two centres that had limited outcomes, the video production was treated as a specialist activity. In one case this meant that a full time person in a newly created department was not engaging closely enough with his colleagues. In the other, the management considered the video activities as "special" requiring organisation and resources. In the three centres that produced significant outcomes, the video work was embedded in day to day activities – it became natural to carry the camera and use opportunities as they presented themselves, as well as the more formal planning. .

6.3 Project processes

6.3.1 Training (on ICT use) needs to be iterative.

Maintaining a programme of dialogue and development based on several iterative facilitation/training events ensured that groups developed confidence and ownership of technologies and methodologies and that their 'voice' became dominant in agenda-setting and the shaping of their programmes.

6.3.2 The training needs to be timed with provision of equipment.

In one or two cases the equipment was only purchased after the training, and the delay meant that people had forgotten lessons learned. Immediate reinforcement and operational application of training is important in achieving high retention

5.3.3 Working with a number of organisations created a momentum.

Even though they were in different countries the email connection and the face to face workshops encouraged and motivated each organisation to work through difficulties and stimulate each other to continue in the project.

6.3.4 There needs to be a critical mass of trained people.

It was the creation of a video team that seemed to help keep the knowledge, embed it and turn it into practice. The practicalities of teaching mean that each trainer has only limited time to apply to the creation of products, therefore a team kept the momentum going as each contributed a little to the whole. Also each individual came away from the short training with gaps in their knowledge. By having a team approach the gaps in one person were filled by knowledge gained in another.

6.4 Institutional Networking

6.4.1 Face to face meeting seem essential.

Promoting interaction between organisations and communities on the basis of developing understanding and commitment to mutual support. In our experience this required face to face meetings and facilitation.

6.4.2 Create regional hubs rather than central hubs.

Creation of regional 'hubs' of groups who have established confidence in one another, and who can share training and problem-solving, was more appropriate than attempting a central hub. Regional hubs also have potentially lower costs, and could therefore become sustainable.

6.5 Technology

6.5.1 Internet in Africa still has some way to go.

In terms of wider networking using Internet technologies, the evidence of this study is that this communication channel is still not widely accepted. The practical constraints of email access, let alone transfer of rich media (content requiring broadband access) are still onerous in many cases. From the technical point of view our experience is that both poor (and expensive) connectivity, and limitations in networking and access within organisations, lead to email and the web having limited acceptance. Our collaborators were still more comfortable with fax, traditional mail and the telephone. While the technology will undoubtedly improve, this does not affect point 6.4.1 Face to face meeting seem essential. above, which emphasises the degree of interaction required to develop the confidence and trust upon which a 'hub' would begin to operate. A core group, such as the group formed from CITC, CRS and Kulika in this study, requires 'incubating' in order to then become a focus for attracting more collaborators within a specific region. In fact networking was demonstrated, at a 'micro' level and on the initiative of the collaborators themselves, and including a programme for future work after the conclusion of the current project

6.5.2 Digital Video has matured to be a viable communication medium.

The centres were able to learn how to make videos and edit them to a high standard, in a few weeks of training. With no special video or computing background skills, trainers were able to learn camera use, video editing, script writing and video delivery.

6.5.3 Digital Video is a valuable tool in the teachers' armoury.

While video will never replace face to face training and teaching, the videos produced were shown to enhance the learning experience of the students giving them clear measurable academic gains.

6.5.4 Video is very cost effective.

The cost of setting up the video editing was very small compared to the cost of an editing suite five to ten years ago.

7. Suggestions for Further Work

In line with the comments above, we recommend that further work should be undertaken to make vocational and adult training centres aware of the benefits of local content production using ICTs. While dissemination activities included in the project should continue post project, there should also be specific further activities to promote the strategic use of ICTs in vocational and adult training.

These activities should be based on 'micro' rather than 'macro' initiatives to establish local 'hubs' of organisations developing content in line with specific requirements. The project has effectively established these hubs in one or two locations in Uganda, Kenya and Ethiopia, but there are many opportunities for developing initiatives in other countries and in other locations within each country.

For instance: In Feb 2004, the Gamos/Big World team responded to a commission by Uganda Industrial Research Institute (UIRI) for training in this area. They had seen the work and impact of the use of ICTs by Kulika and requested training. The Gamos/Big World team worked with Kulika to provide the initial training. The UIRI team are currently producing multimedia training materials in the SME Food industry. The training materials will be used throughout the SME Food industry.

Following the model of this project, such 'micro' programmes would move through several phases:

1. Identify potential 'hub' members sharing interest in a content area, and basic competencies and capacity
2. Provide initial support for training and application of visual media technologies in the chosen knowledge area
3. Facilitate iterative training and feedback, in parallel with developing relationships between hub members
4. Provide continuing support for hub to develop as 'incubator' for other groups in region
5. Provide 'meta network' developing meaningful links between hubs in different regions, where they perceive common interests

In particular, as can be seen from the collaborator reports, CITC, CRS and Kulika, in particular, are eager to maintain the momentum developed with their hub, and could potentially form a viable base for an East African 'hub'.

We recommend that DFID consider:-

- Identifying educational and training programmes in priority countries for DFID which would benefit from the application of this regionally based participative production model: promoting pro-poor local content designed to support specific, locally owned objectives in training, education and communication'
- Relating the regional hub developing as a result of this project to complementary activities within the OKN and the Local Voices programmes.
- Providing support for agencies considering this approach. In East Africa consider using the partners of this research project as trainers for similar approaches.

8. Endnotes to main report

ⁱ For example, CRS (Uganda) identified a number of benefits of networking, drawn from their experience with other local NGOs:

- understand what other NGOs are doing and how they run their organisations – useful for picking up ideas;
- linking local NGOs to international NGOs e.g. SODANN have compiled a database of local NGOs which can be used by international NGOs looking for field partners; SODANN have also worked as a channel for local NGOs to approach international NGOs (accompanied by training on preparing concept notes);
- access to development information – organisations that work in rural areas gather data on vulnerable groups e.g. World Vision set up a community development project in Arapai concentrating on AIDS, sanitation etc.; with their knowledge of the community they could identify child headed families that CRS could support. (From *initial survey report of CRS, Nov 2001*)

Staff of CITC (Kenya) were interviewed during an initial survey visit in Feb 2002. The project document notes: Staff claim to be isolated in their work. They have no professional contact outside of CITC. This is because of the full timetable, and the fact that CITC does not have funds for training, external visits etc

- ⁱⁱ The initial site survey to CITC (Kenya) (Feb 2002) noted: Swahili is the first language of most students, but teaching is in English. All formal education students have received before registering at CITC will have been in English. CITC has a strict policy of teaching in English. Teachers resort to Swahili when students have difficulty understanding. There may be a tendency for teachers to use vernacular language with students of the same tribe. Written English causes them problems in exams.

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Example workshop programmes

Basic camerawork workshop (Uganda): June 22-30 2002

This workshop drew together people from partners in Uganda (Child Rehabilitation Services and Kulika Charitable Trust) and Kenya (Christian Industrial Training Centre). These are all active in vocational training, and have expressed an interest in using 'digital media' such as video cameras, and the Internet, to add to the training they provide.

Mike Webb (Director of Big World), **Geoff Crawford** (cameraman) and **Richard Gibson** (volunteer) facilitated the training.

Workshop objectives

This workshop aimed to introduce the ideas of the project, and also find out more about what the trainers are doing in their centres. It provided training in the use of video equipment, and applied this training in two short field projects. The training concluded by identifying course material which the participants can attempt to record on video over the following 2 month period. The workshop also demonstrated how this material can be edited on a PC to provide finished video programmes for training; and introduced the use of the Internet to share information between the different vocational training centres.

A further workshop, approximately two to three months after this one, will review progress, and train workshop members in how to edit the material they have recorded, and how to put this onto CD Rom or videotape for use in their centres. It will also review the use of the Internet.

Participants

Kulika Charitable Trust (Uganda)

Kulika Charitable Trust promotes sustainable agriculture in Uganda by training farmers, using a ten-month course, mainly on their own farms. The course covers:

- Agriculture & horticulture
- Livestock management & welfare
- Soil & water management
- Marketing & book-keeping
- Communication skills (to set up and lead workshops and training programmes)

Key Farmer Trainers (KFTs) go on to establish their own farms as demonstration units, and to teach farmers in their own communities through farmer-to-farmer extension. Over 60 KFTs have been trained to date via three centres, in Palissa, Masaka

and Toro. The intention is to move these centres to other locations in coming years. Kulika also arranges a number of short workshops for farmers in various parts of Uganda each year. All the participants from Kulika train farmers as part of their work.

- George Kayega
- Francis Magara
- Joseph Mugaga
- Florence Namulindwa
- Claire Namutebi-
- Nsubuga
- Joyce Tibanauka

Child Rehabilitation Services (Uganda)

Child Rehabilitation Services (CRS) trains young people from poor backgrounds in vocational skills at their Teso Technical School of Apprenticeship (TETESA), based in Soroti. They are currently training 10 young people in carpentry and building skills

- Emanuel Abukol
Principal
- Pastor Okello
Director, CRS
- Emmy Diaz Okello
Co-ordinator/teacher

Christian Industrial Training Centre (Kenya)

The Christian Industrial Training Centre (CITC), based in Nairobi, Kenya, trains young people from poor backgrounds in a range of vocational skills. These include:

- Motor vehicle mechanics
- Carpentry & joinery
- Fitting & turning
- Electrical installation
- Welding & fabrication
- Basic computer skills

CITC is currently training over 200 students in these subjects, using their centre in Pumwani, Nairobi.

- John Thuo

Workshop Outline

The 5-day workshop followed the following course outline:
The training workshop was held Mukono ARDC (former District Farm Institute), located 10 miles east of Kampala—which

provided opportunity to film a good range of agricultural activities on site as part of the training programme. Field visits were arranged to nearby farmers, and a local furniture workshop. Kulika recommended it would be helpful to have one person dedicated to administration during the workshop: Claire Namutebi-Nsubuga did an excellent job.

Outline of course

Day 1 outline

Mon June 24

Morning: Welcome. Introductions from participants. Introduction to Big World and project. Session: Producing materials for education. Discussion.

Afternoon: Introduction to the video camera (hands on in small groups). Shoot first sample material (unguided).

Day 2

Tues June 25

Morning: Brief review of shot material. Shot types. Storyboard. Tripod. Hands on in groups.

Afternoon: Use of Microphone & setting up for interviews. Hands on. Feedback.

Day 3

Wed June 26

Morning: Review of Day 2 material. Intro to Field Visit 1: visit farmer(s) known to Kulika to make short programmes: trainees worked as three small camera crews.

Afternoon: Presentations of shot material by three groups. Feedback & discussion.

Day 4

Thurs June 27

Morning: Field Visit 2: filming at nearby furniture workshop.

Afternoon: Presentations and feedback.

Day 5

Fri June 28

Morning: Editing demonstration. Presentation of materials created on course to Kulika senior staff.

Afternoon: Demonstration of Vocational Training hub. Next workshop: dates and

location. Action points.

Day 1. Introduction to the project.

After introductions, Mike Webb presented a PowerPoint presentation, using the video projector, to introduce Big World and this DFID-funded project. This included showing two short sample video clips:

- **Finger joint** sequence (shot by CRS, with help from Nigel Scott on his visit to CRS, Soroti)
- **Roof tiles** sequence (created by Terry Gibson as an output from the VET video training workshop in Ethiopia in June 2002)

This was followed by discussion of questions arising.

Roy Williams' paper **Tips for producing educational materials** (see Appendix 1) was presented via PowerPoint, and handouts given to participants. The objective of this session was to focus on 'learning problems' in training and education, and to help participants identify what particular 'learning problems' might be faced by their own students and trainees, and how these problems might be addressed by the use of video.

After the presentation of Roy's paper, participants were divided into three groups (mixing up the different organisations), for discussion. These groups also became the three 'camera crews' for the remainder of the course, who worked together to practise skills, and to shoot short programmes on the field visits.

The three groups were given the following questions, which were projected onto the screen, and results were captured by a group facilitator who reported back to the whole workshop.

Discussion questions on producing educational materials:

- 1 What is video good for showing? What advantages does it have over other forms of communication/training (eg personal teaching; workbook; demonstration etc)?
- 2 What is video NOT good at doing? What are its disadvantages?
- 3 From your own work, identify specific 'learning problems' video can help with. Make these examples as specific as possible. What things do your students/trainees have most problems with?
- 4 Draw up a list of possible processes/techniques you could capture on video that would help to overcome these 'learning problems'. What do you need to show on video?

Feedback from group discussions

1 What is video good for showing?

What advantages does it have over other forms of communication/training (eg personal teaching; workbook; demonstration etc)?

- Practical demonstrations
- Mass communication: a lot of people can view a programme at the same time (especially if projected)
- Introducing new technology
- People can see the process from beginning to end
- Video programmes (on tape, cd, vcd etc) can be played over and over again
- Good for coverage of important events: eg visits of dignitaries to project etc. People who missed the event can see it on video.
- Enhances learning: 'I see, I remember'
- Can view the shots immediately
- Can get in close to your subject eg close up shots of finger joint (may be difficult for students to see this close all together)
- People can see, without having to go and see eg seeing compost in the field
- Can see what is being talked about: visualisation helps learning
- Can see the bigger picture: eg process of making roof tiles, then see tiles being laid on a roof
- Can show a process through time eg crops growing in different seasons; from seed, to plant, to fruit. The Soya bean leaves are now dry; we could show the green leaves on video (if we had remembered to film them at the time)
- The final (edited) programme can bring together different activities, in different locations
- Can promote good practice: eg could film individual farmers who are good examples. This could work well in the community,

because these people are known; it affirms the individuals (they are on TV)

- Could save time and money: it is easier/cheaper to visit and film 20 farms, and show to 100 people, than for 100 people to visit 20 farms themselves
- You can watch video at any time
Can show (future) benefits of agricultural extension work: programme can include farmers showing and telling how techniques have benefited them

2 What is video NOT good at doing? What are its disadvantages?

- Needs power (to show)
- Not good at showing calculations
- Non-visual concepts: eg theology
- Some people may be upset by the images
- Cannot capture all senses eg taste, touch, smell
- Video can make things look 'cleaner' than they are
- Can be misleading: if the process is shown incorrectly (importance of planning and making a storyboard)
- Video can be expensive
- Needs technical know how
- Not good for shy people: if they have made a mistake (eg with their carpentry, or demonstration farm), everyone can see it (and they may be feel embarrassed)

3 From your own work, identify specific 'learning problems'

Video can help with.

Make these examples as specific as possible. What things do your students/trainees have most problems with?

- Can make programmes in different languages
- Can make programmes at different levels, depending on abilities of users

- Marking contour lines for water conservation: farmers have difficulty understanding this
- Students can have problems understanding safety issues: programme could show good and bad practice
- Programme to identify different tools and how to use them¹
- Appropriate technology: eg fuel saving, grafting, drying fruit and vegetables, bee-keeping, making and using manure compost (takes nine weeks)
- Process of making liquid fertilisers and organic pesticides (video can 'speed up' time)
- Farmers can have difficulty of recognising new diseases and knowing treatment

4 Draw up a list of possible processes/techniques

Specify material you could capture on video that would help to overcome these 'learning problems'. What do you need to show on video?

Health & Safety: could make dramatisation (fake blood) to show how to avoid accidents when using tools

Maths: could show dramatised story to illustrate the benefits of knowing Maths eg a farmer who knows how to calculate the area of his land will not be cheated when he sells the land to an unscrupulous buyer

Fertiliser and pesticides:

- Explain why it is helpful to use liquid fertiliser and organic
- Pesticides
- Tools and containers
- Preparation of materials
- Process and application

Making a wooden chair:

- Show materials and tools
- Process of making joints
- Drawing of joint

- Chair being constructed
- Cutting, planning, fixing, painting

Bee-keeping: 'learning problem' is that it is hard to show students real bees (could be dangerous). So some important lessons are currently theory only (and hard for students to understand)

- Materials: timber, clay (for pot), reeds etc
- Making the hive: process and options
- Siting the hive in the right place (eg not too near the home; away from black ants). Could give good/bad practice; could make humorous (eg family run out of house as if chased by bees)
- Colonising the hive: by using attractions; by capturing a Swarm
- Checking the hive and harvesting: how to remove the comb from the bees?
- Safety: use of veil, smoke, timing (not killing the bees by using fire)

Day 1: Introduction to the video camera

Participants were introduced to the Panasonic DS30 DV camcorder during the afternoon of Day 1. Each group was given a video kit comprising:

- Panasonic DS30 miniDV camcorder
- Battery, battery charger, instruction manual, leads
- Additional long-life Lithium battery (8 hours)
- Sennheiser MKE300 microphone, extension lead, batteries
- Bracket (to hold Sennheiser mic. The DS30 does not have an accessory shoe. Our previous experience is also that the Sennheiser mic needs to be used with an additional bracket, to avoid the mic appearing in wide angle shots)
- Headphones
- MiniDV tapes (5)
- Velbon D-600 video tripod and case (tripod given to groups on Day 2)
- Case

Each group was responsible for their equipment, which was

labelled accordingly, for the duration of the workshop. Participants were also given the handout **Guide to using the Panasonic DS30 camcorder** (prepared by Terry Gibson). This is a summary of basic information extracted from the longer instruction manual.

The objective of this session was to introduce basic operation of the camera, allowing each trainee to handle and use the camera for themselves. It is easy to underestimate how long initial familiarisation can take: it is worth allowing 1.5 to 2 hours for this. Afterwards, the three camera groups were encouraged to shoot their own materials, without a tripod, with no guidance given about camera technique by the three facilitators (Geoff Crawford, Richard Gibson, Mike Webb). This gave us some materials to be viewed, via the video projector, for group discussion at the start of Day 2.

Day 2 Storyboards. The tripod. Microphone.

The first materials shot by the three groups were reviewed collectively in the morning. For most participants, this was their first ever experience of using a video camera. As might be expected, most shots were generally unusable in a programme, but were a good starting point for discussion and learning. The following points were captured as part of the discussions on the flip chart:

Lessons from first shoot:-

- Important to use tripod to keep camera steady
- Avoid bright light in background. May need to change camera position
- Important to have a plan for your programme – a ‘Storyboard’
- Make sure each shot is long enough. Remember to ‘count ten elephants’
- Set up shots BEFORE filming
- Microphone is very directional – it must be pointed whoever is speaking
- Avoid background noise
- Avoid ‘talking heads’ for more than 10 seconds
- Make sure camera is ready – battery charged / tape in camera / microphone on / lens cap off
- Important to wear headphones
- Label tapes – in sequence with content (eg location name)

After reviewing yesterday’s materials, the concept of storyboarding was introduced, using some examples from hand-drawn storyboards illustrating mother and child health (created for the Big World digital tools project using UNICEF’s *Facts for Life*). These were projected for discussion. These illustrations can be found on the *Resource CD for Digital Facts for Life* produced

by Gamos. Samples are given below (these were converted from the original gif format to tif files for this presentation. Files used: diarrheoa.gif, diarrheoa10.gif, diarrheoa15.gif.)

Day 2 Morning:

Brief review of shot material.
Shot types. Storyboard. Tripod. Hands on in groups.

Afternoon:

Use of Microphone & setting up for interviews. Hands on. Feedback.

Sample storyboards 1

Examples of storyboards were shown to explain to group members how to plan shots for a simple programme.

Sample video programmes

In addition, a number of short video sequences were shown and discussed, to introduce different kinds of shot, story construction and general programme planning and storyboarding. These included:

- Opening of **Ikengeza** video (Tanzania)
- Opening of **Diarrhoea** programme (India)

All these sequences were projected in compressed formats, played via a Sony Vaio laptop. The original sequences can be found on the VET project archive cd/dvd.

