

I. NEW APPROACHES TO OLD PROBLEMS

First we look at the reasons for the past failure of most soil and water conservation projects in East and West Africa. What went wrong with so many of them, in spite of their good intentions?

SOIL CONSERVATION PROJECTS – WHY SO MANY FAILURES?

Concern about soil conservation is nothing new in Africa. Several colonial administrations recognized that there was an erosion problem early this century. In the British-ruled territories soil conservation became a major issue during the 1930s, when a number of schemes were started. Programmes of one sort or another continued in most countries until independence. But the majority of these schemes were resented by the local people, who were forced to supply labour.

Few of the bunds and terraces constructed were maintained by the “beneficiaries” afterwards. Soil conservation was seen as being a form of colonial oppression. It is not surprising then that independent Governments found it difficult at first to support soil conservation programmes. When conservation projects did begin to reappear, many of the same old mistakes were made again. Until very recently there has been a long list of soil conservation failures.

Historical failures have been discussed in two of the case studies. In Machakos District of Eastern Kenya, soil conservation work was made compulsory under the colonial administration and forced labour was used for community conservation programmes. Although some of the techniques were effective, the methods used were very unpopular.

The second example comes from Burkina Faso, where the “GERES” project of the 1960s was another failure. In this case, machinery was used to construct terraces over whole catchments. But the work was done without any attempt to involve the local people in planning. The bunds were simply ignored when the machinery had finished, and nothing was maintained.

SOME OF THE CAUSES OF FAILURE:

- compulsory labour under colonial rule
- unpopular rules and regulations to enforce conservation
- centralised planning by experts
- planning on the basis of geographical “catchments” rather than natural village units of land
- use of heavy machinery which it was not possible to maintain
- structures which needed very large amounts of labour
- too much emphasis on soil erosion rather than conservation of moisture for plant productivity

THE GROWING NEED FOR EFFECTIVE CONSERVATION PROGRAMMES

The need for conservation programmes is much greater now than when the first unpopular programmes were started!

Population has increased. This means that more land has to be used for cultivation, and fields cannot be rested from cropping to recover their fertility as in the past. Another result of the growing population has been the increasing need for firewood. Often more wood is used than is produced. The system has slipped out of balance.

Livestock numbers in many areas have increased and the animals are squeezed on to less and less land as cropping expands. Inevitably the vegetative cover of grass and bush suffers – particularly in dry years.

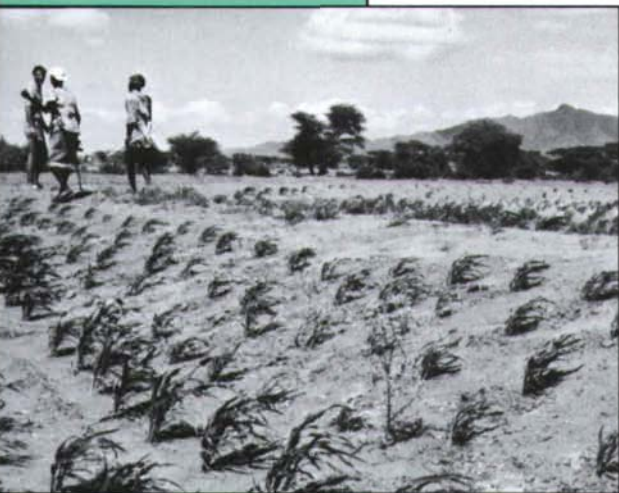


APPROACH IS JUST AS IMPORTANT AS TECHNIQUE



GROWING POPULATIONS HAVE LED TO AN INCREASED NEED FOR FIREWOOD, BURKINA FASO.

FARMERS ARE PART OF THE SOLUTION NOT PART OF THE PROBLEM



CREDIT: Olivia Graham/OXFAM

TECHNIQUES WHICH LEAD TO RAPID YIELD INCREASES ARE THE MOST POPULAR.



Rainfall has decreased. Rainfall remained below average after the droughts of the late 1960s and 1970s. Areas which used to produce good yields in most years became "marginal" for growing crops. Sorghum areas became millet areas.

In recent years, growing populations, and increased needs for firewood and farming land, combined with reduced rainfall, have led in many areas to land degradation – in other words the land can no longer support the same amount of crops, grass, trees or livestock as before. In extreme cases, land which used to produce good vegetation is now bare and hard.

One vital difference between the situation in the present day and the situation twenty or thirty years ago, is that now without some sort of soil and water conservation, many of the farmers in the dry zones simply cannot continue to produce crops, or feed their animals.

People are deeply concerned, and in many areas they are ready to respond to conservation programmes – if the programme makes sense.

In each of the six areas studied, there is a similar basic problem – how can land be kept productive? And in extreme cases, how can land that has become barren be brought back into productivity?

NEW APPROACHES – SOME SUCCESS AT LAST

Recently there have been some hopeful signs that conservation projects can meet with success. This means:

- the measures carried out are *effective*
- they are *appreciated* by the local land users

and... the final proof...

- the systems are actually *adopted* by the community and put into practice voluntarily.

There is one common theme which runs through all of the projects where there are signs of success. It is **POPULAR PARTICIPATION**, and it is perhaps the most important lesson of all.

There are other common factors too. The projects which can claim some success tend to be fairly small scale. They treat farmers as part of the solution, rather than part of the problem, by working closely with them and trying to promote techniques which are easy to understand and simple to carry out.

One very important characteristic of all the successful projects is that they have developed techniques which give farmers a rapid yield increase – based on conservation of moisture rather than just soil. This is the priority in dry areas.

Many countries in sub-Saharan Africa found it politically impossible to support soil and water conservation programmes soon after independence. But now there are signs in certain countries that there is a political will for conservation to succeed.

A WORD OF CAUTION!

We should not get carried away with the success stories and assume that conservation programmes have changed radically from the old days. This is unfortunately not the case! There are still plenty of projects with mistaken approaches which continue to spend a lot of money, building many kilometres of structures by machine or under food-for-work schemes without having any thought for what happens when the project comes to an end.

Even with the most successful projects there is still a long way to go before we can say that the majority of the land is "conserved". There is still a huge gap between what has been achieved and what could be achieved. It will take a lot of commitment from the people, the development workers, the donors and the Governments to reach this goal.

However some light can be seen at the end of the tunnel. The purpose of this booklet is to look at some of the successes in detail, and to analyse why things have worked, and what hope there is for the future.

AN INTRODUCTION 1

MALI

Projet Lutte Anti-Erosive (PLAE): Koutiala



Tree planting is part of the PLAE programme

PLAE is the largest and oldest conservation project in Mali. It is situated in the relatively wet part of southern Mali, but degradation is nevertheless a problem here also. PLAE introduced the concept of village land-use management, planned and coordinated by village associations. A range of erosion control techniques have been introduced – some more successfully than others.

Traditional Soil and Water Conservation: Dogon Plateau



Dogon village

This is the only case study which does not involve a project directly. The Dogon Plateau is of particular interest because it is home to a wide variety of traditional soil and water conservation measures. There can be few other areas in sub-Saharan Africa where the local people have devised such a range of conservation techniques. The measures could be improved, but there is much to learn from them.

BURKINA FASO

CREDIT: Jeremy Hartley/OXFAM



Participation is one of PAF's strengths.

Projet Agro-Forestier (PAF): Yatenga Province

The Agro-Forestry project (PAF) has built up the reputation of being one of the

most successful soil and water conservation projects in sub-Saharan Africa. PAF promotes contour stone bunding and planting pits as its main conservation technique. Participation of the local farmers in all aspects of the project and a very well organised training system are PAF's main strengths.



Lorries are used by PATECORE to help farmers transport stones.

PATECORE: Bam Province

PATECORE is a recent conservation project on Burkina Faso's Central Plateau. PATECORE has set up a provincial committee for the coordination of

development activities and promotes self-help by local communities. Communities are encouraged to develop village land-use management plans, and are trained to use aerial photographs for this purpose. Permeable rock dams are the project's most important conservation activity.

THE CASE STUDIES

For the case studies we visited three countries, Burkina Faso, Kenya and Mali, and studied two areas in each. We tried to cover very different projects in contrasting situations. The idea was to highlight experiences from as wide a range of dryland areas as possible.

This is a brief introduction to the case studies which will be referred to in the next section. Part 2 of the book takes each area/project in turn and describes it in detail.