This session was followed by basic instruction in use of the tripod. A DV camera was linked to the video projector (via Svideo lead) to demonstrate how the tripod is used to make shots stable (this technique was also used earlier to show participants how shooting on wide-angle, as opposed to telephoto, reduces camera shake).

Participants were given the handout **Ten tips for successful camerawork** (prepared by Terry Gibson) (see Appendix 1). The afternoon focused on how to set up to record interviews, using the Sennheiser mic both on camera (using the external bracket) and off camera (via 3m audio extension lead). In most cases, dramatic improvements in audio quality were apparent, compared with the participants' first use of the camera. By the end of Day 2 we had covered sufficient basic techniques to prepare for the Day 3 field exercise.

Day 3 Field visit 1

The first field visits enabled the three groups (who by now worked under the team names of: Trials, Adventurers and Technocrats) to work as camera crews to work on the following programmes:

- **Making compost**
- **Making Biogas**
- **Grafting a mango**

These processes, all of which are taught by Kulika's extension workers as part of their training of farmers, were selected following group discussion. Each group prepared a storyboard before filming (for samples, see Appendix 1).

Unedited footage was presented to the whole workshop by the different groups in the afternoon, allowing feedback and encouragement.

The three groups, on their own initiative, adopted different techniques for their programmes, especially relating to recording of voice over/script.

Making compost:

the Adventurers group (Emmanuel, John, Joyce and Geoff) filmed an extended interview with a lady farmer who explained the process of making compost from start to finish. The audio track of this interview was subsequently used as the voice over for this programme sequence, using a sequence of shots taken to illustrate the whole process. The programme was edited during the workshop by Mike Webb for demonstration purposes.

Grafting a mango: the Trials group (Florence, Francis, Pastor Okello and Richard) filmed pieces to camera (from themselves), as well as real-time explanation given by the subjects being filmed. In some cases a team member gave a spoken commentary off camera, at the same time as a scene was being recorded. This enabled the team to 'get the sound commentary into their programme' (they had not yet been introduced to

Review of Day 2 material.

Intro to Field Visit 1: visit farmer(s) known to Kulika to make short programmes: trainees. Worked as three small camera crews.

Afternoon:

Presentations of shot material by three groups. Feedback &

discussion.

Making Biogas: The Technocrats group (Claire, Emmy, George, Joseph and Mike) filmed the process from start to finish, following an outline storyboard, highlighting the benefits of using Biogas (eg source of light; gas supply for cooking). At the end of the filming a brief interview was conducted with the farm owner (who was not very forthcoming, when compared to the lady farmer interviewed for Making Compost). Mike did not have time to edit this material.

The edited sequences are available on the VET project archive cd/dvd.

Feedback on Field Trip 1

The feedback by the three groups from field visit 1 is summarised below (as captured to flip chart):

TRIALS: GRAFTING

- Check sound always
- Check focus (autofocus can miss the subject)
- Need to prepare a script in advance

Filming takes longer than you think: Only 31mins filmed in 2hrs 15min

ADVENTURERS: COMPOSTING

- Use camera hand held to get in close & to move easily
- Good to let camera roll & record action

TECHNOCRATS: BIOGAS PRODUCTION

- Interview – ask ‘open’ questions which can’t be answered ‘yes’ or ‘no’. Eg ask ‘how’ ‘why’ ‘tell me about...’ ‘describe to me...’ etc
 - Lady a bit nervous – need to explain what’s happening to interviewee to put them at ease.
 - Good to do interview at end?
 - If interview takes place at beginning, it helps you understand the process
 - Listening to the interviewee is important. They may say something which will be a good subject to film.
- Do not turn off microphone while filming

Day 4 Field visit 2

Morning: Field Visit 2: filming at nearby furniture workshop.

Afternoon: Presentations and

feedback.

Field Visit 2 was to a local furniture workshop, where two groups filmed carpentry and the making of an armchair. This was to give practice on filming content closer to the skills taught by both CRS and CITC (since Field Visit 1 related almost exclusively to the interests of Kulika). A third group stayed at the Mukono agricultural training centre (our base) to film grafting. This was followed by discussion, and the following feedback was captured:

Feedback by participants on Field Visit 2

- Some people filmed were not comfortable. May help to explain what's happening to key people eg chairman/boss in advance
- some problems with noise?
- move closer with microphone
- move to a quieter location
- ask for noise/sounds to be turned down?
- confined space?
- problems filming people who move around
- use wide-angle?
- stop them and film CU shot
- communication problems – language and video
- get person to work normally & film whole process several times. Take camera off tripod

Day 5 Different approaches to programme making

Day 5 concluded the course. Mike Webb summarised three simple approaches to programme-making, to discuss the advantages and disadvantages of each:

PROGRAMME TYPE ONE: USING SEPARATE INTERVIEW FOR VOICE-OVER

- Film video of activities and do separate interview(s)
- Add voice over (VO) from the interview in the edit
Eg Compost Programme

Advantages/disadvantages:

- Filming straightforward
- Need to record a long interview (5-10mins) explaining the whole process & benefits of the process or technique
- Need to do an edit

PROGRAMME TYPE TWO: SIMULTANEOUS COMMENTARY

- Film video & commentary at the same time
- Eg Grafting Programme
- Frances and Florence speaking to camera
Florence describing action during filming (Flo not in picture)

Advantages/disadvantages:

- Needs 3 people – speaker/camera/sound
- More complicated to film
- Need to plan in advance – storyboard & script
- Bit easier to edit
- Speaking to camera needs practice but you can rehearse.
Can film several takes & do in small sections

Day 5 Fri June 28

Morning: Editing demonstration.
Presentation of materials created on course to Kulika senior staff.#

Afternoon: Demonstration of Vocational Training hub. Next workshop: dates and location. Action points.

PROGRAMME TYPE THREE: INSTANT TV (IN CAMERA EDITING)

- Instant TV – Editing in camera. We film the complete programme in sequence, in one take

Advantages/disadvantages:

- Need a storyboard & script showing exact shots
- Works only for short sequences (under 2mins)
- Could film demonstrator taking and demonstrating at the same time (eg Anita grafting)
- Don't need to edit separately – playback from camera tape (or copy of tape) or from VHS copy

Editing demonstration

Mike Webb gave a brief demonstration of non-linear editing, using Pinnacle Studio 7 and the a Sony Vaio laptop, projected via the video projector. This showed the idea of assembling using a timeline, and of inserting pictures over a voice over. Sample video sequences, all filmed by participants, were

presented to Kulika senior staff (Elijah Kyamuwendo and Alastair Taylor).

Mike Webb introduced the VET hub, as it has been developed to date (using an off-line demonstration version on a Vaio laptop); Nigel Scott, who was visiting for the day, spent time with individuals, helping them to add information about their respective organisations.

During the afternoon participants worked together according to their own organisations, to create a list of possible programmes to film before the next workshop. One of these was written up as a storyboard by each group.

Basic camerawork course materials

The following handouts were used on this course:

- **Tips for producing educational materials** (prepared by Roy Williams)
- **Guide to using the Panasonic DS30 camcorder** (prepared by Terry Gibson)
- **Ten tips for successful camerawork** (prepared by Terry Gibson)
- **Ten tips for successful images** (prepared by Terry Gibson)
- **Ten tips to keep the camera rolling** (prepared by Terry Gibson)

Tips for Producing Educational Materials.

Roy Williams.

Introduction

You can use this list of issues to help in your planning and design, and you can use it to monitor and evaluate whether the educational techniques that you used improved the learning or not. Ideally you should use it in both. It is written with video-CDs in mind, but you should be able to adapt it for other media (email forums, Internet, knowledge networks).

Make sure to use the experience and expertise of the teachers and learners. Producing good educational materials is no different from producing good lesson plans. It should start with a learning objective, outline a process for exploring the topic, or processing the materials, show or demonstrate examples, and build on what the students already know. Active student involvement improves the learning. This is what you need to keep in mind, in the following order:

1. “If it ain't broke, don't fix it”.
2. Make sure learning drives the process.
3. Identify the *learning* problems that need to be solved.
4. Identify the learning and teaching *management* problems.
5. Find out how new media could be used.
6. Match learning problems with media solutions.
7. Analyse the learning process.
8. Map out how the lesson will be produced
9. Focus on the content and process of learning.
10. Establish a team of users.
11. Ask if its any use to the learners, and write it down.

1. “If it ain't broke, don't fix it”.

Its an American phrase that means if its working fine, leave it alone. If students are already learning what they need to learn, don't try an improve it by using fancy media, or teaching in new ways.

2. Make sure learning drives the process.

Make sure the **learners** and **teachers** decide what **learning** problems you are trying to solve. The media producers must listen to what the learners and teachers need, and not vice versa.

3. Identify the *learning* problems that need to be solved.

Find out what **content**, or **topics** students have problems with, and which students have these problems. Try to be specific – identify particular learning and skills outcomes, for instance a particular kind of carpentry joint, or welding technique, or the use of particular materials. Also try to find out **why** they have these problems.

4. Identify the learning and teaching *management* problems.

Learning is sometimes difficult because of the circumstances – for instance there may

be too many people in the class to see what is being demonstrated, or half the students may be bored, and half might need the teaching and demonstration repeated because they have never worked in this area before – a “mixed ability” class, or the task may be very complicated.

5. Find out how new media could be used.

Where, at what times, under what security/supervision, inside or outside class time, over weekends, with what power supply, etc, could these media **easily** be accessible to teachers or students.

6. Match learning problems with media solutions.

Choose two or three problems from learning content and from learning management, and ask how specific media you could introduce (video CDs, email, Internet, networked knowledge bases) could help to solve some of these particular problems.

7. Analyse the learning process.

Identify the **product or process** that the learner must understand or produce. For instance, identify the product of a particular skill, the materials and equipment you need to produce that product, and the stages in the transformation of the materials which produce that product. Break them down into stages, shots and sequences, on a simple story board &/or a mind map.

8. Map out how the lesson will be produced

Write up the voice over, and fit it to the story board. Keep the voice over and the shots simple, but remember that you can use different shots of the same object or process, and you can use “reaction” shots of people teaching or listening to fill in.

9. Focus on the content and process of learning.

Avoid “talking heads” for more than 10-15 seconds. It is useful to show the face (and the personality) of the teacher, if they come across well on the shot. After 10-15 seconds, you need to show what they are talking about, and not another shot of them talking. Even simple diagrams, shot in a series, can provide good learning – this is no different from the “show-and-tell” method that teachers have used for years.

10. Establish a team of users.

Teaching media have to make sense to **teachers**. Identify a small group of teachers who are interested in using media for teaching, and help them to identify a few learning areas in which they could use media. If the teachers and students only use media once a month, it will always be an imposition, and they will quickly go back to doing without.

11. Ask if its any use to the learners, and write it down.

Gather some systematic information about how media is used: who used it, for what learning activity, ask the learners if they liked it, and ask them a month later what they remembered about it. But do it quickly, systematically, and make sure it feeds into the next media production planning session.

GUIDE TO USING THE PANASONIC DS30

STARTING OFF

1. Make sure you charge your battery.
2. To charge the battery, remove it from the camera by pushing the button at bottom left of the battery on the back of the camera, and then sliding the battery down.

Slide it into the charger unit and connect to the mains – two lights will go on, and when one goes out it will be charged

3. Put battery onto camera, push in and up, it should click.
4. To switch on the camera operate the switch on the right hand side at the back of the camera – switch it to 'camera' to record. A red indicator light will come on unless the battery is discharged. To play back the tape switch this setting to 'VCR'

ALWAYS CHARGE BATTERY AFTER FILMING

SOUND

1. Fit the separate microphone to the extension bracket, and the bracket to the tripod screw socket underneath the camera – do not overtighten and then plug the lead from the microphone into the 'mic' socket on the right hand side of the camera. Switch the microphone on with the little switch on the side of it. The red light will flash briefly if the battery is OK. The battery is replaced by unscrewing the back of the mic.
2. **Remember** to switch the microphone off after you have finished using it.
3. **Remember** to check with the headphones (plugged into the socket marked AV IN/OUT PHONES on the back of the camera that you are successfully recording sound!! (Make sure the camera is switched on to the 'camera' position when you are checking this.)

FILMING

1. Take lens cap off
2. Open flip out viewfinder on left hand side of camera
3. Press blue eject button which is now exposed.
4. Insert tape. Make sure the label is facing out and the lid of the tape is facing downwards.
5. Push in the 'push – close' button, it should click.
6. Switch on camera by turning the switch at the rear right of the camera to 'camera'
7. To start recording press the red button next to the power switch (on the right hand side of the rear of the camera).

8. You can zoom in and out by moving the zoom lever on top right of the camera.

10. After about 5 mins the camera will automatically switch off if not recording.

Simply restart the switching on procedure.

11. To view your tapes, move the switch at the right hand rear of the camera to the VCR position. The controls on the top of the camera will allow you rewind <<, fast forward >>, play > (also marked 'blc' and stop . You can listen to sound with the headphones (see 'SOUND' point 3) **WARNING** – avoid playing tapes back during a filming session as it's very easy to start recording again over material you've already recorded

OTHER INFORMATION

1. On the screen there are various bits of information. Top centre has the 'time code' telling you how long you have recorded for. Tape sign will flash when near end of tape. Top left tells you how long you have left on your battery.

2. Always keep your lens clean.

3. . After shooting don't forget to label all your tapes and always slide the green tab on the back of the tape across – leaving a hole so you don't record over your tapes.

10 tips for successful camera work

- **1. Use a tripod where possible** (wobbly shots are wearing for the viewer)
- **2. Use 'wide angle' shots rather than 'telephoto' shots**, where the camera is hand held – as the camera movement is less apparent.
- **3. Use headphones** to confirm that sound is on and OK.
- **4. Be critical of sound quality** – sound is often more important in pictures in helping a programme to communicate effectively.
- **5. Don't pan or zoom unnecessarily.** Programmes are often edited most successfully from a range of static shots.
- **6. Spend long enough on each shot** – it's easy to think you are taking photographs, and to switch to the next shot. When you have framed a shot count to ten elephants at least.
- **7. Avoid things that don't work!** If there is wind noise then move somewhere out of the wind. If there is a strong light behind the subject, turning them into silhouette, move round until the light is better. If it's too dark it will look horrible – go somewhere lighter.
- **8. Make sure that you have pressed the recording button** and the camera is recording . . . it's happened before!!
- **9. Look for the different shots** that make up the story (see separate briefing sheet).
- **10. Log the material** you have shot as soon as possible (same day) after you've shot it – while it is fresh in your mind and you have the names, places and other details.

10 tips for successful images

- 1. **Get close** to the subject and make the subject big in the shot
- 2. If the subject is uncomfortable with the camera, use 'telephoto' with a tripod and a separate microphone
- 3. If you are recording on your own, **look around** to see what else is going on.
- 4. **Allow the cameraperson time** to get each shot (remember they have to count to ten elephants each time!)
- 5. **Think** of the different basic shots which make up a story – Wide shot, Medium shot (whole body), Medium close up (MCU) (head and shoulders), Close up (CU) (head), Big Close Up (BCU) (detail of hands for example)
- 6. **Remember the 'three for one' rule.** Shoot a wide shot, then a steady zoom in, then a medium close up or close up - three shots for the price of one!
- 7. You can also shoot a '**three for one' pan shot** (using a tripod). Frame your shot, hold for ten elephants, pan (swivel) right at a steady speed, hold your shot for ten elephants. This also gives the editor a choice of three shots.
- 8. **Think of the viewer** and look for objects, elements and events which you may take for granted but which help the viewer to engage with the situation
- 9. **Imaginative shots**– through undergrowth, high shots, low shots, close up shots, which allow the editor to surprise the viewer and keep their attention.
- 10. Remember that documentaries are often made from twenty or thirty times more footage than appears in the final programme –

10 tips to keep the camera rolling

- 1. Remember to **charge your batteries** and to have a separate pocket or compartment for used ones when shooting, so you don't run out of power.
- 2. **Be methodical**. We nearly lost a master tape on the floor of a Chinese foundry through rushing off before I'd packed the bag properly. Give yourself time to put everything in its proper place.
- 3. **Protect the camera** and accessories. Make sure they are not exposed to dust, sand, water or to impact.
- 4. **Understand the controls** and how to avoid using them incorrectly – there is usually a 'lock' button which sets the functions on the camera to auto and prevents you changing settings accidentally
- 5. Treat the tapes **with extreme care**. The tape is very thin and delicate. If it has been in a humid environment, or experiences sudden change in temperature, allow half an hour for it to acclimatize, or it may jam the camera.
- 6. Be very **careful about playing tapes back in camera** to review them. It's easy to forget to wind forward again, and the result is you record over material you wanted. It happens!
- 7. Ensure that you **label tapes**, and click the tab on the back which prevents you over-recording them, as soon as you finish each tape.
- 8. **Protect the lens** from dirt, fingers and water. If it is marked, clean it carefully with a CLEAN soft cloth, breathing on the lens first.
- 9. If the camera does fail or jam (which is unusual) **don't panic**. Leave it for half an hour and try again. Try ejecting the tape. If you can eject the tape start with a new one. If these operations fail, return to base!
- 10. **Continually monitor** the viewfinder and the sound (on headphones) while you are recording to ensure that both are OK.

Workshop 2. Editing. Addis Ababa, Ethiopia, September 2-6 2002

Report by facilitator Andrew Boyd

Participants and equipment:

Kale Heywet Church Development Programme, Ethiopia

Elias Bashaw
Amme Angelo
Mihret Feleke
Tsegaye Haile
Wondwossen Belete
Muluneh Syoel

Selam Technical and Vocational Centre, Ethiopia:

Fekadu Adore
Solomon Negash
Sosena Lemma
Teshome Telera [Tefene?]
Yonatan Berhanou
Zelalem Tilahun
Muluneh Eyoel
Yonas Bogale
Taye Negatu

Facilitators:

Mike Webb
Andrew Boyd

Equipment used by collaborators

Two Sony Vaio laptops and cases with Pinnacle Studio 7 video editing software
Two JVC mini speaker systems and batteries, Sony minispeaker system
Three Logica computer microphones
Sony video projector and case (brought by facilitators):
VHS player
TV

Day One: Sept 2

Setting up

The workshop took place in a single conference room in the Kale Heywet headquarters in Addis Ababa. The size of the room was adequate, but as three workshop groups were to run concurrently, the use of a single room would lead to an inevitable overspill of noise.

Setting up took place on the morning of the first workshop and took about an hour and a half. The facilitators were picked up from the hotel later than arranged, pushing back the start time from 9am to 10am. The clients began to arrive before the facilitators were completely set up.

Session One: Introduction and Feedback on previous workshop,

The collaborators' comments were recorded.

Most helpful elements?

- Getting a good knowledge in filming. Most of us had no previous experience of using a video camera.
- Learning about storyboards, to help us to think and plan visually.
- Facilitators made the workshop very easy and interesting. There was a good blend of classwork, workshops and going to the field to shoot on location.
- We learned the different shot types, which was helpful in constructing the story.
- We learned how to use the camera, including charging the batteries, inserting the tape and connecting the microphone.

Least helpful or most difficult items?

- Preparing the storyboard was difficult. It was hard to draw the pictures.
- We had difficulties getting the narration onto the video.
- We (KHC) had problems agreeing the budget with Big World, because of difficulties with e-mail communications. We had to limit location shooting to closer projects to cut down on travelling costs.
- We forgot to switch the microphone on, so some footage was recorded without sound. We did not always monitor shooting with headphones.
- We had a problem with the tripod shifting when the camera was turned on and off. Also, the tripod was not capable of being raised high enough. (A mini-tripod had been supplied, which could not be raised to eye-level).

Session Two: Pieces to camera,

During the introduction only five of the collaborators said they had used a computer, and none had any editing experience.

We gave a briefing on delivering pieces to camera (PTCs). This stressed the need to plan and rehearse out loud what the presenters intended to say, so that they could deliver their PTCs without notes. We also described the need to maintain eye-contact with the camera, to treat it like the face of their best friend, and to be enthusiastic in the delivery.