KENYA

The National Soil and Water Conservation Project (NSWCP): Machakos District

Machakos probably has the best soil and water conservation record of any district in Kenya. Though rainfall is quite high on average, lack of moisture for the crops and erosion are both serious problems. However most of the arable land has now been terraced. Success has largely depended on the self-help groups which implement much of the conservation. The farmers, many of whom are women, have recognised the benefits of terracing.



In Machakos District, much of the work is carried out by self-help mwethya groups.

The Lokitaung Pastoral Development Project (LPDP): Turkana District

LPDP is situated in a remote area of north-west Kenya. This is an arid and difficult area where there is a history of hardship and relief food aid. The people are mainly semi-nomadic pastoralists. The programme began as a water harvesting project but has now become a long-term development programme, mostly concerned with pastoral production – the main occupation of the local people. LPDP is managed by the people themselves.



Oxen-drawn scoops make earth moving easier.

2. THE LESSONS

What are the essential ingredients of a successful soil and water conservation project? This is the heart of the book. Let's take a close look at the most important messages from the case studies.

PARTICIPATION

Participation of the local people in all stages of project activity is the most important lesson of all. It is the voluntary cooperation that has grown up within communities which has made the difference between the few conservation projects which have met with some success, and the many which failed.

It ought to be obvious that the people themselves have to be involved in the projects! Without their support, whatever is done from outside is doomed to failure. This is not only because systems have to be maintained, but also because no project on its own can cover all of the area which needs conserving.

Participation takes many forms and has several stages. We will see in the lessons that follow that it is stressed time and time again. For example *training and motivation* includes involving the people in laying out and building the structures, and in *village land use management* the village groups take responsibility for their own land. When we talk of *suitable systems*, this means systems that can be implemented and maintained by the people with the minimum support from outside.

People need to be involved in conservation projects from their very beginning and during all the following stages:

- planning of the project's targets and objectives
- land use planning
- technical training
- designing and building the structures
- maintenance of the systems
- monitoring and evaluation

Each of the studies demonstrates the importance of participation.

In Burkina Faso, PAF has a particularly strong technical training programme for villagers, and PATECORE has developed a land use planning system where the community sets its own priorities for conservation activities. In Kenya, NSWCP in Machakos depends entirely on voluntary labour, usually by groups, to carry out the terracing work, and LPDP in Turkana has become, effectively, the people's own project. Finally in Mali PLAE has helped develop strong village associations which coordinate the conservation activities, and on the Dogon Plateau of course all the traditional soil conservation is carried out entirely by the local people without assistance.

If a soil and water conservation project – or any other similar village project – is to succeed, it must win the respect and the cooperation of the local people.



THE FULL PARTICIPATION OF LOCAL PEOPLE IS CRUCIAL TO THE SUCCESS OF THE PROJECT. LPDP, KENYA.

**PARTICIPATION
– THE KEY TO
SUCCESS**

**SUITABLE
SYSTEMS CAN
SURVIVE WITH
MINIMUM
SUPPORT
FROM
OUTSIDE.**

SUITABLE SYSTEMS

There are many well-tested techniques for soil and water conservation which have been developed in Africa over the last 50 years, but they have two main weaknesses. First, many of them require very large amounts of labour – or even machines – for construction.

Second, most of the techniques are for the higher rainfall areas – where prevention of erosion is more important than conservation of moisture.

In the drier areas of sub-Saharan Africa we want techniques which will conserve or even harvest rainwater and which are simple and cheap. This is what is meant by suitable systems.

It is vital to remember that a number of techniques which work well in one area may not do so elsewhere, for various reasons. It is tempting to suggest that the contour stone bunds of PAF could be used all over the region... but in many areas there are simply not enough stones! The earth basins made by the Dogon are extremely effective in conserving every drop of rainwater... but in regions where animals are used for weeding, the basins would be destroyed. Many techniques are therefore site specific.

The PATECORE project in Burkina Faso has developed a water harvesting technique called permeable rock dams. This is a kind of structure which has been particularly designed for the sites found in this type of dry area – namely fertile valley bottoms, where water used to spread naturally, but which are now developing gullies in the middle. This technique can only be used where there is a good supply of stone – and where permeable rock dams are a local priority. As you can see, this technique is appropriate for the area around PATECORE, but will not be suitable for everywhere in sub-Saharan Africa.