The collaborators were asked to record a 60-second PTC, shot twice in mid-shot and then close-up to be edited together. Unlike the previous workshop, we did not require them to shoot cutaways. This slowed down the exercise last time and added little to the edited footage.

The collaborators were asked to answer three questions:

- What did they find most helpful on the previous course?
- What did they find most difficult when it came to filming out in the field?
- What did they hope to gain from this editing course?

They were then to work in pairs, one filming while the other delivered the piece to camera twice with different shot sizes.

The facilitators also delivered pieces to camera to keep them humble!

Some of the participants found it hard to keep the duration to one minute, but most got it about right. Performances were nervous, by and large.

Session Three: Training video on camera shots,

A few basic rules of film-making were reiterated:

- The rule of thirds
- The use of diagonals
- The need to shoot for movement in front of the lens, rather than moving the camera
- The need to keep the camera still
- The need for a range of shots
- The need to hold shots for at least ten seconds

Mike followed by handing out and introducing the Big World report on the previous workshop and recapping again on the camera shots.

Session Four: Studio 7 demo,

Using the projector we screened the Studio 7 demo.

The demo is useful, but it encourages the use of ghastly transitions and uses a lot of technical language. The tutorial doesn't help itself by having several bad edits that crash the narration mid-sentence and a jump cut in the final movie. The background music feature is also to be strenuously discouraged! The tutorial is still worth showing, though, as collaborators can return to it later on their own laptops to study it in more detail.

The reaction was, much as in Nairobi, a stunned silence, followed by incredulity: 'It seems so complicated!' We assured the collaborators they should be able to do everything they had seen, no problem, by the end of the week.

Session Five: Demonstration of video editing,

Next came a demonstration of video editing. This was more successful than in Nairobi, as we opted to use the video projector to show the demonstration to the entire group. This was made possible by using a powered speaker to ensure that the soundtrack could be clearly heard.

We were able to demonstrate capturing and editing using a sample piece to camera recorded earlier. This involved trimming two takes and editing them together at the pause between sentences while retaining the breath on one clip. Transitions were added to fade in the sequence from black and down again at the end. A title was also added and made to fade in and out and crawl across the screen.

We then took their questions and were able to demonstrate why the gaps between words cannot be edited out without causing jump cuts in the video.

Session Six: Basic computer familiarisation.

We performed an exercise where everyone plugged in a computer, turned it on, opened Studio 7 using the mouse, closed Studio and shut the computer down. This was followed by encouraging the groups to review the demonstration tutorial programme.

The session finished at 5pm. There were some private expressions of concern about how difficult it all seemed.

Matters arising:

In future it would be helpful if the Big World facilitators could set up the room the day before the first session, or at least several hours before it was due to start.

The VHS and TV worked perfectly. The use of the video projector was greatly enhanced by the provision of a substantial amplified speaker.

The Selam tripod is too small. It cannot be elevated high enough to reach eye-level, which will make filming interviews and pieces to camera difficult. It is also too light to provide a stable platform.

The tripod should be replaced at the next consultation from Big World. The other tripod is also more suited to photography than video. I suggest investigating the purchase of semi-pro self-levelling Heiwa or Libec TH650 tripods.

When demonstrating editing audio on Studio 7 we noticed that the waveforms on the soundtrack did not always correspond with the words being spoken. Where there should have been gaps on the soundtrack there were waveforms and where there were words there were gaps. So sound cannot reliably be edited visually, but only by playing the clip and listening for the gaps.

The participants expressed some impatience about the early feedback session. They did not understand that what we wanted to find out was what had been *most* useful to them, rather than *everything* that had been useful to them. This distinction will need to be emphasised in future.

We realised that the computers could be set up to open immediately in Studio 7, which would simplify the process for the participants. Mike adjusted the start up programs accordingly.

Day Two, Sept 3

Session Seven: Introduction and Feedback,

The consensus was that editing still seemed complicated, but the participants said they appreciated the step-by-step training approach to the training and found the computer familiarisation exercise helpful. One said: 'It seems very difficult, but I will do my best and I hope by the end I will be able to do it.' Another said: 'I like the way you are teaching it in simple steps.'

Session Eight: Editing the pieces to camera,

Three workstations were set up to allow the participants to work in smaller groups than had been possible in Nairobi, where there were only two workstations. The third was made possible by bringing an additional DV-in enabled camera to the workshop.

The Selam cohort was split into two groups of four participants each, while the Kale Heywet group of five worked on the third computer.

Progress was rapid until one group's computer crashed, wiping their entire file. Although Studio was set up to save every three minutes the project appeared not to have been saved to the hard drive. There is no obvious reason for this, but one workaround could be to name the project from the beginning and to manually save after each new edit. The group quickly remade their edits.

Another group began titling after editing the pieces to camera. They chose to use the flashiest titles available from the preset options. It may be a good idea to disable these initially, so that only the more appropriate titles are available.

One participant suggested that the Selam groups should consist of those with prior experience of using computers and others without. It was pointed out that those with least experience would benefit the most from being helped by the others and that to split the groups in this way would mean the experienced users would probably complete the exercises first.

Session Nine: Feedback on editing exercise,

We screened the completed pieces to camera. A problem arose with the Vaio where it would not switch from its LCD screen to projector and the computer had to be rebooted.

It transpired that one group of participants had gone on to re-edit one sequence after completion in order to practice their editing. This later version continued rough and uncut files, which meant that when we came to playing it back there were several false starts. Experimentation should be encouraged, but in future completed files will need to be saved and renamed so as to preserve the original.

What the participants said they found hardest was making fine adjustments on the trimming screen, cutting into sound, and connecting up and starting the computer.

They learnt from the process how to avoid shooting excessive headroom during interviews and clipping the audio during shooting and capturing.

Other points that arose:

- It is generally appears natural to cut from a mid-shot to a close up, rather than from a close-up to a mid shot.
- The quality of video being played back through the preview screen will improve once the final movie has been made.
- There is a need for labelling and write-protecting tapes to avoid re-recording over valuable video, as one group discovered to their cost.

Session Ten: Demonstrating use of titles.

We used the projector to demonstrate how to produce effective titles, emphasising that the most professional titles were generally simple and consistent and kept on screen for only as long as it would take to read them. We also showed how to copy and paste a title to achieve a consistency throughout the programme. We pointed out that a weakness of Studio 7 is that titles can be difficult to relocate once they have been placed on the timeline, and that they won't always accept crossfades.

Session Eleven: Demonstrating fine editing using the trimming window,

Using the projector, we demonstrated using the fine editing controls in the trimming window to make cuts accurate to one twenty-fifth of a second.

Session Twelve: Training video illustrating filming on location,

The points covered in the video and in the subsequent discussion were:

- Establishing shots
- Film movement
- Framing for diagonals
- Leaving room for people to walk into and to look into
- Changing the camera viewpoint. The camera can be lowered to capture dramatic passing shots
- Always record the sound
- Rule of thirds
- Using the tripod
- How to brace the camera and keep it still for hand held-shots
- Using big close-ups
- Pans and zooms take a long time
- Shoot long, to edit short (hold shots for ten seconds, but then edit them down to four or five seconds).

Session Thirteen, introduction to shot logging,

We produce a five-column shot log, covering timecode, description, shot size, quality and comment and asked the groups to log the shots that they had filmed after the first video workshop.

The Kale Heywet group did so on camera, while the Salem group captured reference AVI files on the computer and logged from these which proved the faster of the two methods.

Day Three, September 4

Session Fourteen: Choosing good pictures,

We stressed the importance of:

- Good lighting - getting the sun on the subject and avoiding filming in shadow.
- Good composition - creating diagonal lines and observing the rule of thirds. Keeping eyes in the top third.
- Movement - letting the action happen in front of the camera, but keeping the camera still and avoiding panning and zooming.
- Clear sound - monitoring on the headphones while shooting to make sure sound is being recorded. Remembering to turn the mic on, to check the batteries, and to keep the mic close to the subject.
- Pieces to camera - should be delivered with enthusiasm. The need to smile and be friendly, and keep PTCs short - 20 seconds.
- Holding pictures for at least 10 seconds.
- Filming sequences of shots - wide, medium and close-up.
- Using only complete interviews and avoiding those that have been clipped at the start. When filming letting the camera roll before the subject speaks. When capturing, recording more than is necessary at the start and at the end.
- Shooting steady pictures and taking care to use the tripod or brace the camera.

Session Fifteen: Programme example - HIV AIDS,

Demonstration of establishing shots, capturing movement, producing simple, clean and consistent titles to give information, using sound, editing vox pop interviews to produce strong, short clips, explaining reasons for choosing to record just the voices of the people and no commentary, using insert shots, lively footage of drama workshop, problems of hand-held interviews with noisy background sound, and the difficulty of shooting too few pictures.

Session Sixteen: Editing,

Groups progressed from shot logging to actual editing. All made rapid progress. Both Selam groups completed projects up to the commentary stage. The video was shot on tripods and was well-framed and generally impressive.

An excellent day, with the participants doing very well with their editing.

Matters arising:

- One computer crashed in slow motion, leaving time to save and exit the programme and restart without losing the project. The first sign of the pending crash was when the timeline refused to display the current clip being played and froze on the previous clip. This happened several times.
- The Kale group had omitted to record audio on one clip, so we need to teach the participants to record wildtrack.
- One Selam group was running its shots well beyond their interest value. They were inclined to show everything at length until it was pointed out that the purpose of editing was to telescope time and concentrate interest. This point needs stressing.
- Interest could have been maintained by shooting sequences of shots, perhaps running through the action three times, in wide, mid and close-up.
- The locking of tracks to allow L and J cuts to be made to crossfade sound was demonstrated to one group, and should be shown to all the participants.
- There were further problems with Studio refusing to accept transitions on the timeline. This may have been because the clip concerned was shorter than the transition. Once the clip was lengthened the transition was accepted. Then the clip could be shortened.
- It could be helpful to remove some of the more amateurish transitions, titles and sound effects from the programme to encourage professional use. These would still be available to use on the installation CD.

Day Four: Sept 5

Session Seventeen: Work in progress - playback,

We played back and reviewed the projects as work in progress. This was a useful exercise, because suggestions for improvements were made that could be incorporated into the work. The projector/speaker combination allowed us to show the projects to the entire cohort.

Feedback:

Selam Promo

Good points: This tells a story by comparing methods of grinding. The edit was well-paced, easy to watch and understand. Shots were stable and a good variety was provided. Sound was good.

Room for improvement : There was too much headroom in one shot. Some shots were too long. There were too many crossfades. The audio needed blending.

Selam Safety Video

Good points: Shots were steady, making good use of tripod. The story was well told, thanks to good storyboarding in advance. The story was developed through well thought-out sequences and the shots, which were kept short and clear, were well-composed. The sound and lighting were good, as were the sound transitions. The group did well to avoid the mistake of using too many visual transitions.

Room for improvement : There is a need for a wider range of shots to break up long sequences - go for master shots, mid-shots and close-ups. There is a need to be consistent with titles - keep to the same style. The establishing shot was dull - go for dramatic pictures under the titles.

KHC Genesis Farm Project

Good points: The video covered the whole process, with good shots of milking that would have been useful for teaching. It would be impossible to take a class of students to see milking that closely. Pictures were well lit with some good use of sound.

Room for improvement: Shots were unsteady, because the group lost the tripod plate. There is a need to improve the hand-held technique to keep the shots steady. Shots should be held for ten seconds. Some shots were allowed to run for too long and needed editing down. Some edits were made on camera movement, which should be avoided. The camera operator should also avoid panning and zooming. The microphone was visible in the corner of several shots. The audio level was too low during interviews and there was some background noise. Some filming took place against the light. There is a need to take more control in directing and organising the video.

Session Eighteen: Crossfading and adjusting audio

We demonstrated on the projector the crossfading of the audio without the pictures to smooth out sharp changes in the sound. This is easily done by locking the video track and selecting the crossfade transition and dragging and dropping it to the point where the editor wants to crossfade. This is an impressive feature that automatically creates J or L cuts, with the sound fading in before or after the picture.

We also demonstrated how to fade in a clip by adjusting the sound level using the audio toolbox.

Session Nineteen: Adding commentary.

Using the projector and speaker we were able to demonstrate laying commentary to the pictures in real-time, and then reducing the level of the background sound on tape to allow the commentary to be clearly heard.

We found that it was possible to add commentary in sections to the timeline. This allows multiple retakes of individual sequences, rather than having to start again if a mistake has been made.

The second time we tried this Studio would not play back the commentary at an audible level. We tried again, closed Studio and reopened it, then shut down and restarted the computer, but it would still not play back.

Later we found the problem was that the sound card mixer was set to a very low playback setting. For some reason this affected the narration, but not the video soundtrack! The cure was to increase the volume and wave mixer settings.

Session Twenty: Insert editing.

Mike demonstrated audio editing as follows:

First lock the audio track. Next make a gap in the sequence where you want the new shot to go. Then cut the clip using the razor blade. Cut the clip again where you want the insert shot to end. This turns the first clip into three clips. Delete the middle clip. The picture disappears, but the sound remains because the audio track was locked. Then take the clip you want to insert and drop it into the gap. The picture changes while the original soundtrack remains.

Studio struggled again at this stage, at first refusing to switch to the new clip.

Session Twenty-one: Editing, continued

By the end of the day both Salem groups had recorded commentary and were close to completing their edit. The programmes were looking good. The larger KHC group still had some way to go and decided to work late.

We had hoped to make the movies by the close of play, but progress today was excellent, and the participants were clearly good-humoured and enjoying the workshop.

Matters arising:

Studio 7 began to crash again on the Big World Vaio after an audio transition had been added. The picture froze in the preview screen, even though the timeline had moved on. This could not be cured by closing and restarting Studio 7. In the end the programme crashed completely, and only a reboot could cure it. The same freeze-up happened again on another laptop later.

There have been several tripod issues this workshop. It might be worth evaluating the Camsling, which purports to allow steady hand-held shots by means of a counterbalanced tubular device that runs over the shoulders and behind the neck.

Day Five: Sept 6

Session Twenty-two, Video effects and music soundtrack.

A demonstration was given of adjusting brightness, contrast, hue and saturation, as well as effects, the most useful of which is blur, which could be added behind titles. This was followed by a demonstration of slow and fast motion, frame grabbing to enable users to add stills or to make photographs, and adding a music soundtrack (along with a health warning about not turning a training film into a Hollywood B-movie!)

Session Twenty-three, Making movie.

We demonstrated making the movie from full-quality captured footage, as well as footage captured in preview mode. Then we showed how to add five seconds of black to the start, which is achieved by adjusting the settings.

This illustrated graphically the need to black the tape before filming in order to avoid breaking the time-code. Both the groups that had captured video at promotional quality had multiple breaks in the timecode.

As we began making one movie it started to replace the shots on the timeline with others sharing the same timecode, which was unnerving. We continued by cueing up the tape to each relevant section and watching closely that the program did not import the wrong video.

The participants found the concept of replacing preview quality clips with full quality clips difficult to understand. That is because the preview screen of Studio shows all the clips in preview quality, so there is no perceptible difference. We explained by saying the preview shots were like passport-sized photos - very small. What we wanted were the original pictures from the tape, which were much bigger and better quality.

Session Twenty-four: Finish editing and making movies

Shortly after lunch all the groups had finished making their movies. One group found that the music soundtrack they inserted would not play back from the timeline. It seemed that the process was putting too great a demand on the program or on the computer.

Shutting down and rebooting Studio made it possible to play the music track, but only for a short period before it was lost again. The levels indicator for the channel suggested the music was playing, even though it could not be heard. It made it difficult to set a level for the music and to adjust it. When the group made the video the music did not come out on the tape, even though it was on the music soundtrack.

Session Twenty-five: Computer housekeeping

We stressed the need to maintain the hard drive of the computer. The two tools concerned are disk checking and defragmentation. These were explained as follows:

Error checking. Do this once a month. Go to Start, then to Windows Explorer. If there are problems, the first action to take is to save the video onto the computer. From My Computer, call up drive D, right click and go to Properties. Now go to Tools. You will be offered the options of error checking and defragmentation.

First perform an error check. Press Check Now. Tick both options - automatically fix errors and scan and recover bad sectors. Then press Start. The computer will then offer to do the check next start-up. Tick Yes. Then shut down the computer and reboot it. It will then perform an error check.

Defragmentation: Go to start, then Windows Explorer, select drive D, right click, Properties, then Tools and Defragment now. The disk defragmentor will begin. A quicker way is to go to Start, All programs, Accessories, System tools, then Disk defragmentor.

Press the Analyse button to see if the drive needs defragmenting. If so, then be warned that the process can take several hours and may be best done overnight.

Drive C can also be defragmented.

Deleting files: Delete your videos and clips from the hard drive when you no longer need them. From Explorer go to drive D. Studio 7 uses three types of file. It captures video clips as .avi files. It also saves Studio Projects. These are the small files that the computer uses to compile a video. It also stores scn files. These give the information about all the scenes that are captured. Press Shift and then Delete to remove the files completely from the drive.

Session Twenty-six: Saving files to CD.

We explained that projects can be saved as MPEG or Real Media files. These are designed to go onto CDs or the Internet. They are compressed, so the quality is not as good as full DV. Media

player can play the video on the full screen, though the resolution is lower than DV. The Vaios have a CD writer, but some project files can be too large to fit onto a CD.

To save a file onto a CD, insert a CD-R or CD-RW into the DVD drive, coloured side down. Then click OK when a message pops up. Select the file, press control C to copy it, then paste the file into the CD drive window. Click on Write these files to CD. A wizard pops up asking you to name the file. Type that in and then click Next. CD writing can take a few minutes. A light on the computer DVD drive comes on to indicate that the drive is in use.

You can write onto the top of the CDs with a special pen. Ordinary felt tip pens will smudge. Or you could use a label. The drive will play DVDs and CDs, as well as write CD-Rs and CD-RWs.

Session Twenty-seven: creating an MPEG file on the CD

Participants then made MPEG copies of their projects and saved them to CD. The group whose music soundtrack had not come out earlier found that the music had in fact been recorded to CD.

Session Twenty-eight: Planning the shoot.

We showed a BBC training video on planning the shoot, which humorously illustrated many of the beginners' mistakes the collaborators had been making and suggested ways of avoiding them.

There was much laughter of recognition. The video went down well and reinforced many of the lessons they had been learning.

We explained that cutaways are insert shots and stressed the need to always shoot more than you think you need, and to use cutaways to edit speech.

Session Twenty-nine: Feedback

We asked the participants to fill in feedback forms about the course. There was insufficient time to get them to film pieces to camera to present their feedback.

Session Thirty: Screening of completed videos.

We screened three tapes: KHC on the Genesis Farm project and Selam on Welding and Milling. These came over very well on the projector and speaker.

Afterwards Dr Tesfaye, the head of KHC, presented certificates to the participants and gave his thanks to Big World.

Session Thirty-one: What next?

Mike Webb asked the participants how they intended to use their newly-acquired skills and to outline the projects they planned to shoot next.

He explained that Big World will be returning in a few months to see how the video production skills have been used and to find out whether they have been useful in teaching.

Selam recorded a vote of thanks. Solomon Negash said: 'We gained a lot. At the beginning for me it was difficult to understand how to do it, but we finally saw our result from our films and got such a nice safety video that this will be used in the future.'

He said Selam intended to make another safety video concerning the use of milling and other machines, and also planned to produce a user guide for their products.

Elias Bashaw of KHC said: 'Thank you very much on behalf of KHC for your vision which will result in good things in the long term.

'The knowledge we have got is very important to teach people. We have decided to focus on three areas: promoting highland fruit that is not well known in the country to benefit the economy and for security. The government is now asking KHC to promote plum and apple to all parts of the country. We also have important medicinal plants which are being used for malaria and other purposes.