The *fanya-juu* terraces of Machakos District in Kenya are the mainstay of the soil conservation project, NSWCP. This technique is ideal for Machakos, where there is relatively deep soil and high slopes, and the priority is to hold rainwater in place. It is well understood and appreciated by the local inhabitants.

One technique which has an indirect effect on soil and water conservation – by reducing the amount of fuelwood needed – is the improved cooking stove promoted under PLAE in Mali. This is an example of a technique which could be used almost everywhere.



TRADITIONAL HILLSIDE TERRACE ON DOGON PLATEAU.

TRAINING AND MOTIVATION

In the past, soil conservation projects have trained people to dig ditches, or build bunds. And that was where the training stopped! There was little attempt to help people understand how land became degraded or how to improve land management. Even these days many projects restrict technical training to project staff. The local people are often looked upon as being merely the beneficiaries – and a source of labour.

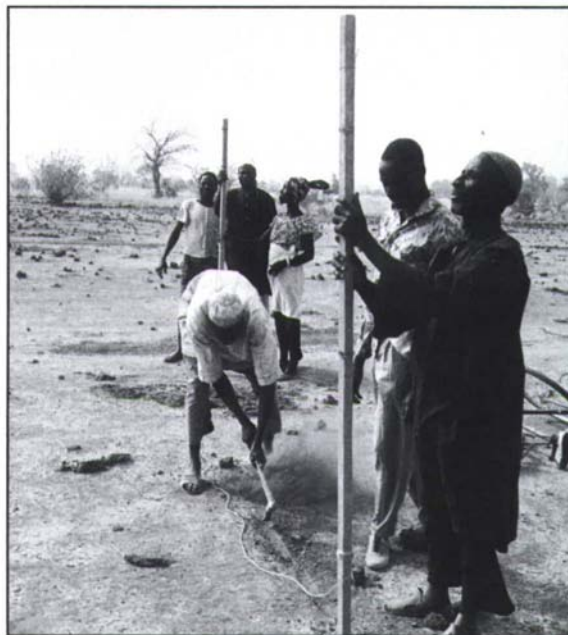
But now there is plenty of evidence to show that villagers can quickly understand what the environmental problems are and how they can be solved. Taking training a step further, villagers are taught new technical skills such as the use of simple surveying instruments. When techniques such as laying out contours are demystified, the people are brought right into the heart of the activities – and they become a part of the project.

PAF in Burkina Faso has a very well-developed training system for villagers. Originally, a model of a contour stone bund was used to demonstrate to trainees how runoff could be controlled in the field. Now, visits to neighbouring villages to see “the real thing” are used for the same purpose. Visitors from elsewhere in Burkina Faso, and even neighbouring countries come to see the contour stone bunds as well: exchange visits are very valuable!



A MODEL OF A CONTOUR STONE BUND IS USED TO DEMONSTRATE HOW RUNOFF CAN BE CONTROLLED. PAF, BURKINA FASO.

PAF trains villagers to use the water tube-level to lay out contours. Within an hour or two the trainees are laying out contour lines in fields with a great deal of accuracy. It is extraordinary that some projects still use “high-tech” surveying equipment for the same purpose. PAF also trains villagers in the careful construction of bunds and explains the importance of each stage.



TRAINING PUTS SKILLS INTO THE HANDS OF THE PEOPLE

A WATER TUBE LEVEL IS WIDELY USED IN WEST AFRICA TO LAY OUT THE CONTOUR.

PLAE in Mali uses a system of training called the “GRAAP” method (“Groupe de Recherche et d’Appui pour l’Autopromotion Paysanne”) which is an interactive form of education based on the visual aid of a flannelgraph. The villagers stick outlines of trees/stone bunds/gullies on a board and discuss the processes of erosion, and how to go about land-use planning. In addition,

PLAE uses a series of slides which are shown to villagers to demonstrate the whole cycle of land degradation and conservation.

In Kenya’s Machakos District, NSWCP trains self-help groups’ leaders to lay out contours using the line level – an instrument similar to PAF’s water-tube level. Training in soil and water conservation is even taken down to the level of primary-school children by the project.

WORK WITH EXISTING GROUPS

USING EXISTING GROUPS AND INSTITUTIONS

Groups are required in soil and water conservation and village land-use management projects for two main purposes. These are:

- the planning and coordinating of activities;
- the implementation and construction of conservation measures.