'Secondly, we have a programme in HIV AIDS, which is dangerous to the whole of the world. Video is useful to train people to show the dangers of HIV.

'The third project is focusing on our emergency relief and rehabilitation programme. Between 6 - 8 million are in need of emergency food in the country, in Ethiopia and elsewhere. We are going to focus on the causes of the emergency, and rehabilitation and conservation. We also plan to do other things that will address the felt need of the community in the country.'

Mike Webb said Big World would be returning to visit each group within a few months to see how they were progressing. He stressed the participants should consider the viewers right from the planning stage and always put themselves into their shoes. 'What we are doing here is very new and pioneering,' he said. 'You are able to create materials of high quality, and have done very well.'

We concluded by running a final check that everyone had gathered up all their equipment. There was no time to give video feedback or to give training in using the manual focus.

Appendix 1: Conclusions

An excellent workshop. The participants produced pieces to camera and three films - two of which were of a far higher standard than that achieved at the workshop in Nairobi. The software allows very rapid editing and quick results. To improve on the quality further, the clients would have had to improve their film-making skills.

Lessons from the last workshop were taken on board regarding provision of equipment. After the Nairobi workshop we observed: 'Progress would be greater if collaborators could work in smaller groups. This would require more workstations to be provided for the workshop [and] enough cameras with DV-in should be provided to enable all the workstations to be functional.'

On this occasion three workstations were set up and a third DV-in enabled camera was used, along with microphones and optical mice, to get around the problems with the Sennheisers and the Vaio touchpads.

Appendix 2: Recommendations for change

In future it would be helpful if the Big World facilitators could set up the room the day before the first session, or at least several hours before it was due to start.

The participants were struggling throughout the course to work with material that they had shot previously. Much of their footage proved difficult to edit, because they had not followed some basic rules of film-making. It is recommended that consideration be given to providing more hands-on exercises and detailed feedback during the initial video course, so that the clients can produce footage that is easier to edit.

The participants expressed some impatience about the early feedback session. They did not understand that what we wanted to find out was what had been *most* useful to them, rather than *everything* that had been useful to them. This distinction will need to be emphasised in future. We realised that the computers could be set up to open immediately in Studio 7, which would simplify the process for the participants. Mike adjusted the start up programs accordingly. This process should be adopted for future workshops.

Some of the participants asked to be shown how to dub over from their DV cameras onto a VHS tape. This was also requested at the Nairobi workshop.

Further considerations

How will Big World provide the ongoing technical support that the clients will need in the use of the computer and the editing program?

The next video workshop could be more critical about good video practice, reiterating and demonstrating the need to:

- Shoot footage without movement of the camera,
- Shoot three shots in one (CU, mid and wide),
- Hold shots for ten seconds,
- Use manual focus,
- Correctly position the interviewee in the frame (rule of thirds),
- Maintain eye-contact during pieces to camera,
- Discourage attempts at producing live commentary over every shot,
- Film at the correct shot length,
- Record wildtrack,
- Vary the camera viewpoint,
- Black the tape before recording,
- Write-protect tapes after recording.

Appendix 3: Recommended additional training materials

Video Training Resources used:

- BBC training video: On Camera, by Harris Watts.
Two segments used: Shot sizes and camera moves and Planning a programme.
- Shooting Professional Videos with your Camcorder
- On location with your camcorder.

Recommended additional training materials:

Big World could consider producing a basic video tutorial that the collaborators could take away with them on how to use the computer and perform the various housekeeping operations necessary.

Big World should consider formalising elements of the course by providing a worked out curriculum for the trainers, with accompanying handouts.

Pre-printed logging sheets and feedback forms should also be provided. A Word template for this has been created on the Big World Vaio.

An exercise could be pre-recorded to demonstrate the benefits of switching to manual focus. Other exercises could also be provided in advance.

Appendix 5: Client Feedback Forms

Feedback was generally appreciative and uncritical. Some points emerged more than once. Several participants asked for more training in the form of an additional refresher course or longer workshops. Several also called for more handouts, and a couple said they had struggled to familiarise themselves with using the computer. One suggested providing more machines to permit more hands on experience.

The following comments are noteworthy:

'Before I do anything with editing I need to master the basic knowledge of the computer,' said Amme Angelo, Training Co-ordinator, KHC. 'If possible, please give us another workshop once again. I appreciate the workshop, providing enough materials and unceasing help. God bless you richly!'

'I need to work on moving the mouse,' said Muluneh Syoel, resource development officer of KHC. He added: 'Could we have as many machines as possible, so that everybody in the workshop might get plenty of time to practice? Would it be possible to arrange a workshop for more than five days? I am very much satisfied with both of you. May God bless you in all you do.'

Another participant asked for less time to be spent on the introduction to the computer. During the course he asked for the class to be split into inexperienced and experienced user groups. It was pointed out that the inexperienced could learn from the experienced and that it was necessary for all the groups to complete the exercises at roughly the same time - which would be less likely to happen if one entire group had to follow a steeper learning curve.

Solomon Negash, the Assistant Managing Director of STVC, was one of the most adept participants and took to the editing quickly. Yet he was among those who asked for more training. 'I think it is good to do more on making the movie and recording, copying films to camera and VHS. For the future, if you organised a one or two day refresher course we may become more knowledgeable.'

Wondwossen Belete, a class teacher Debre Zeit Kuriftu Children's and Integrated Development Center, said: 'The training of the workshop is very short, but the training is a lot, so it would be good to prepare a handbook for the managing of the equipment, especially the laptop computer.'

The same point was made by Zelalem Tilahun of Selam: 'I think to improve the workshop all the procedures could be given in detail in handouts covering every part of the course. If they are like the workshop they will be easily understandable.'

Last word to Taye Negatu, Chief Purchaser of Selam Technical and Vocational Centre: 'I found editing with the computer very simple. All the training was most helpful, though I think you are not teaching us the whole process. You learned us a glass of water from the ocean, though we are very thankful what you did. It is a lot to me to have this training, so give more time for practice.'

Follow up workshop 3a Selam (Ethiopia). 20-24th January 2003

Report by facilitator Terry Gibson

The meetings for this workshop session were held separately (as with the Kenya/Uganda sessions) with each collaborator. The first part of the week was with Selam, and the second part with KHC

Schedule for Workshop

It was agreed that the main items to be covered would be:-

1. Review current work and address issues in camerawork, editing and output (how to output to DV and how to output to VHS)
2. Overview of 'housekeeping' procedures for equipment
3. Installation of new hardware (ie firewire drive) and software (Pinnacle 8)
4. Commence work on production of Machine Shop safety video
5. Commence Knowledge and Practice survey in relation to Welding Safety Video
6. Group meeting for feedback and discussion of projects and sustainability

As will be seen from the notes of progress today, working with Jonas revealed that he is gifted, committed and has done some good work. He is less clear on general 'housekeeping' of the computer, files etc, and also of the detail of the editing process – for example the issue of 'preview' quality video, so we may spend a majority of our time ensuring that he is familiar with the detail of these issues.

Day 1 – technical issues

Review of finished programmes

I discussed these with Solomon, Sosena and Jonas. We agreed that the general quality of pictures and sound was good. We highlighted sections where the background sound made the narration difficult to hear, and also suggested that some of the wild transitions were distracting from the programmes. Otherwise, the programmes were of good quality, and reflected thorough storyboarding, carefully composed shots and consistent editing.

'Bugs' in editing

With particular reference to the Selam 'Documentary' we discovered several technical issues: - Pictures sometimes 'freeze' and sometimes one channel of soundtrack does not play. I highlighted the following remedies:-

1. Close the programme and re-open it
2. Shut down the computer and re-start it.
3. (Not mentioned) Ensure no other programmes are running on the computer
4. Upgrade software (yet to be done, from Pinnacle 7 to 8)
5. Defragment drives, and ensure they have a good amount of free space.

Defragmenting hard drives

We worked through the process for defragmenting the drives. In fact when we ran the defragmenter on the 'D:' drive where files are stored, it did require defragmenting. We left this operation for the end of the day and emphasised that this operation should be performed regularly. It is also important to ensure that the drives, in particular the 'C:' drive, are not full (ideally there should be 1GB (1000 MB) of free space).

I explained why defragmenting is important. The drive initially records files as one section ('contiguous') - as in the illustration below:-



However, as files are added, the drive fills, and then files are deleted, new files can't be fitted onto the drive in one 'piece' and so are placed on it in 'fragmented' pieces:-



Once this happens, the computer has to skip from place to place on the drive to get the whole of a file, and with video files, which are very large, they start to pause, or skip because of this.

The defragmenter works its way through all the files, reorganising them so that they are like the initial illustration. It's a bit like dealing with a huge 'in tray' of letters, files and documents all mixed up together and organising them into their correct files, so that they can be accessed quickly.

To defragment a drive with Windows XP select 'all programmes', 'accessories' and find 'defragmenter'. Single click on the drive you want to defragment, and then click the 'analyze' button. If the message says the disk needs to be defragmented click defragment.

This process will take several hours, so do it at the end of the day and leave the computer running overnight.

Installing and using an additional 'Firewire' drive

We installed the following items:-

- A two port 'firewire' 'hub' – a junction box to allow two firewire devices – the external firewire drive and the camera – to be connected at the same time.
- A 60 gigabyte portable 'firewire' drive.

'Firewire' (Also called IEEE 1394) is a method of connecting devices to the computer which can transfer information fast enough to work with video and audio. Other methods of connecting devices, such as 'USB' are fine for devices like printers and scanners, but not fast enough for video,

The 'hub' consisted of a laptop type card (a PCMCIA card) which is inserted into one of the card slots, With windows XP the computer will 'recognise' this card, and doesn't need any software to use it. The card has a lead with the two firewire ports connected to it.

The hard drive has a mains power supply. When connected a green light appears on the front of the drive.

The drive is connected to the hub with a firewire lead. There are two kinds of firewire leads – very small (4 pin) ones like the type that plugs into the Panasonic camera, and larger (6 pin) ones. The hub and the drive use the larger type plugs.

There are a number of operations which must be performed the first time the drive is connected. Once these have been completed, they do not need to be repeated, and if the drive is connected to a different laptop these operations don't need to be repeated.

Operations on first installation of external firewire drive.

Connect power to the firewire drive, and connect it to the computer with the firewire lead.

To prepare the drive for use, go to 'control panels' – 'Administration tools' – 'Computer management' – 'Storage' – 'Disk Management'

The drive will be listed in this panel. Right click the icon for the drive at the left of the panel, and select 'initialise'.

Now right click on 'unallocated partition' and select 'create partition' – follow the 'wizard' and agree to create a primary partition using all the space on the disk. This will take 20-30 minutes to complete. After this the disk is ready for use.

Use of Disk space- capturing files in 'preview quality' and 'full quality'

When capturing video in full quality a large amount of disk space is required – approximately 1 Gigabyte for every four minutes 30 seconds. Clearly if one or more entire tapes are captured a huge amount of capacity is required for this.

Pinnacle provides an alternative method – 'Preview Quality' . This is based on capturing at a much lower quality, which takes much less disk space – less than a Gigabyte for an hour of material. The only disadvantage of this is that when the finished programme is made into an MPEG file, or copied back to a DV or VHS tape, the programme must capture the shots that were selected for the programme at full quality. This is a time consuming process which must be allowed for in planning the timetable for the programme.

When 'create MPEG' (or DV or other format) is selected, the programme will ask for the first of the tapes with the original shots to be inserted. The camera must be connected to the computer and set to play mode. The programme will then automatically find the required shots, and when it has completed this process for the first tape will repeat it for any other tapes which are required.

(NOTE that this works best if the tape was recorded originally without any breaks in the timecode. This happens when the material was recorded without going back and playing back any material. It's fine to start and stop recording and even turn off the camera, and it will make sure the timecode is continuous. If shots are reviewed and the tape is then wound to the end of the shot, there is often a break and the timecode starts from zero. This makes it difficult for the computer to find the correct shots when it is re-recording shots which have been captured at preview quality)

Finding out how well videos are training people

We discussed the information on 'Knowledge and Practice' surveys and involved teacher Daniel Mekuyia in this conversation. Sosen and Daniel have agreed to use this information to conduct a survey on students using the Welding safety video, commencing with the survey before and directly after use while I am here, and then continuing with a further survey as suggested in the document. The aim is to measure how effectively students retain information provided in this way. Daniel believes that the video can communicate more effectively, and quickly with pictures, and can also show processes and events (such as a fire) which would be difficult to demonstrate 'live'.

Day 2

Discussion of use of videos

Teshome, Zelalem, Jonas, Sosen and Terry took part in this discussion.

We viewed the pump and the hand mill videos, and discussed, with particular comments from Teshome (who spends a lot of time in field work) how these could be used.

Teshome felt that short programmes which made a clear visual point were very valuable, and also believed that facilities existed in many places to show these programmes from tape. He highlighted the following areas of agricultural activity and Selam services and products:

1. Ploughing
2. Supply of water – pumps (various types)
3. Threshing
4. Milling
5. Cooking (solar heaters etc)

The products developed by Selam improve output in various agricultural processes, and also reduce usage of firewood with consequent environmental benefits. While this work is in one sense 'promotional' it is also educational, and is engaged with improving livelihoods.

We also discussed applications of video in the classroom situation, and agreed that specific safety programmes could emphasise safety messages. Skills based programmes could also supplement skills training and provide repetition of this training.

We considered the information on educational uses of video provided by Big World. The main diagram (which could be more clearly presented) highlighted a key point – that programmes could either be 'stored and forgotten' or could be used regularly and effectively, leading to further production. The outcome depended on how closely the programme designers collaborated with the programme users – trainers and field workers. It also depended on how effective the programmes were.

We also considered using 'Knowledge and Practice' type tests to see what effect programmes were having on viewers.

In summary, we identified valuable uses of video in the field, and in the classroom, and agreed that there needed to be close collaboration between programme designers and the trainers. There should also be testing and evaluation of programmes that are used.

Big World would like to reach agreement with Selam on a production programme which creates videos for the areas described above. Including agreement on

- Number of programmes for field and for classroom use

- Collaboration between programme designers and users
- Testing and surveying of programme viewers to assess effectiveness

Team members such as Zelalem and Daniel have a key role in using programmes in the workshop. Teshome has wide experience of communication in the field.

Further technical issues

We are working on ways of ensuring that the programme makers can ensure that equipment is reliable and that editing of programmes is successful. As a result of working on completion of the Selam Documentary we identified the following points:-

Management of hard drives –

if the drives become full then the computer will fail, and this occurred in rendering files which had been recorded at preview quality.

This appeared to cause faults in the file for the project, which lost audio.

1. We saw that it is important to keep earlier versions of projects, for example Selam 1, Selam 2, etc. If a new project is created every day as a copy of the old one, then the earlier copies can be used if there is a fault on the current programme. We saw that when the programme 'Selam 1' became damaged, we could go back to programme 'Selam' to work on.
2. We saw that the files created when programmes are rendered which have used preview quality video are 'auxiliary files' and use up a lot of disk space. The place where these are stored should be set (in 'Edit' in Setup, CD and Voice over, Edit, and click on the folder for auxiliary files to change it. The firewire drive should usually be used, as this will have more space.
3. The location for rendering the file for the finished movie can also be set in the make movie section of the programme, as this will be a very large file
4. The location for capturing the files can also be set in the capture part of the programme, by clicking on the folder there.
5. Once a programme has been completed, the auxiliary files can be deleted by selecting 'delete auxiliary files' in the 'file' menu.

Library of finished programmes

The following items should be stored:'

1. A DV recording of the final programme (using the tape option in make movie) – this will be a very high quality digital copy of the programme, which can be captured back in later if necessary to make amendments or additions to the programme. The DV tape can also be used as the master for making VHS copies.
2. The project file for the programme, A Studio 8 file (for example Selam 1) keeps a complete record of the edit
3. A CD (MPEG) of the programme. From which further copies can be made.

Once these items are stored, the other files on the hard drive for that project can be deleted, and the hard drive defragmented.

File management

1. Files can also be moved from one drive to another by finding them (my computer, drive) and highlighting them and selecting 'move' and selecting a location.
2. All files for a project should be stored in a special folder named for that project, to make it easy to find them and to delete them when finished with without accidentally deleting files for another project.

Preview and full quality capture

We saw that full quality capture uses a large amount of disk space – 10 gigabytes for 45 minutes. If a large amount of video is to be captured, then preview mode should be used, as this takes less than a gigabyte for an hour.

However, we saw that the process of rendering is very lengthy if preview mode is used. So for shorter programmes it is more effective to capture at full quality

IMPORTANT: In general we saw that shorter programmes can be created with less technical problems (file storage, rendering time, 'bugs' with programmes) than long ones can. Where possible create shorter (3-6 minute) programmes, rather than longer (10-20 minute) ones.

Day 3

Editing workshop

We continued with the completion and output of the 'documentary video' which had been corrupted due to the earlier problems with the drive filling up during capturing video.

Knowledge and Practice Survey

A Knowledge and Practice survey was prepared based on the welding safety video.

After lunch the first two phases of the Knowledge and Practice survey were applied to a group of approximately 35 engineering students (of whom 6 were female). Part one was a general knowledge and specific topic knowledge test. The video was then viewed and students completed an identical specific knowledge test. These records were collated, and the test will be repeated in on months time. It was noted that the students also receive other forms of welding safety training, and this will influence the results.

The Documentary video was completed and this, and several other videos, were presented to the Managing Director, David Roschli, who was generally very pleased.

Concluding meeting and action plan

Solomon, Zelalem, Sosena, Jonas and myself met for a concluding discussion. We agreed that goalsetting was valuable, and we set a provisional target of:-

1. Producing between 3 and 5 videos by July (possible topics include Biogas conversion, multicrop threshers, general workshop safety video, and videos on other Selam production areas)

2. Ensuring that these programmes are used in relevant situations (For example Teshome may be able to apply them in the field, and Zelalem, Daniel and others in the workshop.)
3. Applying simple Knowledge and Practice surveys to viewers (similar to the one undertaken this week) as an 'Impact Assessment' process.

KHC

Follow up workshop 3b KHC (Ethiopia) 23rd and 24th January 2003

Day 1

Initial discussion:

Delegates: Tsegaye Haile, Hannah Yohannes, (videomaker) Mihret Feleke, Elias Bashaw, HQ. Amme Angelo – Arba Minch

Initial feedback is that they have found that shooting is easier, editing is harder – training was a good start but don't see themselves as specialists – also both Wondwossens have left for other jobs.

Tsegaye – says doing filming on rehabilitation of the environment – some on current drought, some on promoting the fruit trees over the country.

Filming is not a problem – editing is the real the challenge

Additional skills 'Making movies' – copying to CD

Disk Management

A major problem is that both the C drive and D drive are completely full. So no further work can be done on the computer.

We reviewed how to check the state of the drives, by going through 'start', 'my computer' and selecting each drive by a double click. By examining different folders we found ones that had a large amount of files, and inside these the folder that had a lot of files. In the end we found a place on both the C and D drive where there was a lot of captured video which was taking up several Gigabytes of disk space.

We explained that the size of each drive was just over 9 gigabytes, and that a gigabyte is a thousand megabytes (Gigabyte = GB, Megabyte = MB) and saw that the captured video files were taking up much of the space

We also saw that if files had not been stored in specific folders, and it was difficult to remember where they were, we could use 'search' (by clicking 'start') and then selecting 'all files and folders' and typing the name for the file. This should enable us to find the file.

We addressed the problem of the drives on the computer being full:-

Solutions

1. Save all the files for each project in a specific folder so that it is easy to find them, and to delete them when a project is finished, without accidentally deleting the wrong files.
2. Use preview quality capture as this takes up a lot less disk space than full quality capture
3. Use the new firewire drive which has 60 GB of space to store the files.

IMPORTANT. The 'C' drive must have at least a gigabyte of free space, because this drive is used for 'windows' and unless the drive has free space, windows can't work properly.

'Filing Cabinets'

We explained that looking after the computer is similar to looking after a filing cabinet which is used by several people. Unless the files are properly organised and files for old projects are removed periodically, the filing cabinet will soon be completely full, and no use to anybody. The same job has to be done with the computer – organising the files so it is easy to find them, and removing files after projects are finished.

Programme for the training workshop

1. Review and comment on work done by KHC – farming programme and greenhouse and compost programme.
2. Install new firewire drive and upgraded programme (Pinnacle 8) and then transfer some files from C and D to F to enable us to continue our work.
3. Understand how to create folders, and make sure all the work for a particular project is stored in those folders.
4. Understand how to 'defragment' a drive so that it will work properly.
5. Go through the steps to make a programme
 - a. Design storyboard
 - b. Capture material at preview quality
 - c. Edit programme, including shots, cutaways, captions, transitions, script and voice over (and music)
 - d. Make movie, including re-capturing clips, rendering, making a DV tape and making a CD
 - e. Remove unwanted files after completing project.

Review programmes

We reviewed the farm programme and noted the following points:-

- Close up shots, for example of tomatoes growing, could be added
- The interview could be illustrated with shots, using the process of 'locking' the soundtrack by clicking on the picture at the left hand end of the soundtrack, choosing the points to make cuts in the interview picture and clicking the razorblade at each point, deleting the section, and then dragging another picture to that section. If it didn't fill the space, we could drag the end of the interview video to fill up the gap.
- The interview could be edited by 'unlocking' the soundtrack, choosing the beginning of the part to be deleted and clicking the razorblade, choosing the end of the part to be deleted and clicking the razorblade, and then clicking once on the section to be deleted to highlight it in blue, and deleting it.
- The jump in the picture where a part of an interview is deleted can be fixed by process described above where the soundtrack is 'locked' and another cut is made five or six seconds before or after the cut in the interview, using the razorblade. This section is removed and a picture is dragged to the gap.

We reviewed the compost programme and noted the following points

- The introduction is long, and could be edited to make it shorter
- Some shots are dark, and the cameraperson should be careful when recording to adjust a shot (by moving to a better lit situation) if this is a problem
- Some shots have no background sound – it is important to always use the headphones to check whether sound is alright.
- Some shots have too much background noise so that it is difficult to hear the person speaking – using the headphones can determine whether this is a problem.
- Some of the explanation would be done better with a script and a recorder voice-over, which can be shorter and clearer, and doesn't have background noise.

We broke for lunch so that the Firewire drive and 'Pinnacle 8' could be installed for the afternoon session.

(Note on video projector – this is extremely useful in a small group situation as it allows the trainer to direct and observe, and other group members to see clearly, while a group member operates the computer.)

Using preview quality video

We reviewed the procedure for capturing video at preview quality, and used a tape recorded by Tsegaye of Highland fruit farming. The group captured this material and we then recorded a voice over directly into Pinnacle by interviewing Tsegaye. We noted that normally a proper script would be prepared. Once that was complete the group started to select shots for the programme.

Day 2

The turnover of participants at KHC makes developing skills difficult.

As well as the departure of the two Wondwossens, we had one new member on Thursday (Meseret Belachew, a female) and another on Friday (Habtamu Berhanu, a male). In addition, neither Elias or Tsegaye were available on Friday.

As a result I would say that I am only building on knowledge gained at the previous two workshops to a very limited extent.

I therefore set as a basic goal that of successfully going through all the stages involved in making a short programme.

We performed the following tasks:-

- Setting the drive to 'f' in the capture menu by clicking the folder at lower right of the screen.
- Setting the capture to preview quality to reduce the size of files.
- Recording narration on the voice over track.
- Trimming the narration to remove gaps, using the razorblade tool, while the video tracks were 'locked' by clicking the icon at the left of each track.
- The group were already familiar with transitions. I recommended that transitions were used to make a specific point - for example moving from one location to another. They chose to use a range of transitions liberally.
- Use of 'smartsound' in the audio toolkit, selected with the sound icon at top left of the timeline, by clicking on the music symbol. We chose a particular track, and then opened the sound controls to reduce the volume so that the narration could be heard clearly.
- Make movie. I explained that the DV tape is a very high quality record of the programme, and should be made to keep in the library. VHS copies can be made from it, and it can be captured back into 'studio' if the programme needs to be updated.
- We went through the process of making a movie to DV tape, seeing how we had to capture shots before this could be done - this is done automatically if the original tapes are put in the camera as requested by the programme.

We found that due to the problem with the drives some captions got lost. We had to remake these.

We found that there were faults if the recording was made right at the start of the blank tape, so we made a section of 'black' for the first 20 seconds by making a title which had all the text removed.

The group were able to view the final DV tape through the video projector and then connected the camera to their TV and watched it on that.

We then selected MPEG' make movie, and made an MPG file for viewing on disk.

We made a disc very simply by using the XP command in 'my computer' to copy file, and copied it to a CDR disk. This led to a message that files were waiting to be written, and when we clicked this, we were led through a wizard which wrote the file to a disc.

The group were able to view the MPG file from the CD.

File Management: Review

We reiterated the principle of file management, which was based on:-

using the F drive for all files.

Creating a folder for each user.

Creating a project file inside the user's folder for each project,

Setting the files for capture, and the files for Make movie, and the file for saving the Studio project, to the project file for that user.

Collaboration and future plans

We finally discussed the idea of collaboration with Selam. I had also discussed this on Friday lunchtime when I was called to Selam to have lunch with 'Pappy' and his team and to be presented with a very fine Camerapix (Mohammed Amin) guide to Ethiopia. Both groups claim they are keen on having joint workshop sessions to learn from each other.

I did not upgrade to Pinnacle 8, or introduce Knowledge and Practice surveys, and the group are not ready to deal with this information.

One member of the group is Amme, who is fairly keen, however he is based at Arba Minch, several hundred kilometres away in the south. We discussed equipping a desktop computer. I would like to follow this up by trying to find out from Elias or Tsegaye who is responsible for the Arba Minch computers, and then clarifying the spec of the computers there, and guiding them to install the firewire card, software, and if necessary hard drive and memory upgrades.

Collaborators' reports

Collaborators' Joint workshop August 2003

REPORT OF THE PROCEEDINGS OF THE BIG WORLD VET PROJECT REVIEW WORKSHOP HELD FROM 17TH – 22ND AUGUST 2003 AT BRIDGE-WAY GUEST HOUSE - JINJA

INTRODUCTION:

The review workshop was deemed necessary by the Christian Industrial Training Centre (CITC) and Kulika Charitable Trust (Uganda) (KCTU) filming crew members. The idea came out during the joint meeting held in Nairobi on 28th June 2003. The workshop was designed to address a number of issues concerning the Big World Vet Project.

During another meeting with Nigel Scot in Kampala in July, he advised that it would be better to invite other project members, including Ethiopians to participate. Hence the workshop was attended by CITC – Nairobi – Kenya, Selam Organization and Ethiopian Kale Heywet Church (KHC) both from Ethiopia, Christian Relief Services (CRS) Soroti KCT(U), both from Uganda. The members were 14 with an external facilitator, Mr. Simon Hearn, from Gamos – UK.

The workshop lasted for five days. The members met their transport and out of pocket costs while KCT(U) organized and paid for meeting, accommodation, communication and other related costs during the workshop; to be claimed from Big World. The facilitation of each session was divided up as indicated below. Many thanks to Big World for sponsoring the workshop!

DAY I: SUN. 17TH AUGUST 2003

ARRIVAL AND REGISTRATIONS:

Participants arrived at the venue and registered as below:

Names	Nationality	Contact Address
1. Francis O. Magara	Ugandan	Kulika Charitable Trust (U) P. O. Box 11330, Kampala Mob. 077 661569 E-mail: Uganda@Kulika.org
2. Tseyeticheile	Ethiopian	Addis Ababa P. O. Box 101910 Ethiopia Tel. 000251-01-529228 E-mail: khc-dgsd@telecom.net.et
3. John D. Thuo	Kenyan	P. O. Box 72935, Nairobi Tel. 0733 930041
4. Naboth Rasto	Kenyan	P. O. Box 72935, Nairobi
5. Willy M. Musau	Kenyan	P. O. Box 72935, Nairobi Tel. 0721 605832
6. Tibananuka Joyce Ekere	Ugandan	Kulika Charitable Trust (U) P. O. Box 11330, Kampala Mob. 077 410663 E-mail: Uganda@Kulika.org
7. Emmy Diaz	Ugandan	P. O. Box 782, Soroti Mob. 077 618178
8. Anne Ngethe	Kenyan	P. O. Box 72935, Nairobi Tel. 0722811550
9. Florence Namulindwa	Ugandan	Kulika Charitable Trust (U) P. O. Box 11330, Kampala Mob. 077 521461 E-mail: Uganda@Kulika.org
10. Claire Nsubuga	Ugandan	P. O. Box 324, Mukono Mob. 071 290966
11. Abukol Emmanuel	Ugandan	C.R.S. Soroti Mob. 077 618178
12. Yonas Bofale	Ethiopian	CSClam.t.v.c.
13. George Kayega	Ugandan	Kulika Charitable Trust (U) P. O. Box 11330, Kampala E-mail: Uganda@Kulika.org

14. Joseph Mugagga

Ugandan

Kulika Charitable Trust (U)
P. O. Box 11330, Kampala
Mob. 077 609515
E-mail: Uganda@Kulika.org

DAILY SESSIONS:

TIME	ACTIVITY
07:30 a.m. – 08:30 a.m.	Breakfast
08:30 a.m. – 09:00 a.m.	Preps
09:00 a.m. – 10:30 a.m.	Session
10:30 a.m. – 11:00 a.m.	Break
11:00 a.m. – 01:00 p.m.	Session
01:00 p.m. – 02:30 p.m.	Lunch
02:30 p.m. – 05:00 p.m.	Session
05:00 p.m. – 08:00 p.m.	Individual work
08:00 p.m. – 11:00 p.m.	Supper & Rest

PROGRAMME:

1. Day I: - Arrival and registration - Francis Magara
2. Day II:
 - Self-introductions - All
 - Last meeting minutes - Joyce Ekere
 - Programming activities - All
 - Review projects achievements and problems - Anne Ng'ethe
3. Day III:
 - Solving problems - Simon Hearn
4. Day IV:
 - Moderation of the training manual - Joyce Ekere
 - Visit KCT(U) projects in Mbalala – Mukono - Claire Nsubuga
5. Day V:
 - Training manual continued - Joyce Ekere
6. Day VI:
 - Discussing guidelines for final report format - Willy M. Musau
 - Drawing work plan - Emmanuel Abukol

DAY II: MON. 18TH AUGUST 2003:

Introductions:

Self-introductions were made as above. Simon from Gamos, UK joined the group in the morning.

Reactions from previous minutes of the Networking meeting at CITC Nairobi on 28/6/03:

Simon visited CITC and tried to solve some of their problems, but the six wire pin code was not delivered and it was resolved that the meeting takes the privilege to look for the cable.

CRS - Soroti:

Members wondered what was happening with the friends at CRS and Ethiopia! CRS informed members that somehow, there had developed a communication gap between them and KCT(U), as well as with CITC Nairobi.

Ethiopia:

They informed the meeting that there was no information communicated to them and they had wondered how the workshop was referred to as a review. But further said that when Simon visited them in Ethiopia, he informed them about the review meeting and that it was to be hosted by KCT(U) in Uganda, from 18th – 22nd August 2003.

Joseph reacted that there was no body to be blamed for the communication barrier, since all members had no work plan for all the organizations. It was resolved to be taken as everybody's responsibility.

REVIEW OF PROGRAMME ACTIVITIES:

The review was started by KCT(U). Francis informed members that KCT(U) had four centres; that is, KCT(U) Central office, Pallisa SATP Centre, Kyenjoj SATp Centre and Masaka Resource Centre.

Kulika had developed a tape with five (5) programmes that is, A-Frame making, Banana establishment and management, Bees, Double digging and composting. He further informed members that KCT(U) was networking with Food For Thought project, which is a project networking primary schools in Northern Uganda and Mubende District, and that it was already edited but still on the computer.

Challenges:

- Members do not stay at the same centre
- Rendering to tape, the laptop had some problems
- Joyce and George were trained on how to burn a CD but had not had time to share the knowledge
- Training materials to be distributed to various members; Florence requested on behalf of the members to be assisted with dubbing skills.
- Lack of enough equipment in terms of laptop and camera for the four centres.

CHRISTIAN RELIEF SERVICES:

Emmy informed members that they had done five programmes on one tape; tree falling, planning, sofa set making, finished product and bed making. Other films were done on weddings. Had meeting with some training organizations to inform them about Big World Project.

Problems / Challenges:

- Camera records but did not log.
- After editing, it failed to save the work done
- It soiled
- Multi-scart port did not provide colour to pictures – input and output.
- Cables used at times jammed to work and required to warm-boot.
- Filming communities is a challenge, as they always wanted to find out why it was done.
- Commands while recording and filming at times would be forgotten
- Some decks were job specific – Tripod wobbled unless lightly screened.
- Provision of other tripod was necessary.

SELAM ORGANIZATIONS:

Have made different films and 7 are already edited.

Problems / Challenges:

- Filming not in camera but VCR
- Filming and forgetting to switch on the microphone
- Problems with rendering would lose some clips

CITC – NAIROBI:

Trained 10 teachers and selected 4 out of the 10. They made 12 different programmes, with one tape consisting six different languages due to different race taught at CITC.

- Filmed weddings, church sermons and funeral services.
- Gave students questionnaires - Students taught using video were better off than those not using them.

Problems / Challenges:

- Transferring from big tape to small tape
- Lack the 6 pin fire wire
- Too much staff hence making rendering difficult
- Time factor
- Equipment not enough

ETHIOPIAN KALEHEYWET CHURCH (E.K.C.):

- Did agricultural activities i.e. highland fruits
- Farmers rehabilitation
- Had produced 10 films

GENERAL / JOINT PROBLEMS:

- Members were scattered in different training centres i.e. 4 centres for Kulika Trust.
- Computer failed to render scenes to the tape (Kulika) or missed clips after rendering or being asked to cue to particular scenes (SELAM Ethiopia).
- Need for high speed dubbing equipments, computers, cameras, tripod and video projectors (power point).
- Need for each organization to have technically skilled personnel to maintain equipments e.g. computers, cameras, etc.
- Simon to look at Casablanca equipments (camera, cables, ports, external MIC).
- Need for replacement for faulty equipments (Big World)
- Installing editing programs and CD writing software.
- Train on how to put / access information on the hub.
- Need to train members to put education materials to Internet.

DAY III: TUES. 19TH AUGUST 2003:

Message from Nigel and Simon was conveyed to participants on tape played.

Simon facilitated the whole day on solving problems. The session started by introducing members to video, filmed and edited by Dr. Nigel Scott and Mike, pertaining to the activities done by Kulika Charitable Trust (Uganda), CRS and CITC.

After the first part of the video, Simon asked the different organizations the experiences they had got about using videos for training. Organizations deliberated their experiences.

Use of video outside classroom:**Advantages:**

- Time saving
- Large group participation

- Competence
- Does not depend on weather

1. Close up shots:

- Allows everyone to see
- No mistakes
- Reduces the period
- Time saving
- Increases interest
- Many languages can be used
- Shows

2. Video in the class:

- Content stays the same
- Repeat section is possible
- Students are safe in case of bees
- Allows feedback
- Avoids boredom
- Teacher assessment
- Enhances memory

After all these he arranged to help group by group with their problems.

DAY IV: WED. 20TH AUGUST 2003

Moderation of the Training Manual:

Both KCT(U) and CITC Nairobi presented drafts of the training manual. It was then resolved that members from CRS Soroti and SELAM and EKC – Ethiopia divided themselves to join KCT(U) and CITC Nairobi, to foster the process of drafting a training manual for individuals, groups and organizations.

The In-charge, Mrs. Joyce E. Tibananuka, guided groups and were able to come out with a tentative draft. After lunch, the group went for a field visit to Mr. Timothy Njakasi's organic farm in Mbalala – Mukono. Ms. Claire Nsubuga organized the field visit.

The major objective of the visit was to expose friends from CRS Soroti, CITC Nairobi, SELAM and EKHC Ethiopia respectively to some of Kulika's activities.

At the farm, members were conducted around the farm by Mr. Njakasi Timothy himself and ended up with demonstrating how he makes compost on his farm.

DAY V: THUR. 20TH AUGUST 2003

The training manual moderation continued. The draft is attached to the report.

After the whole days work, the members were driven to the source of the Nile for recreation.

DAY VI: FRIDAY 22ND AUGUST 2003

i. Looking at guidelines for final report format:

Musau led this session. Members brainstormed on the format to be used on final report writing to Big World. They came up with headlines as:

- Cover of the document – to include:
 - i. The title

- ii. Authors
- iii. Reasons for research
- iv. Year of research
- Chapters with heading as:
 - i. Chapter one – Introduction
 - The background
 - Main objectives
 - Specific objectives
 - ii. Chapter two – Methodology – tabulation and charts
 - Training feedback
 - Experience with use of video camera
 - Experience with editing
 - Use of end products
 - Challenges, successes and failures
 - iii. Chapter three – Findings
 - iv. Chapter four – Recommendations and suggestions
 - v. Chapter five - Conclusion

It was agreed that the title of the document be “**Information Communication Technology in Sustainable Development**”.

- ii. Drawing work plan:
Emmanuel led this session. The work plan was done as below:

WORK PLAN 2003 – 2004

ACTIVITIES	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG
Final report production	*											
Workshops												*
Develop final training manual				*								
Networking within & outside	****	****	****	****	****	****	****	****	****	****	****	****
Income generating activities	****	****	****	****	****	****	****	****	****	****	****	****
Producing teaching material	****	****	****	****	****	****	****	****	****	****	****	****
Reproducing more existing material	****	****	****	****	****	****	****	****	****	****	****	****
Review the training manual												*
Launching training manual					*							
Training of trainers						****	****	****	****	****	****	****
Lobbying and advocacy	****	****	****	****	****	****	****	****	****	****	****	****
Reporting	****						****					

Action points:

- a) All organizations to hand in their final reports to Big World Vet Project by the end of September 2003.
- b) Next workshop to be held in Ethiopia in August 2004, EKHC to host.
- c) Launching training manual in January 2004 at individual organization level.
- d) Training of trainers to start in February 2004
- e) Big World to consider funding some events e.g. review meeting for some time.

CONCLUSION:

The review workshop was very helpful to all member organizations. It helped to assess individual and organization performance in the technology acquired application and competence. The members expressed their heartfelt gratitude to Big World Vet Project for sponsoring and Kulika Charitable Trust (Uganda) for organizing and hosting the workshop. Simon's presence was of a great help to the Review Workshop. Many thanks to him and Gamos / Big World for sending him over. Participants appreciated the idea of review and recommended that although Big World may stop funding the project, it should consider funding at least the review workshop. The participants were also very grateful to the staff and management of Bridge Way Guest House for their hospitality throughout the week. God bless everyone and wished all safe journey home and good health.

Compiled by:

Francis Onyango Magara - KCT(U)

George Moses Kayega - KCT(U)

MANUAL FOR TRAINING IN VIDEO PRODUCTION

The use of information technology is becoming increasingly important in training for sustainable development. DFID U.K. commissioned Big World and Gamos Ltd. to do research on Information Communication Technology (ICTS) and approached various collaborators from Uganda, Kenya and Ethiopia, to assist in the research.

This manual is for video production and is addressed to train interested stakeholders in modern information and communication technology. It is also useful for training of trainers working towards development projects.

Written in a simple and direct style to facilitate easier understanding, the manual seeks to clarify video production programmes for training. Do not hesitate to inform us of your suggestions to enable us improve future edition, which will thus permit us to deal better with the needs of groups in the third world for sustainable development as always.