A clear lesson from several of the case studies, is that it is best to use existing groups for these activities. Such groups or institutions may be traditional, or may have been set up previously for another purpose. In any event an existing group is almost always easier to work with than one which has to be specially formed.

For planning, village associations of one form or another are the best organisations. Most villages (in West Africa) or sub-locations (in Kenya) have committees which meet regularly and could take responsibility for conservation planning.



SELF-HELP MWETHYA GROUPS HAVE DONE MOST OF THE TERRACING IN MACHAKOS DISTRICT KENYA.

For construction the picture is not so clear. In some areas people are used to working in groups – in others they are not. In some areas the groups are informal, and consist of friends and neighbours, in other areas there are formal working groups, registered with the government. But some people are not used to working communally at all – and efforts to make them form groups meet with failure. Groups are not always popular.

The best example from our case studies of active groups is in Machakos District in Kenya, the district where the National Soil and Water Conservation Project has been most successful. Here *mwethya* groups have been responsible for most of the terracing activities in the district. The groups terrace each member's farm in turn. The Ministry of Agriculture even uses the groups as "contact farmers" for its extension programme. The groups are traditional, but are now officially registered with the government. It is significant that outside Eastern Kenya, where such *mwethya* groups do not exist, the project has met with much less success – and it has not been easy to encourage other areas to form similar groups.

In Turkana District, also in Kenya, LPDP has based its management committees on traditional institutions which has given the project much credibility locally. However, the actual work is carried out by informal groups of friends – quite different from Machakos.

On the Dogon Plateau in Mali, construction of soil conservation measures has historically been done by individuals. However a new project has recently introduced the idea of paid group labour to speed up some of the more labour-demanding tasks.

FLEXIBILITY

Some of the main lessons in the book do not only apply to soil conservation. They are equally true for other types of projects. The need for flexibility is one example. What we mean by flexibility is the willingness and ability of a project to alter its workplans in response to its experience and to people's priorities.

Anyone who has worked on a project, whether a small NGO project or a large multilateral operation, knows that they rarely end up looking like their preparatory documents had planned. And yet there is always pressure on the project staff to achieve targets – targets which often turn out to be entirely unrealistic. The danger is that the project pushes programmes which the people don't want in order to stick to work plans.

The word "flexibility" may seem to imply weakness. In fact it is a strength. It is evolution. If flexibility is written into a project, the project is able to respond to changing circumstances without seeming to have failed! Workplans should always allow for reviews, and changes of direction. There should ideally be funds which are not tied to specific activities which can be used for items or activities which were overlooked during project preparation. At the very least a project should be prepared to change when change is necessary.

Lokitaung Pastoral Development Project in Kenya has modified its objectives so much that it needed to change its name!

The project started life as the Turkana Water Harvesting Project, and for the first three years of its life, concentrated on water harvesting for sorghum production. However the project management committee – composed almost entirely of the local beneficiaries – decided recently that the project had achieved its initial objectives and should now assist the people with their main priority, their livestock. The project has responded.

The Agroforestry Project (PAF) in Burkina Faso didn't change its name... but right from the start it was realised that an agroforestry project was not wanted in the area! The people made their priorities clear. They wanted help with food production, not tree planting. So PAF became a soil and water conservation/water harvesting programme. Only now, after more than ten years, is PAF becoming involved in agroforestry as part of its evolution into a village land-use management project.

In Mali, PLAE admits that not all of the techniques proposed worked well, and some were unpopular. So the project responded by making modifications. For example an earth bund/ waterway system was found to actually cause erosion, and so it was replaced by a more effective technique.

Flexibility and the willingness to let a work programme evolve is a positive characteristic in any project. It is not a weakness.



ONLY NOW, TEN YEARS LATER, IS PAF BECOMING INVOLVED IN AGROFORESTRY

**FLEXIBILITY
IS STRENGTH**

**BUILD ON
WHAT PEOPLE
ALREADY
KNOW**



TRADITIONAL ONION TERRACES

**BASING TECHNIQUES ON
TRADITIONAL SYSTEMS**

We have already noted the importance of using soil and water conservation techniques which are appropriate to each area. One approach is to find out what the people have done traditionally, and to work on improvements to those systems.