The preliminary workshops organized by the Big World in Uganda, Kenya and Ethiopia in June / August 2002 had a great influence in the present edition of this manual.

The manual was developed by the following organizations:

- i. Kulika Charitable Trust (Uganda),
- ii. Christian Industrial Training Centre (C.I.T.C.) Kenya,
- iii. Christian Relief Services (C.R.S.) Uganda,
- iv. E.K.H.C. Ethiopia and
- v. Selam Ethiopia; in collaboration with the Big World Vet Project and Gamos Ltd. Big World Vet Project U.K has founded its production.

We would like to appreciate Big World Vet Project in partnership with DFID and Gamos Ltd, in collaboration with above organizations, which introduced the technique of producing educational training materials by use of video to enhance learning.

AIMS:

The manual is aimed at guiding trainers to train interested individuals, groups and organizations to acquire skills, knowledge in video capturing, editing and making movies.

OBJECTIVES:

By the end of the training programme, the trainees should be able to:

- i. Operate a video camera
- ii. Film
- iii. Edit
- iv. Produce movies
- v. Transfer of output to different environments

COURSE CONTENT:

- I. Introduction to video camera:**
 - Parts of the camera
 - Accessories
 - Functions of accessories
 - Loading the camera
 - Dos and don'ts of the camera
- II. Filming:**
 - Types of filming

- Types of shots and movement
- Site selection
- Logging scenes
- Dos and don'ts of when filming
- Story board
- Tips for filming

III. **Computer Basics:**

- Definition
- Introducing hardware and software

a) **Software Disk:**

Definition:

- Introduction to windows
- Saving and retrieving
- Copying, cut and paste
- Searching
- House keeping i.e. computer maintenance

b) **Hard ware Disk:**

Definition:

- Hard disk i.e. backing storage
- Processor
- Input device (Keyboard, mouse, camera, MIC, phone)
- Output device (Monitor, printer)

IV. **Introduction to studio 8:**

- Introduction (Launching studio 8):
- Studio 8 environment (Menu)

V. **Video editing:**

- Setting the systems
- Capturing
- Editing
- Make movie / rendering

VI. **Transfer of output:**

- Rendering
- Copy movie to VHS tape
- Dubbing tape
- Burning CDs
- Driving movie to DVD
- DVD to CD Disks (Vice versa)
- Recording from TV and VHS

VIDEO TRAINING (DRAFT):

OBJECTIVES (To be formulated for each topic as below):

DAY ONE:

- Introduction to the training
- What a video is
- The use of a video
- The advantages and disadvantages of a video
- Evaluation

DAY TWO: THE CAMERA

- Parts of the commercial and accessories
- Functions of the camera
- Safety measures when using the camera
- Where and when to use a video (Discuss)
- Evaluation

DAY THREE: OPERATION OF THE CAMERA

- Taking shots
- Types of shots
- Selecting shot sites / suitable
- Where and when not to use a camera (Discuss)
- Evaluations

DAY FOUR: EVALUATE DAY I – IV: With a lot of practicals

DAY SIX: EDITING:

- Introduction
- Types of soft ware
- Parts and functions of edit software and accessories – assembling the editing system – camera, laptop, desktop, Casablanca – TV & Deck.

Final Reports from Collaborators

Final report from Kulika Trust

A FINAL REPORT TO BIG WORLD ON INFORMATION COMMUNICATION TECHNOLOGY FOR SUSTAINABLE DEVELOPMENT

INTRODUCTION:

The Big World Vet Project started in June 2002. Six Kulika Charitable Trust (Uganda) personnel were trained as Filming Crew and Video Training Material Producers. The six were:

- Francis Onyango Magara - Kulika Central Office
- Joyce Ekere Tibananuka - Tutor – Pallisa SATP Centre
- Joseph Mugagga - Tutor – Kyenjojo SATP Centre
- Florence Namulindwa - “
- George Moses Kayega - Tutor – Masaka SATP Resource Centre
- Claire N. Nsubuga - KCT(U) Farmer - Mukono

First training at Mukono ARDC – June 2002:

The training was conducted between 22nd – 30th June 2002 and the facilitators were: Mr. Michael Webb, Mr. Geoff Crawford and Mr. Richard Gibson.

The organization involved in the first training were:

- Kulika Charitable Trust (Uganda)
- Christian Relief Services (CRS) – Soroti – Uganda
- Christian Industrial Training Centre (CITC) – Nairobi – Kenya

Introduction to camera work:

The workshop started by introducing to the participants the previous work on piece to camera by Selam and EK Ethiopia. This served as an in-sight to the participants on what information communication technology was about. We were introduced to the camera that is, assembling different parts and using it, which was meant to familiarize participants with the camera operations. Participants were then exposed to hands on experience with the camera.

Story Board and Type of Shots:

During storyboard planning and type of shots to be taken, the facilitators used a lecture and discovery methods. This gave an opportunity to participants to discover the importance of making storyboard, timing and taking different types of shots.

Field visits:

This field visit task was intended to acclimatize participants to the benefits of planning a storyboard and how this assists in producing a good training video. Participants discovered that before filming, it is important to inform the concerned people in advance. This avoids suspicion and nervousness of the subjects involved.

We further realized that there are some shots where one may not have control over, such as noise, targeting a cow urinating, etc. However, with all this, one has to find a way out in order to produce something for training others.

Experience:

The filming, which was done, included grafting a mango, compost making and Mike edited them. These videos were use at short-term courses organized by Kulika Charitable Trust (Uganda) and then to the KFTs (trainees at Pallisa centre), and the following were their observations:

- Video was good in giving a real life experience.
- A lesson is fully understood as it is accompanied by a visible illustration
- It saves time and materials hence reduced costs
- It attracts attention of the audience
- It makes it easy to learn distant experience
- It builds confidence
- Can be done in a limited time frame
- It can be used for historical purposes

Training productions undertaken:

Where video used	No. of participants	Programmes shown	Participants' remarks	Instructor's Remarks
April 2003 at National Training workshop – Tororo	42	Grafting, double digging, Banana Management, Bee Keeping, A-frame (KCTU) Tutor training graduation	<ul style="list-style-type: none"> • Video was short enough and understandable • It motivated the participants • Repeated to see what was not clear 	<ul style="list-style-type: none"> • Easy to show a skill • A big number of people (42)
June 2003 – Kamwenge Regional Workshop	44	A-frame, Grafting, Banana Management, Bee keeping, Double digging	<ul style="list-style-type: none"> • Lesson understood without difficult. • Questions for clarification were asked • Banana tape clear teaching instructions 	Banana Management, Grafting and Bee keeping were not taught but just watched in the evening.
January 2003 - NKFTs Orientation Workshop	26	A-frame, Grafting, Banana Management, Bee keeping, Double digging, visiting their farms at the time of interviews	Motivated them to work hard on their farms	KFTs were able to remember after six months of seeing the video.
August 2003 - Tutor / KFT workshop in Masaka	35	Grafting, Bee keeping, A-frame	KFTs commented that it would be easier for them to understand the skills being taught.	Tutors narration in video motivated the KFTs hence capturing the attention.

Experience with using cameras:

- Started with nervousness
- Gained confidence as time went on
- Difficult to film alone, needs at least two people
- Needs a lot of practice to master

Experience with editing:

- Requires a lot of practice to internalize the skill of editing, hence owning / having a laptop to keep practicing
- At times voice over may be lost
- The laptop may at times crash hence requiring booting
- Some tutors are not well familiarized with computer operations
- Requires at least two people for efficient work

Challenges:

- Equipment is limited hence accessibility being inadequate
- Kulika Charitable Trust (Uganda) Video Crew stays at different centres
- Crashing of the computer due to lack of knowledge on how to de-fragment
- Loosing the voice over the edited material e.g. the voice over on bees
- Lack of enough knowledge on computer operation makes the editing exercise challenging

Successes:

- We have so far produced six training programme i.e. A-frame making, banana management and establishment, Bee keeping, Double digging and mango grafting; Organic pests control.
- We have been able to film non-training programmes e.g. KFTs Tutor graduation ceremonies, Food for Thought school project and Research in organic pesticides in Pallisa, and a 10 minutes programme on farmer-to-farmer extension.
- We have sold so far one training tape to Arua Agricultural Training Centre

Summary of findings:

The Filming Crew have found out that this Information Communication Technology is a very appropriate method in disseminating training messages to KFTs and other farmers. This is evidenced in the responses given by the KFTs during the evaluation exercise regarding the use of video for training. The detailed information regarding the above is tabulated in Chapter two above.

The editing exercise proved not an easy task since it requires a lot of technical skills to produce a proper training video we further realized that due to limited equipment and given the fact that we are operating at different centres, this made accessibility to the only available laptop difficult.

Recommendations and Suggestions:

- We recommend that more equipment should be acquired e.g. laptops at each centre because there is no electric power at centres of Pallisa and Kyenjojo.
- We also recommend that Big World should organize back-up workshops annually to update our skill as a means of follow up.
- Big World should sponsor more networking workshops with Ethiopians, Kenyans and Ugandans like the one that took place in Jinja in August 2003.

Conclusion:

We would like to express our heartfelt thank on behalf of Kulika Charitable Trust (Uganda), to the Big world Vet Project in collaboration with Gamos, for having given us an opportunity in the developing world, to access Information Communication Technology. This technology is not only useful to Kulika Charitable Trust (Uganda) organization in training KFTs and other farmers, but there are several organizations, which have already developed interest in this communication technology. To mention among others include:

- Jinja Diocese Development Education Coordination (JIDDECO)
- Arua Agricultural Training Centre (AATC)

In a nutshell, this Information Communication Technology proved very motivating hence attracting attention of the trainees and has enabled us to make friends as far as networking is concerned.

Compiled by

George Moses Kayega	- External affairs Tutor – Masaka resource Centre
Joyce Ekere Tibananuka	- Tutor – Pallisa SATP Centre
Francis Onyango Magara	- Ass. Sustainable Agriculture Coordinator – KCT(U)
Claire N. Nsubuga	- Kulika KFT – Mukono

The Filming Crew – Kulika Charitable Trust (Uganda)

Final report from CITC

INTRODUCTION

The study was carried to investigate how Information Communication Technologies (Its) can be used to support vocational training programmers in East Africa. Christian Industrial Training Centres – Nairobi, Kenya was selected as one of the collaborators in Kenya among others in East Africa i.e. Kulika Charitable Trust, CRS, - Uganda, Selam and E.K.H.C in Ethiopia.

BACKGROUND OF THE STUDY

Christian Industrial Training Centres – Nairobi is established to provide vocational training to the youth i.e. Carpentry/Joinery, Electrical Installation, Welding/Blacksmith, Fitting/Turning, Motor Vehicle Mechanics, Computer Software & Engineering and Food and Beverage.

CITC train independently like many vocational training institutions in Africa. Due to lack of modern information communication technologies, they are not able to share ideas on training methods or their products and they have no chances of innovation.

Big World and Gamos Ltd. approached CITC Nairobi to collaborate in the research and this made the centre stand to benefit from the ability to share information and experiences with other vocational institutions.

STATEMENT OF THE PROBLEM

Lack of Modern information communication technologies hinders development in vocational training institution.

OBJECTIVES OF THE STUDY

The general objective of the research was development of local content to enhance existing curricula e.g. use of video for teaching craft techniques.

SPECIFIC OBJECTIVES

To identify needs, resources and ways of operating vocational training centres, with a view to using information communication technologies (ICTs) for networking organizations together.

SIGNIFICANCE OF THE STUDY

The results of this study will be important to all independent vocational training institutions in Africa.

LIMITATIONS OF THE STUDY

TIME

This was a major factor since the research team was full time employees and had to balance research time and duty time.

DESIGN & METHODOLOGY

RESEARCH DESIGN

The type of research design used was the survey design.

TARGET POPULATION

The study targeted the students training in Fitting/Turning and Computer Engineering.

DATA COLLECTION INSTRUMENT

Questionnaires were used to collect information. These contained standard questionnaires on general knowledge and specific knowledge on the lesson.

DATA COLLECTION PROCEDURES

General knowledge questions were given to Fitting & Turning students of both form IV and Std. 8. They were later divided into two groups of thirteen (13) students each. They were taught a topic on "How to do facing on Lathe Machine".

The first group was taught without the video while the second group was taught the same topic with the video. The two groups were given the 1st trial test from the topic (six questions). The 2nd trial test was given after one week while the 3rd trial test was given after one month. The scores are reflected as in the table below:-

FITTING & TURNING WORKSHOP

STANDARD QUESTIONNAIRES ON GENERAL KNOWLEDGE AND SPECIFIC KNOWLEDGE ON THE LESSON

TABULATION ON RESPONSES OF STUDENT TAUGHT WITH THE VIDEO (Fitting and Turning Students)

	GENDER	AGE	COURSE	CLASS	MARKS GENERAL Qs	MARKS SPECIFIC Qs
Onkoba M. Mwanzia	M	20	F/T	IV	3	5
Geoffrey Ndiko	M	23	F/T	IV	3	6
Boniface T. Nduati	M	23	F/T	IV	2	6
Sammy N. Kariuki	M	21	F/T	IV	4	6
Richard O. Ochieng	M	23	F/T	IV	3	4
Patrick G. Kiragu	M	23	F/T	IV	4	6
Ochieng R. Otieno	M	21	F/T	VIII	2	6
Kamau S. Mwangi	M	18	F/T	VIII	2	6
Humphrey Mwangi	M	18	F/T	VIII	2	6
Njoroge A.	M	22	F/T	IV	3	6

Karuga						
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FITTING & TURNING WORKSHOP

STANDARD QUESTIONNAIRES ON GENERAL KNOWLEDGE AND SPECIFIC KNOWLEDGE ON THE LESSON

TABULATION ON RESPONSES OF STUDENT TAUGHT WITHOUT THE VIDEO (Fitting and Turning Students)

NAME	GENDER	AGE	COURSE	CLASS	MARKS GENERAL	MARKS SPECIFIC
					Qs	Qs
Nicholas K. Wambui	M	21	F/T	IV	5	3
Fredrick M. Muema	M	20	F/T	IV	3	3
Ephrem Mehreteab	M	20	F/T	IV	3	3
George Mwangi	M	20	F/T	IV	5	3
Bin Jadid said	M	21	F/T	IV	3	3
Adeya Simon	M	19	F/T	IV	3	3
Eric I. Munyasa	M	20	F/T	IV	3	-
Keith Maina	M	17	F/T	IV	3	2
Paul Ndegwa	M	20	F/T	IV	4	2
Flavian Mwangi	M	21	F/T	IV	3	3
George K. Njoroje	M	20	F/T	IV	4	1
Charles Gikonyo	M	20	F/T	IV	5	4
Joseph Mucheki	M	20	F/T	IV	4	2

The same exercise was repeated with Computer Engineering students and the outcome was as below: -

TABULATION ON RESPONSES OF STUDENT TAUGHT WITHOUT THE VIDEO (Computer Engineering Students)

NAME	GENDE R	AG E	COURSE	CLAS S	MARKS GENERAL	MARKS SPECIFIC
					Qs	Qs
Paul Macharia	M	24	Computer Engineering	IV	4	13
Maina Joshua	M	20	"	IV	5	13
Paul Njoroje	M	20	"	IV	4	11
Samson Otieno	M	21	"	IV	4	10
Richard Ndirangu	M	22	"	IV	3	9
Eliphraisia Aachieno	M	25	"	IV	4	9

**TABULATION ON RESPONSES OF STUDENT TAUGHT WITH
THE VIDEO (Computer Engineering Students)**

NAME	GENDE R	AG E	COURSE	CLAS S	MARKS GENERAL	MARKS SPECIFIC
					Qs	Qs
Leah Kagwi	F	19	Computer Engineeri ng	IV	1	13
John Mbutia	M	22	“	IV	3	13
Gikeri Lucy	F	20	“	IV	2	13
Beatrice Njuguna	F	20	“	IV	2	12
William Kinuthia	M	19	“	IV	4	12
Wahome Bernard	M	21	“	IV	4	13

DATA ANALYSIS & PRESENTATION OF FINDINGS

THIS CHAPTER ANALYSIS THE FINDINGS OF USING VIDEO IN TEACHING CRAFT TECHNIQUES. IT MAINLY DEALT WITH THE FOLLOWING:-

- How the use of video with students has changed their knowledge and practice.
- Students taught without video.
- Students taught with video.
- Three surveys done after the use of video.

**SUMMARY OF FINDINGS, CONCLUSION AND
RECOMMENDATIONS_____**

SUMMARY OF FINDINGS

The research reveals that teaching using video has better results than teaching without.

DISCUSSION OF THE FINDINGS

According to the test given to the students, the result of the analysis shows that the student understands better when taught using the video than without.

The Fitting/Turning Instructor observed the students performing the operations, and the group, which had not seen the video, were not as good as the ones who had seen. The group, which saw the video, was trying to copy what they show in the video.

The group, which had seen the video, could remember more of what they were taught than those who were taught without seeing the video.

According to the surveys done, using video in teaching craft techniques is very effective especially for those students who are below average. The students can replay the cassette with the lesson as many times as possible. The findings show that students who saw the video enjoyed the lesson being taught.

They were very much motivated. They did very well in their term end exams on the topic shown in the video.

The topics taught by the use of videos can be translated in different languages (mother tongue) which the students are more comfortable with than English.

CONCLUSION

The Research has indicated that Information Communication Technologies (ICTs) can be used to support existing vocational training programmes. It can also be used for networking similar institutions, making it possible to share ideas, i.e. their products and teaching methods. These will strengthen the institutions especially those new institution coming up. Using the videos in teaching is a very good way of motivating students.

RECOMMENDATIONS

- Provision of adequate equipment for the training.
- Provision of Hub for networking with other institutions.

APPENDIX A: QUESTIONS ON SPECIFIC LESSON

1. What is the major thing to do before you put on the machine? _____

2. Before any operation is done on a work piece what must you first do?

3. The second major step to be done on a lathe before operating is?

4. Why it is dangerous when two people operate a machine?

5. What must you do when you have mounted your work piece on the lathe?

APPENDIX B QUESTIONS ON GENERAL KNOWLEDGE

1. Full Names.....
2. Age:.....
3. Gender Male
 Female
3. Former School.....
4. Course taken.....

GENERAL QUESTIONS

1. Who is the current president of Kenya?.....
2. Who is the current Minister of Finance?.....
3. Who is the president of France?.....
4. What is the price of a loaf of bread?.....
5. Below are two questions, answer either a or b?.....
 - a) What is the price of a floppy disk?.....
 - b) What is the price of a hacksaw blade (high speed)?..........

APPENDIX C COMPUTER ENGINEERING

QUESTIONS ON A SPECIFIC LESSON

1. Where is the brain of a PC housed?
1. What is motherboard?
2. What purpose does the battery inside the system unit serve?
3. Write a note on the power supply unit.
4. Why does a computer have a memory? How is its size measured?

5. What is the CPU of a computer? What job does it do?
6. What is floppy disk needed for?
7. What is a hard disk?
8. Name two types of ports?
10. What is the use of the video port?

Final Report from CRS

REPORT ON INFORMATION COMMUNICATION TECHNOLOGY IN SUSTAINABLE DEVELOPMENT

AUTHOR: CHILD REHABILITATION SERVICE (CRS) UGANDA.

REASON: TO ASCERTAIN THE FEASIBILITY OF
INFORMATION COMMUNICATION TECHNOLOGY (ICT) IN
THE DEVELOPING WORLD

SEPTEMBER 2003.

INTRODUCTION

This report of information communication technology in sustainable development is addressed to Big World Vet Project - UK. And the people responsible in conducting, managing, aspiring non-governmental development organisations.

The technology is also useful for administrators of small groups or associations and those who manage developmental projects.

The simple and direct document contains numerous examples, experiences, challenges, successes, failures and the values of the end products.

In the modern world new technologies are coming out for the purpose of improving the life style of mankind.