This approach has very seldom been used – though there are some interesting exceptions to talk about here. Indeed most soil conservation experts display a rather surprising ignorance of traditional techniques, which they either do not notice, or deliberately ignore!

This is a mistake. Many traditional techniques for soil and water conservation are in fact quite effective. Others were effective in the past, when conditions were different – when land was rested for longer, and rainfall was better. But unfortunately not enough is known about traditional soil and water conservation in Africa. This is rather an embarrassing admission for the “experts”!

On the Dogon Plateau there is a rich heritage of traditional techniques of soil and water conservation. Some of the techniques are growing in popularity, others are used less these days. Some may even have been introduced fairly recently. The systems are not perfect and there are a number of improvements which could be suggested. But the fact remains that the techniques are

remarkably ingenious – and yet have seldom been studied by any of the people who advise on conservation in the Sahel. There are lessons waiting to be learnt on the Dogon plateau.

PAF in Burkina Faso has done exactly as has been suggested above. The project has based its main technique, stone bunding, on the traditional system of simple stone lines. PAF has taken the basic system and improved it – by introducing the idea of contouring, and by building the bunds more carefully. In addition, PAF has revived the system of deep, widely spaced planting pits or *zai*, which improve the system further by collecting and concentrating rainwater. There has been no problem with acceptance of the two techniques by local farmers.

In Kenya the approach of LPDP has been rather different. Although its conservation/water harvesting developments are sited on existing plots, traditionally bunding did not exist. However there had been considerable experience in the district with water harvesting schemes. LPDP simply took its pick of the most successful techniques from other projects – and improved on them. Learning from other’s technical experience is always worthwhile.¹¹

It is always worth studying traditional techniques of conservation and basing new systems on improvements of these, wherever possible.

VILLAGE LAND-USE MANAGEMENT

Soil and water conservation was conventionally thought of as being a series of structures – earth terraces or stone bunds for example – put in place to conserve a certain area of land. In fact effective conservation must be much more than that. In order for the problems of land degradation to be solved, there must be a wider or more “global” approach. This type of approach is sometimes called village land-use management.

What is village land-use management?

It is basically a system in which a village takes responsibility for all the land which is used by its inhabitants. While the privately cultivated fields are treated by individuals, the common lands are the responsibility of the village as a whole. This is one way of tackling the most difficult question of all – how to prevent degradation of the common grazing lands.

A village land-use committee is an essential starting point. This committee should be made up of members of the community who are respected and well-motivated. Its job is to plan and coordinate action. The normal stages are:

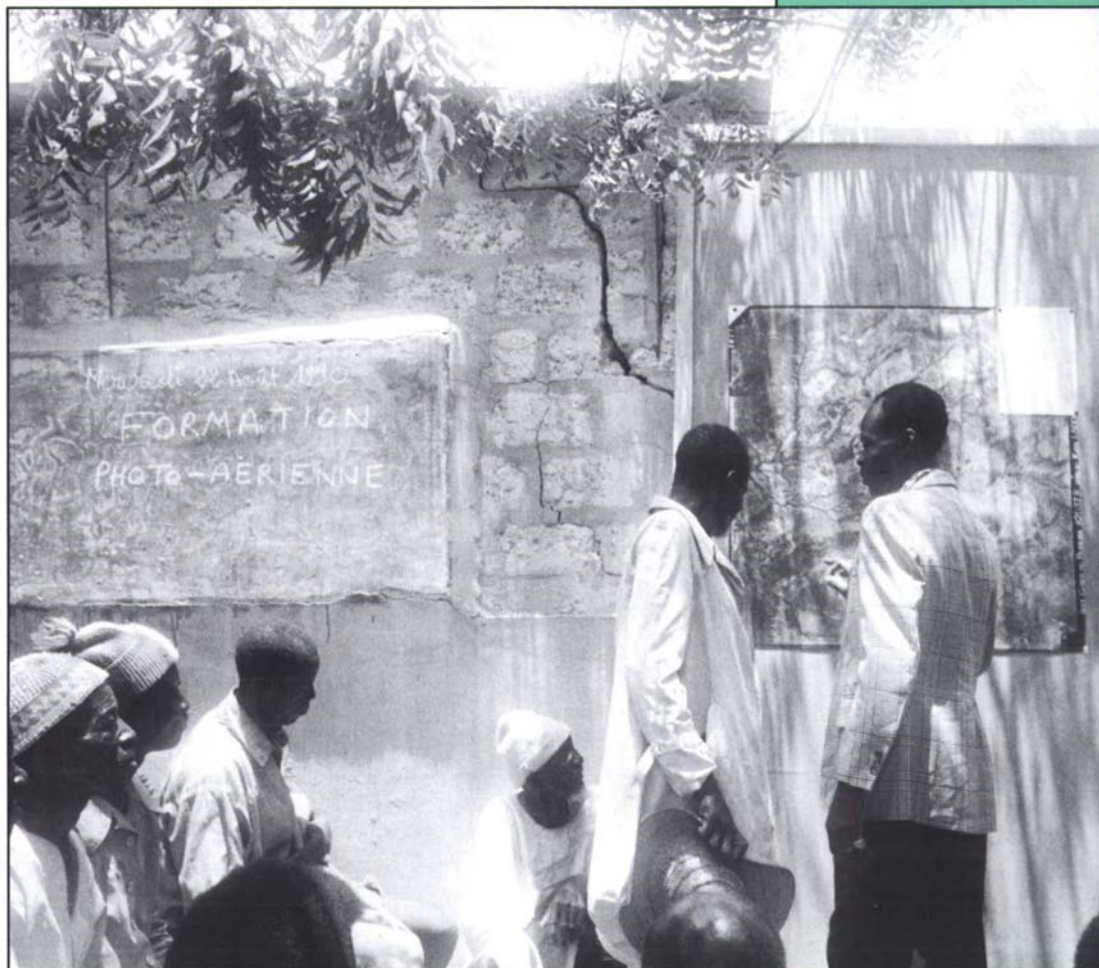
- planning appropriate land use in the village
- selection of suitable techniques for each zone
- working out a time-table for implementation

PLAE in Mali has adopted a “global” approach to conservation from the beginning and has the widest range of techniques of any of the projects studied, including stone lines, grass strips, live fences, improved cattle pens, check dams, tree planting and improved stoves.

Fortunately for this project, there were already well-established village associa-

tions which could be used to plan and coordinate the land-use management activities. Planning of appropriate land use is carried out using the flannelgraph system of sticking cut-out images on a board, after a visit around the village lands with the technicians of the project has taken place.

PATECORE in Burkina Faso aims to promote village land-use management, and has developed a very effective technique of training the villagers to use aerial photographs to identify traditional land units. This is the basis for planning.



VILLAGERS ARE TRAINED TO USE AERIAL PHOTOS

PAF in Burkina Faso is also branching out into a broader approach. PAF has a very successful system of conservation for agricultural land, but has realised that this is not enough. The grazing lands in particular present a problem – so village land-use management is being introduced.

Village land-use management is an exciting new idea which takes soil and water conservation one step further than simple earth terraces or stone bunds. It is an integrated global approach to conservation in which the villagers take responsibility for all their land.

**CONSERVING
FIELDS IS
ONLY THE
STARTING
POINT**

COLLABORATE TO AVOID CONFUSION

COLLABORATION BETWEEN ORGANISATIONS

Too many projects work independently – often without letting other projects, or even the Government services, know what they are doing. Workplans and reports are not circulated, and there is no attempt to meet to coordinate activities. The result is that there is often an overlap – projects effectively doing the same work in the same area. At the worst, there may be competition between projects. The local people become confused, and inevitably it is they who suffer.

A number of the projects we have studied have a deliberate policy of collaborating with other institutions. The best example is PATECORE in Burkina Faso, where the project has set up a provincial-level committee for coordination of development activities. PATECORE also provides training for the staff of other projects and Government services.

In the drier zones of Kenya, small non-governmental projects often do not bother to inform the Government what they are planning or what they have achieved. It is therefore good to note that LPDP has forged links with the Government's District Development Committee.

Collaboration between development organisations is essential, to avoid confusing the local people, and to ensure better planning and a more efficient use of resources.

INCENTIVES

There is a long-standing debate about the use of incentives for development activities! There are those who argue that people should always be paid (with cash, tools or food) because they are poor. On the other hand it is argued that few or no incentives should be given, because incentives tend to make people dependent on help.