For this course CRS Vet Project in Uganda has sent her higher level of appreciation to Big World Vet Project, Gamos Limited and the Government of UK through DFID for supporting various projects in Africa in acquiring these important skills on video production.

The training is aimed at strengthening and empowering the knowledge of people in the developing world.

MAIN OBJECTIVES

- To create the awareness of (ICT) in the developing world
- To promote the use of (ICT) equipments in the developing countries
- To enhance learning environment in our communities
- To create the sense of resourcefulness in our communities

SPECIFIC OBJECTIVE

To create the awareness of ICT in the developing world, which acts as a data, base for historical (memory) purposes and these enhance learning and understanding in the technical institutions, and communities in the developing world.

TRAINING FEED BACK

Before the training on camera filming and editing CRS staff had no idea on how the camera works and techniques for editing the filmed product.

From now the staff of CRS Vet Project is able to know:

- How to operate the camera, its accessories and its uses.
- How to programme before filming e.g. all accessories set and ready for use various shots be known before filming process is set on e.g. big, wide, medium, close up and cut way shots.

The staff learnt and has known the techniques of editing, whereby editing involves the following: -

- Logging and time code
- Entering the video clips into the Casablanca
- Creation of a story board
- Rearranging of a story board
- Trimming and spiting to come up with the required clips
- Addition of transitions to the story board
- Addition of titles to the clips in the story board
- Knowing how to capture audio and entering into the Casablanca memory
- Rendering of audio to the clips that make up a story board
- Known how to record into the VCR (Transfer of out put from the computer to VCR)
- Then transfer from computer to the DV recorder (camera)

EXPERIENCE WITH THE USE OF VIDEO CAMERA

Whereas the video camera is a major tool for producing the teaching materials, higher attention was put on this tool to avoid failures in producing the required teaching products.

CRS Vet staff had learned and experienced the following to be kept in memory for better performance.

CAMERA

- Should be kept in a safe place to avoid any damages e.g. rainwater, metallic materials e.t.c

- Camera needs patience in the time of operation of it.
- The camera must be in good condition and all the accessories ready to be used e.g. batteries charged, and tripod tied well.
- Planning the shots to be taken e.g. planning how to live the shot and to begin a new shot. The reason based on not cutting away the flow of information.
- Filming at night with a video camera needs a strong lopping lights in order to see better
- With filming one needs to film with the direction of light

FILMING EXPERIENCE:

When filming one must be well vast with all the buttons found in the camera.

- The operator must know that the tape inserted is an empty tapes
- The operator should have a clue of what he is going to film such that he could position his camera well to avoid disturbance or any interference e.g. light, movements, congestion etc
- When filming, the tripod should be set properly to avoid wobbling pictures and enough space needed for a clear and good work.

EDITING EXPERIENCES

- One has to know all the icons in the operating system set-up e.g. Editing, Transitions, Titling, Recording Audio, Audio Mix, Project Setting, Effect variation etc.
- First and far most the operator should know how to connect all the necessary cables. And should be specific to each in time of use where need be.
- Master the names of all the cables and pots.
- In opening of editing programme one must know it.
- Where editing programme embraces, cutting splitting, coping of the clips and it has the relevant buttons like, add, replace, search, insert, remove and the shot cuts icons of other programmes like transitions, titling, audio mix effect variation and recording.
- The order of editing should strictly follow this format project selection, editing effect variation, transition, tilting, audio mix effect variation and recording.
- The order of editing should strictly follow this format project selection, editing effect variation, transition, tilting, and audio, creating the range (Finishing).

- Under transitional programme, one should be having an experience in linking up the clips, and be able to choose which transitional effect can link up the clips nicely without any bigger effect on the observer.
- With transition one should not apply many transitions when making a movie (reason) it will bore the observer. In other words the editor should be timely when applying transitions or creating transitions.
- The editor should master the colours of the two clips that the transition is to be inserted.
- In editing transition must be put first before titling.

AUDIO MIX

Under audio mix background, music should be systematically set and balanced to avoid the loud noise, which can interfere with on going activity shown in the movie.

CHALLENGES ON THE USE THE CAMERA

- Operating a camera in an open place sound difficult because of wind problem. The operator can be on the process of taking films; the wind changes direction towards the camera in this case changing the direction of the camera will be very difficult, as the camera may not have a better position on the required object to be filmed.
- Operating a camera without a programme arrangement of the function or activity and its congested environment is difficult.
- In filming it is difficult to control the activity done e.g. someone talking, cutting the cake or putting the wedding rings.
- In editing there is a challenge whereby when the memory is small. The operator may find it difficult to put all the clips to make up the required movie.
- Some cameras are not easily compatible with a Casablanca operating system e.g. when using a Sony Camera. For one to connect to it, it will necessitate one to start the camera first and then followed by Micro-computer for the operation system to sense all the components connected to it whereas with the Panasonic Camera, you can start it with any.
- Getting suitable and convenient accommodation for our operation to start was difficult.
- Some organisations were self-centred such that they could not permit CRS staff access to their workshops.

FINDINGS

We discovered camera effects and how they function e.g. still shots – mirror, mosaic slim etc

- Putting the data and the time when the function was done. And use of colour set-ups and many other camera functions.

- Alarm discovered signalling to the operator that it is empty. And therefore needs to be checked whether the deck is empty or it has a Saved Tape.
- In using the Casablanca system for editing we found that either audio refuses to render or titling effect refuses to create.

This implies that the memory is used up to the capacity of 97% that cannot allow in more effects into the storyboard and the creation of the audio or even new clips. And at that state it may not play effectively. It will start cutting the storyboard ensuring that some of the clips are not effective enough to be played. Hence it begins to damage some clips by painting them green.

Now the solution to it or to avoid painting of the clips is to delete all the suspended clips to create more memory.

On that clip when it stopped operating, identify whether that clip is long or too short, use search button to retain the clip. If it is more than ten (10) elephants, use such button to retain, then split the clip to a range of three and four elephants. Use the replace button to replace the former clip on the storyboard by the first split of the clip.

The rest will be added after the first split clip. If the clip is too short which is causing the sagging or the cutting of the storyboard, then remove that clip.

We have also found the way of recording in fade audio and out fade audio to a clip in the storyboard. And that necessitates calculating the size of the clip in which the audio is supposed to be rendered.

We also discovered the use of various effects on the clips, like slow motion, mirror, mosaic, out focus and etc.

On titling we have experienced that if one wants a 'V' Scroll title to move fairly slow, you have to put it on a long clip. The title is placed on clip that plays for a long time and is positioned at the bottom of the screen to give ample time of scrolling.

SUCCESS:

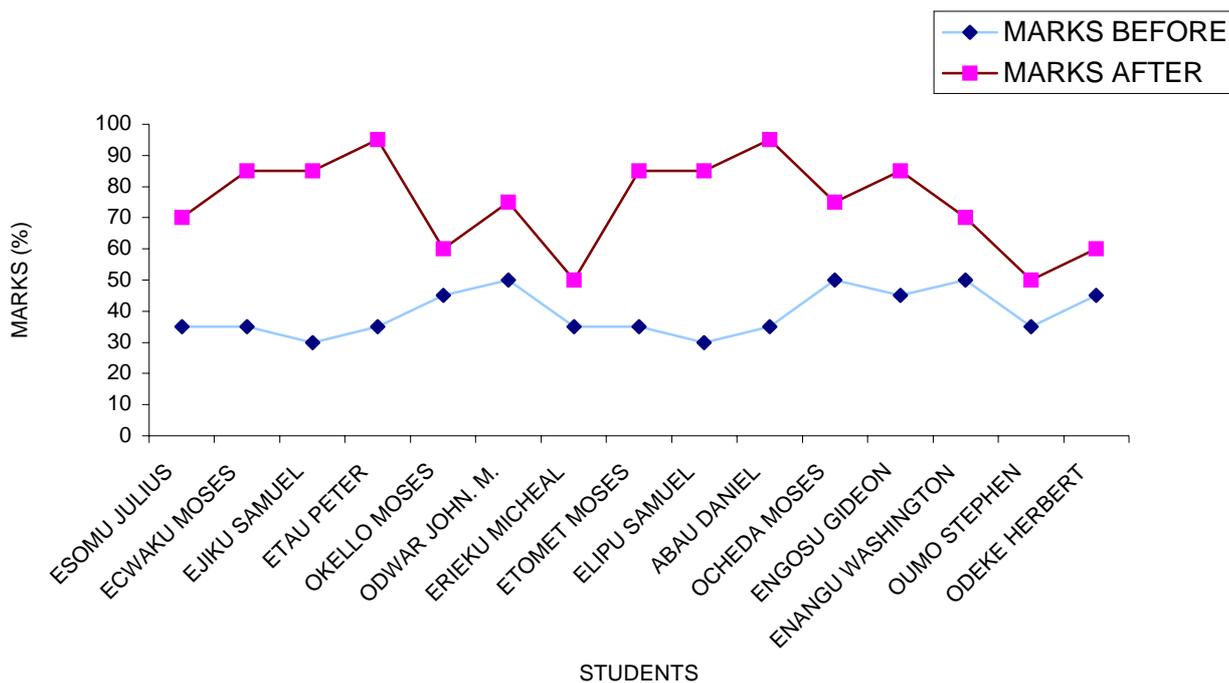
- We have succeeded in knowing how to operate the filming and editing equipments properly, and keep them in safe custody.
- We have made 9 movies for training our students and other interest persons in technical work.
- The teaching materials have attention and too much interest in the mind of our students in teaching sessions.
- The Vet institutions, which agreed to collaborate with us at the process of our research period, are picking interest in being trained in this (ICT) technology.
- CRS has so far opened the editing studio for practical purposes.

- Our outgoing numbers of students who benefit on the training program were fifteen (15) and the current students being trained are twelve (12).
- In our comparison with the first intake, students of the year 2000, we found that the students who were trained using video materials are picking the illustration shown faster, compared to those who received through verbal or lecture teachings, which means the use of video materials are more catching.
- This technology has influenced CRS Vet Project to going ahead on making more video tapes for teaching and also design a teaching curriculum for the technical workshops.

SECOND YEARS 2001/2002: IMPACT ASSESSMENTS

NO.	NAMES	MARKS BEFORE	MARKS AFTER
1	ESOMU JULIUS	35	70
2	ECWAKU MOSES	35	85
3	EJIKU SAMUEL	30	85
4	ETAU PETER	35	95
5	OKELLO MOSES	45	60
6	ODWAR JOHN. M.	50	75
7	ERIEKU MICHEAL	35	50
8	ETOMET MOSES	35	85
9	ELIPU SAMUEL	30	85
10	ABAU DANIEL	35	95
11	OCHEDA MOSES	50	75
12	ENGOSU GIDEON	45	85
13	ENANGU WASHINGTON	50	70
14	OUMO STEPHEN	35	50
15	ODEKE HERBERT	45	60

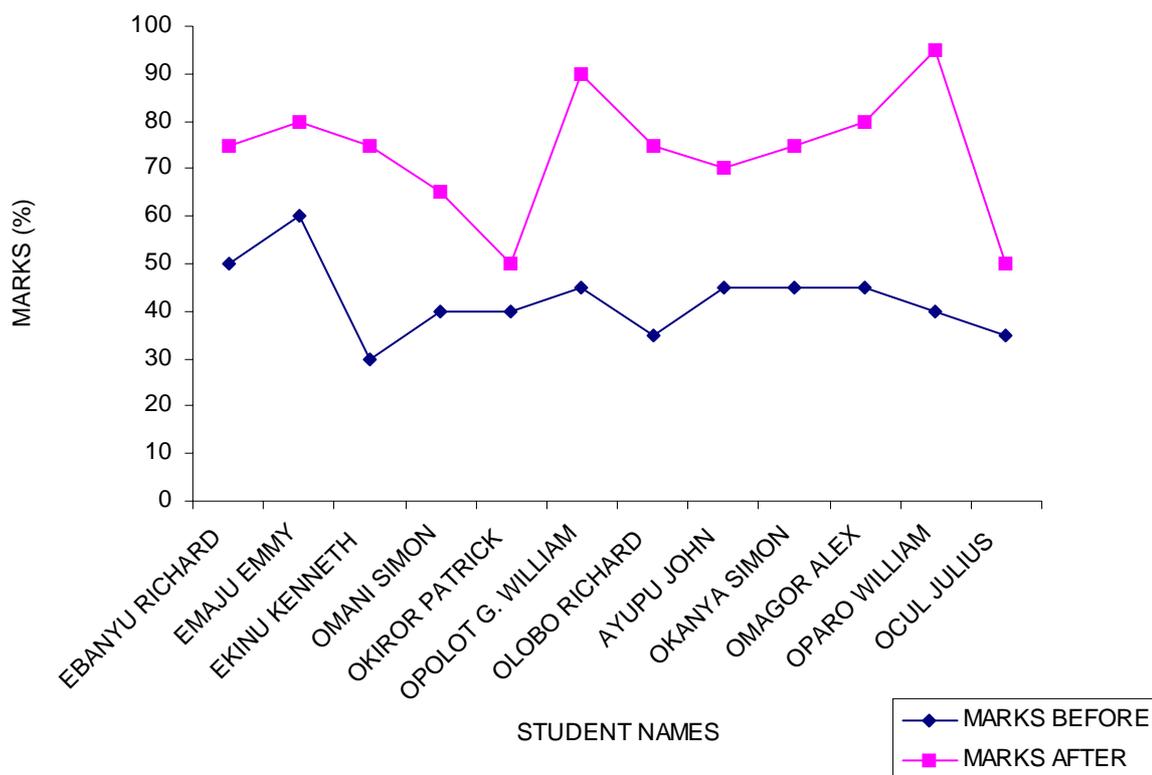
SECOND YEARS 2001/2002 PERFORMANCE



FIRST YEARS 2003 – 2004: IMPACT ASSESSMENTS

NO.	NAMES	MARKS BEFORE	MARKS AFTER
1	EBANYU RICHARD	50	75
2	EMAJU EMMY	60	80
3	EKINU KENNETH	30	75
4	OMANI SIMON	40	65
5	OKIROR PATRICK	40	50
6	OPOLOT G. WILLIAM	45	90
7	OLOBO RICHARD	35	75
8	AYUPU JOHN	45	70
9	OKANYA SIMON	45	75
10	OMAGOR ALEX	45	80
11	OPARO WILLIAM	40	95
12	OCUL JULIUS	35	50

FIRST YEARS 2003 - 2004 PERFORMANCE



FAILURES:

In every programme or project there are success and failures. In this respect, we incurred the following failures, which may need improvements and corrections:

- Failure to burn the CD – because we have no equipment that can address that problem.
- Our operation system having limited transition and field effects
- Microcomputer having small memory that cannot allow several projects to be edited within the same memory. This may need one to empty the memory before you start another project.
- The current insurgency in Teso sub region and Northern Uganda where some of our networking organizations have been disrupted by L.R.A wars, which has led to the displacement of several technical schools.
- We have also failed in connecting Internet hub because; we have no line for transacting. The lines we hoped for had some breakdowns so often and our hope for trusting them becomes limited. The additional problem with them is that they incur some higher costs that sometimes make them fail to operate.
- The idea of sharing information over Internet hub is feasible, but due to the above problem, CRS finds it difficult at the moment. We look forward towards getting this system work.

RECOMMENDATIONS & SUGGESTIONS:

Suggestions:

- We request the Big World to extend its hand of offering training on equipment maintenance.
- We also desire if the Big World would be sending some of their technical personnel to visit us and help us to build on the field of information communication technology in sustainable development project.
- We also request Big World if possible to add on equipment e.g. Casablanca with CD roam which have got also big memory in it and some other equipment like projectors, invertors etc.
- CRS Vet project request Big World Vet to give a hand of support in linking up with other development projects that she knows, continuing assisting in any way possible.
- To continue crate union between Big World Vet project and its collaborators in up to date information towards development in place.

According to CRS Vet project, Big World Vet project has played a big role and acted as an eye opener in creating awareness on how to develop the knowledge of the people on new technology.

It is our prayer that God continues to give you that heart of inspiration towards that vision.

SUMMARY:

- Camera operation known
- Accessories known and its uses
- Programming before filming known
- Hence experience of use of a camera has been attained
- Proper filming criteria is now known e.g. shots planning
- Processing of the movie is on the finger tips
- Recording of clips
- Trimming of clips
- Splitting of clips
- Replacing of clips
- Searching of clips
- Copying of clips
- Addition of transitions
- Creating titling effects
- Audio mix
- Transfer of output
- All these are now known

However, though there were some challenges, failures, they were not a great threat to the use of these equipments in pursuing the vision on Information Communication Technology in sustainable development project.

In conclusion, looking at all what has been summarised above, this creates much enthusiasm among the trainees, coupled with impacts in our trainings, presentations to the communities we live in.

However, the coming of this project has up lighted sense of understanding to different groups in our communities.

Final Report from KHC

Project Title: -

Information Communication Technology in Sustainable Development

Implementing Agency: -

Ethiopian Kale Heywet Church Rural Integrated Development

Funding Agency: -

Big World

II. PROJECT SUMMARY

The Ethiopian Kale Heywet Church has been functioning relief, rehabilitation and development undertakings since 1974 in different parts of the country i.e. the Southern Nation Nationalities People Regional Government, Oromiya and Amahra Regional State where the church has well organized capacity in terms of man power, other logistic services, a strong base, strong church structure and systems. Kambata, Hadiya, Chench, Arba Minch, Kucha, Gofa, Ada'a Liben, Shashemene and Gedio were the areas included under the church's project intervention. Amongst the activities carried out by the Church are soil and water conservation, crop production, horticulture production, feeder road construction, relief and rehabilitation, animal husbandry, child sponsorship, health program, children development and water works.

The church has designed Food Security Strategy to enhance Food Security at household level. The ultimate goal of EKHC food security strategy is complementing the on-going efforts by the government and non-governmental organizations to bring about food self- sufficiency and food security in the country. The EKHC Food Security has the following major components. These are increasing crop production and diversifying food sources, increasing livestock production and marketing, increasing income and diversifying income sources, controlling the prevalence of HIV/AIDS, malaria and TB; promoting technologies that reduce women's drudgery; refocusing the church's attention on poverty alleviation and building emergency response capabilities. The church has been working with women, children and men in areas of skill training, integrated rural and urban development and integrated children development for more than 13 years. The major areas of enhancing community capabilities and enabling them to be food secured include: -

- Training farmers and helping them produce different crops, vegetables, root crops and fruit trees. In the year 2001, 3,400,000 forest and fruit tree seedlings were developed and distributed in Hadiya, Kamba and Kucha districts.
- Promoting horticulture by irrigating plots using simple diversion of rivers thereby decreasing dependence on rain fed agriculture and enabling farmers to produce more than twice a year.
- Improving the genetic makeup of cattle in project areas thereby increasing milk production significantly. The bull service has changed the life of many

particularly in Kedida Gamella and Angacha districts. The beneficiaries substantiated that they were able to improve their nutrition status, build better houses (some with iron roofs), and send their children to schools and even start up small business enterprises.

- Reducing death of livestock by availing drugs and veterinary services.
- Promoting bee-keeping and training farmers on honey production and processing
- Enhancing the capacity of women to earn income and promoting their access to productive resource through training and the credit and saving services. In the year 2001, 124 women were trained in home economic, soap making, sewing, etc in Arbaminch.
- Distribution of improved seeds and fertilizers.
- The major food security related projects carried out by the Relief and Development department over the last five years are:
 - o Kucha integrated rural development project;
 - o Hadiya rural development project;
 - o Kamba integrated agricultural development project;
 - o Arbaminch women training and kindergarten project;
 - o Hadiya emergency relief project;
 - o Farmers' rehabilitation project (KAT zone, Hadiya zone, Goffa woreda, and burji special woreda);
 - o Alaba-Kedida Gamella soil and water conservation project
 - o Kucha farmers; rehabilitation project;
 - o Sulula water development project;
 - o Bilate community owned afforestation project;
 - o Konso emergency relief project;
 - o Goffa kindergarten project; and
 - o Durame cattle cross breeding project;

To promote the newly introduced technologies for sustainable development, the need for information technologies became very crucial. Hence the church launched a project on video capturing, editing and making movies in partnership with Big World.

Objectives of the project

The overall objective of the project is to train the stakeholders in modern information, communication and networking.

The specific objectives of this project are enabling the trainee's

- to operate a video camera
- to film
- to edit
- to make movies

Limitation of the project

Since the trainees were from different corner of the country (i.e. people from Arbaminch and Debre- Ziet nearly 540 and 45 KM from Addis Ababa respectively), the equipments provided were few in number to practice what we trained in the field. In addition due to shortage of money the church was unable to plan training programs to expand the skill.

III. Methodology

Training feedback

The training enables twenty trainees from different project sites to have a good knowledge on how to operate a video camera, how to film, how to edit and how to make a movie.

Experience with the use of camera

Trainees some times failed to manage to fix the accessories while using the camera. For instance using the tripod while filming, switching on the microphone, etc.

Experience with editing

The following are the problems the team faced during experiencing editing.

- Computer failed to render the scenes to tape
- Shortage of equipments
- Limited memory space in the computer

Use of end product

The high land fruit trees are new to most of the high lands of Ethiopia. The end products (for instance commentary films on tape and CD) were utilized in the promotion of the activities.

Challenges

- The members times were involved in additional activities
- Lack of materials to expand the skill
- Scattered members
-

Recommendation and suggestions

As it has been discussed this technology is fresh and supportive to the EKHC to promote new innovations i.e. expansion of the high land fruits that is becoming a good source of income for the highlanders and others. The project areas of the EKHC are very scattered and far from each other to use the equipments interchangeably. Therefore additional equipments and funds should be supplied to the EKHC to expand this technology. On top of that it is too early to Big world to phase out the project. To this effect it would be very important if the Big world extend the project to back up sustainability of the project.

We would like to express our pleasure to the incalculable effort of Big World in transferring the technology that will help the church in promotional as well as information sharing works.

Final Report from Selam

FINAL REPORT FOR THE BIG WORLD VET PROJECT

Section One: Survey Result

Starting June 2002 Big World is working with Selam Technical & Vocational Center (STVC) and Kale Heywot Church (KHC) in Ethiopia. The partners in Ethiopia are active in vocational training. The project aims to provide vocational training by using video and other digital media.

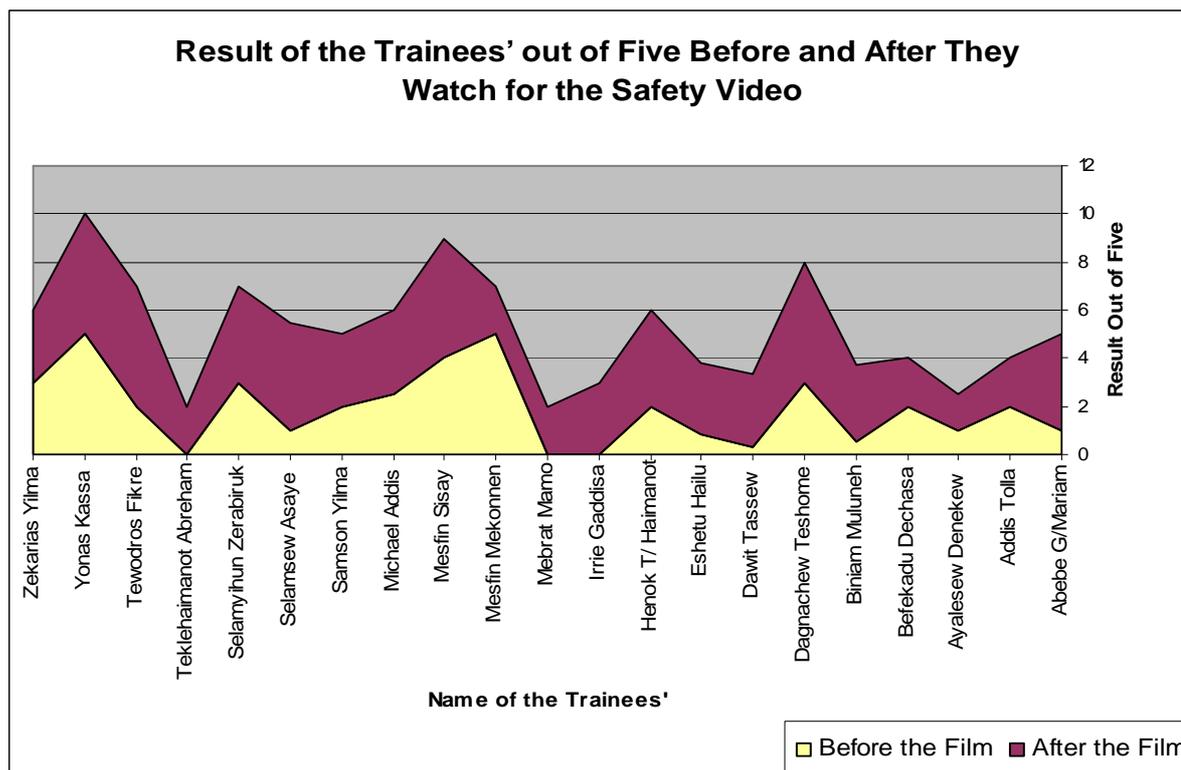
By means of this project Big World conducted four workshops in Ethiopia for Selam and KHC. The workshops gave the participants some hints on the use of video equipment, video recording, editing the recorded materials on PC to provide finished video programs for training and putting it onto CD Rom and video tape for the use of the centres.

Consequently we have tried to make a survey on how the use of video changed the knowledge of students on welding safety. In order to assess how effective it is to use digital media in training, we conduct some survey with the new entrants of our Center for the year 2003/2004.

We didn't follow the right procedure for sampling and research techniques. This is because the video tape is not prepared with the objective of proper teaching in the beginning. We used one of the tapes which we produced to practice the video recording and editing. Hence the survey may not give the right image on the impact of video but it gives a highlight.

For this survey we use a safety video on welding. As a sample we took twenty one students from the general mechanics department. This is one of the departments out of the six in Selam. The sample counts sixty percent of the first year students found in the department. All are male. Their age range is between 16 and 28 years and the last schooling before coming to Selam is 1996 to 2002. All had not taken training on safety before and not exposed to the vocational trainings.

We asked five questions on general knowledge. These questions try to show their ability to gain and retain information from newspapers and their surrounding. We have also provided specific questions about safety on welding before and after they watch the video twice. Based on these finding we noticed that to use video as a teaching aid is good even if we notice some weaknesses on our production. For instance, if we make it in our own language, Amharic, and work on it repeatedly it would have been more fruitful.



Section Two: Final Summary

Our experience of being involved in this project makes us somehow good enough in handling the digital video camera and involved in film editing. We have our audio visual section. One of the participants in Big World workshops is committed for this section.

We made videos on the following topics after the training

- Biogas construction
- Safety rules for different workshops
- Videos on different kinds of Selam's products
- Activities of Children's Village
- Street Children Project
- Graduation videos
- Holiday ceremonies and visit of officials

We haven't used our educational films as we planned for many students. One of the major reasons is that we are in transition to adapt the new educational curriculum in Ethiopia. Most of the instructors are trying to accustom themselves with this curriculum. So they couldn't use it as additional material. However we are going to use it in the near future by making some revision on it according to the new curriculum. It will be useful to most government schools in Ethiopia especially that can not afford to have machineries but engaged in the vocational training. They can easily show the machineries by using the video films that are going to be prepared in our Center. It will have a lot of contribution in a country like Ethiopia.

The other film production is very useful for our Center and for the Children's village too. We have benefited by advertising our products easily.

Currently we have started to involve about 120 children from Selam Children's Village who are taking a photography course. The purpose is to maximize our benefit that we got from Big World. If we can get the best trainees among them we can use them in teaching material production. The problem we face in this training is that we haven't enough equipment to exercise.

The other point we want to mention is the access to the website. We tried it to post our training materials used in the Center. However, the maximum file size which is set by the project is very small, 500 kb. Our materials have drawings that are exceeding far the limit. Our students also can't browse others materials because there is no Internet access to students.

Recommendations

Finally, if we involve in a similar project again, we would like to consider some changes. This is to use all the resource to the maximum.

- The training and the project should to be designed on our setting and context.
- The materials shall to be designed as per the need of the beneficiaries.
- The continuity to have Internet access has to be considered.
- Upgrading trainings is needed.
- Evaluation and comments of the donors should be disclosed.

We are very grateful about the knowledge that we got from you and for your assistance and provision of materials and equipments that are provided to our Center. We hope we will continue with similar projects.

Thank you again.

Extracts from internal reports

Assessment of pilot video content

Professor Roy Williams.
18 September 2002.

Why would anyone want to learn about this topic?

Why would anyone want to learn about this topic? In the *10 Tips for Producing Educational Materials*, point 3 said: identify the problems that the learners want to solve. It is useful to introduce training videos by showing the problem. In the examples in the archive there are good, quick, creative examples of how to do this. No-one wants a lecture on the problem, but a quick, creatively shown “statement” of the problem is always useful, and it gets the learner thinking.

The teaching format:

Identify the problem
Explain why it is important to the learners
Tell the learners what the solution is
Show them how to achieve the solution in small manageable steps

is a useful framework for any lesson (with or without multimedia). But don't forget step one – why learn about this at all?

A Natural “feel”

It is important to keep a balance between a “natural” speaking style on the one hand, and showing and emphasising detail on the other hand. This “natural” style is crucial to establish a good relationship between presenter and audience, and is the basis for good motivation and learning. It is achieved in the Compost Making and the Grafting videos, neither of which come across as too pedantic. However...

Critical detail and processes

The value of being able to manipulate what the video “sees” must not be lost. Although the learning relationship must *feel* “natural”, the power of using video or film is that the lens can be manipulated to see (and more importantly to show) things that you would not normally be able to see, or to see clearly. This is a highly artificial process, and its power must be used in educational videos.

In practical terms: It is useful to use simultaneous commentary (or “show and tell”) to establish the shots, the story, and what will effectively be the sound track. This is useful for learning, as it establishes a natural feel to programme, and a good flow.

It is also useful for learning if it is shot on site as it includes “actuality sound” – from the background. This is interesting from a media point of view, as it gives more “body” and richness to the video.

But more importantly for learning, it gives *credibility* by adding “real” sounds which make it sound more “live” and therefore more “real”. Credibility is critical for learning, and if you don’t have any “actuality sound” on your voice over, add some if you can – preferably from the actual context, but if not, from somewhere else!

Having recorded the shots in a show and tell mode, you need to go back to the learning objectives - Why? What problem are you trying to solve, and what learning are you aiming to achieve in order to do so? You need to get down to much more detail.

In the case of grafting, the objective is to grow better mangos. How is this achieved? By combining the qualities of local plants and “foreign” fruit trees. But what are the **critical success factors** that make grafting so valuable? You need to work through this with the subject expert, but the analysis might look something like this (my guesstimates):

Process Analysis

Process And Learning Analysis: Mango Grafting.				
		Learning		Media
	Value	Process, Solutions, time frame	Problems to avoid	How do we show this in the video?
Problem				
Diversity of fruit production for market/ food quality etc.	Financial (market) &/or health (food quality)	Grafting, over 12 months.	Investing in new products that no one wants.	1. Presenter tells camera. – or - 2. Show piles of one kind of fruit, or pictures of market/ sick children, with voice over.
Inputs				
Local root stock: Local mango (?) or other fruit tree plants	Good root system. Tolerates drought Grows well in local soil (rocky, or clay, or sandy etc) Survives local pests and diseases.	Select good local fruit/mango/other plants. Cultivate strong plants by planting and thinning.	Some bad choices of root stock in the past	Show local plants, with voice over of one or two key qualities.
Foreign fruit plants	Better yield, later ripening, size, low fibre.	Good selection, economic propagation,	?	Show product – mangos.
Grafting	Best roots and best plants			
	Quick propagation	1. Cultivating local saplings	Can't be too old or too young – i.e. what age???	Presenter tells camera

		Learning		Media
	Value	Process, Solutions, time frame	Problems to avoid	How do we show this in the video?
	Healthy plants, quick propagation.	2. Select mango scions, and cut.	Rough breaks rather than cuts leads to disease? Scions not too young or too woody.	Show branches removed with razor blade. Presenter tells camera.
	Lower transpiration loss	3. Remove leaves		Show leaves removed from both plants, with razor blade
		4. Cut grafts – to fit?	Cuts must match	Show how they match.
		5. Connect graft		Show how it is done.
		6. Wrap graft etc...		

The value of doing this is to systematise what *learning outcomes* are critical to the success for mango grafting, and to make sure they are included in the video.

Remember that on the one hand training can seldom stand on its own. Training should always be *training-and-support*, not training alone. But excellent training materials come very close to standing on their own. They should show and tell the learner everything they need to know.

In this case:

- The problem is not identified – why learn about how to improve mango plants, or propagation, or variety, or whatever? Can this be applied to other plants?
- The timing is not mentioned – often this is best done at a particular time in the season. Is this critical? Nor do we know how long it takes before we can plant the graft, or how much time we save in propagation.

- We are not show how exactly the two stems have to match, or how the graft is put together. Is this something everyone knows already? Is it critical?
- We are not shown or told how tight the binding should be. Is this critical?

In all of this it is important to go back to the *10 Tips for Producing Educational Materials*. It said that you must always use what the learners already know. Some of these issues I have raised here might be unnecessary. You need to know how much the learner already knows, as no-one wants to be told that! But on the other hand, you might need to make a video that could be useful to someone who has never heard of grafting. In any event it is important to identify the learning issues, and that means you need to also identify your audience quite carefully. Tell them too much and they will be bored. Tell them too little and they will get more confused.

To go back to the balance between a natural speaking style and detail

If you have shot a show-and-tell sequence, like that of the Grafting video, you need to go back and see what the presenter has – and has not - been able to “show-and-tell”. In this case there are critical steps that are not shown at all – how the grafts match, and how they are put together. You can leave the basic video track in place, with its actuality sound, the natural speaking style, and its flow and continuity, and shoot some new shots of the graft matches, and graft assembly separately, and edit them in. You can also use simple drawings and edit them in – chalk on slate, or felt-tip pen on white board can be shot right there, in which case you don’t have to worry about removing the “actuality sound” from the sound track.

(Extracted from internal project report)

Other course materials

Use of video in vocational training/teaching

By Professor Peter Dunn of Gamos Ltd

Introduction

The following points are intended to serve as the basis of a training module to be delivered to vocational training teachers, to help them both design and use video effectively as a teaching aid.

The process of creating a video for use as a teaching aid is represented in Figure 1.

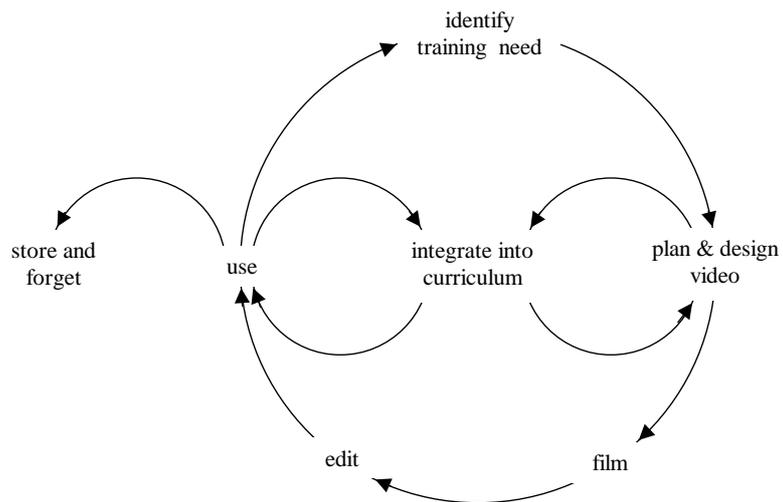


Figure 1 Process of creating video

The two main goals of a training video are that it aids learning, and that it is well used.

In order to achieve this, material must be

- relevant to the curriculum;
- correspond with how students learn
- be accessible and attractive to trainers.

Know your students

When planning vocational training courses there are several factors which should be considered:

Students

- the students' needs e.g. why are students attending the course; how will they use the information? This will guide the type of information you might want to put on video.
- background of students e.g. what is the language, education, background and experience of the students? This will guide the content and presentation style of any videos.

-

Trainers

- a course curriculum may include topics in which trainers have little experience or knowledge – a video can help bridge such gaps;
- trainers may lack teaching training and experience – videos can demonstrate teaching styles and boost confidence

Basic Teaching Methods

Visual and Oral

Traditional chalk & talk. Other audio visual tools including video.

Hands on

For developing manual skills

Repetition and Reinforcement

One accepted teaching model is to:

- tell students what you are going to talk about
- talk to them
- tell them what you have said

Make it interesting by using various approaches to present the same basic information in different ways:

- anecdotes
- personal experience
- humour (sparingly)

Use of video in training

Advantages

Content

- Allows course to be carefully planned and prepared, to give complete and balanced content.
- May incorporate inputs from specialists not available locally.
- Can cover real situations. Give many examples of applications.
- Shows activities that can't easily be demonstrated – e.g providing information on equipment and skills not available locally
- Squashing timescales. An overview of a process that takes a long time can be presented in a short video e.g. show only key features of manufacturing process, leaving out time consuming or repetitive processes, such as sandpapering; decomposition of compost; growing of plants.
- Can reassure and inform local trainers.

Use

- Videos do not forget. – The video will be the same each time it is used, allowing greater consistency in teaching.
- Can be used repeatedly to give repetitions and reinforcement. Different camera angles can show slightly different aspects of repeated operation. Demonstration can be repeated without cost of materials.
- Transfer of manual skills is notoriously difficult. Videos do not become impatient and can be both slowed down and/or repeated endlessly.

Using video to help students avoid mistakes

- Video can be used to demonstrate how not to perform tasks (and show why not).
- Video can demonstrate what will happen if mistakes are made or equipment is handled incorrectly, especially in situations that are too expensive or dangerous to demonstrate regularly e.g. what will happen if you put electrodes in a pool of water
- Use of video can enhance student choices. The menu driven approach of DVD or VCD with PowerPoint can allow students to take decisions, then demonstrate the implications of these decisions.

Constraints

- Video should not be used as a substitute for hands-on experience. It should be used as a useful tool in conjunction with other teaching methods .
- Videos do not have any understanding of the individual student's needs or difficulties or of local circumstances. In particular, videos do not give personal encouragement.

Effective Application of Videos in Training

It is essential that the content should be very carefully prepared – errors or omissions or irrelevant materials will be repeated extensively and for a long time. Videos should be of high and consistent quality, and of perceived value to the trainers, if they are to use them regularly – if not, they will gather dust in a cupboard and be forgotten.

A trainer needs a minimum number of videos as teaching aids so that the video becomes a familiar tool as part of the arsenal of teaching aids, alongside models, posters etc.

For the presentation of material in the video it is desirable to use local trainers in a suitable local environment.

Different Types of Video

Videos can be used at different stages in the training process.

Subject Overview

Firstly, the student should be given an overview of the subject which demonstrates its purpose. The video is of particular value here and should cover, for carpentry students for example, existing and new buildings at various stages in their construction. It should show where particular skills are applied. Identify these skills. Students will then have an idea of the course context.

Course Overview

This will describe the course content using the video to introduce the course, and to give an overview of each component of the course. This can be of use during induction periods when students enrol, or throughout the course as new topics are introduced.

Teaching

Videos dealing with specific topics in detail e.g. demonstrate right and wrong use of tools, methods, techniques etc. This level deals with every day teaching of curriculum.