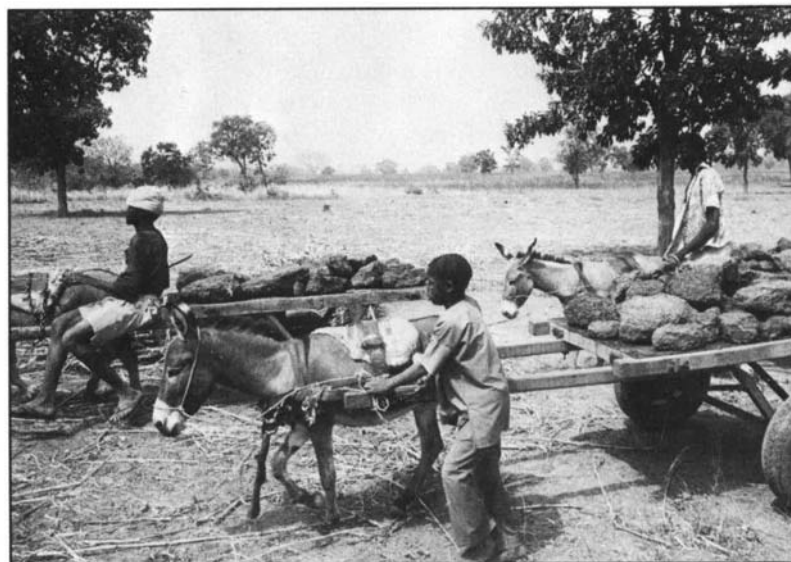
In our case studies it is clear that the majority of projects feel that incentives should be given, yet kept to a minimum, and that the emphasis should be on "tools-for-work". In Machakos District in Kenya, the only free inputs are indeed tools – shovels, hoes, pickaxes and so on. Likewise PAF in Burkina Faso recognises that people are genuinely short of tools, and makes hand tools available to village committees for allocation.

None of the projects pays cash for work to be done. Neither is food-for-work used (though LPDP in Kenya has just phased it out as a matter of policy), as it is seen as a disincentive to voluntary participation – in other words people would simply refuse to continue to work without food rations.

Incentives can be very useful to assist people in soil conservation activities. Food-for-work and direct payment should be avoided wherever possible. Tools are a better choice.

MECHANISATION

The debate about mechanisation is similar to the debate about incentives. Is it right to introduce machinery, which may break down and prove impossible to maintain after the project comes to an end? On the other hand is it fair to deny people the use of technology which will make work easier and much faster?



STONES FOR BUILDING BUNDS CAN BE CARRIED BY DONKEY CART WHEN THE DISTANCE IS NOT TOO GREAT.

APPROACH MECHANIZA- TION WITH CARE! – THINK BEFORE YOU MECHANIZE

CHOOSE INCENTIVES WITH CARE

Here we have contrasting views. PATECORE in Burkina Faso argues that "erosion is faster than a donkey cart", and therefore justifies the free provision of lorries to carry stones to make permeable rock dams. PLAE in Mali prefers to encourage people to use donkey carts for the same purpose. They think it preferable that people should rely on their own resources. In Burkina Faso, PAF supplies donkey carts to people who will use them, but has bought a lorry also for situations where stone has to be carried long distances...

This is a difficult debate. The balance of opinion seems to be that mechanisation is best avoided, because of the problems of maintaining the machinery in the future. However, if machinery is used, it should be under certain conditions. For example it should be used only where it is needed, and for a limited period such as during a construction phase.

Despite the obvious advantages of mechanisation there can be serious problems of maintenance after the project comes to an end.

LIFE OF THE PROJECT

Projects rarely achieve much in three years. Yet three years is a common project life. Usually projects need time to modify their plans according to experience. Three years is no more than an establishment period. To be of real use to the communities served, projects need to have a long-term commitment. But equally they cannot go on for ever! They should plan for an eventual withdrawal when the development processes they have started can continue without project support.

This is the message which comes across from the projects we have looked at. In fact many of the projects are effectively open-ended, and new phases are funded according to requirements. Ten years after PAF started, now that the basic conservation techniques are well understood and have been widely adopted by farmers, the project is considering which direction it should take next.

The life of a project should not be so short that it has no chance to become truly effective. Equally projects should always plan for eventual withdrawal.

MONITORING AND EVALUATION

Development projects in sub-Saharan Africa, whether large or small, are notoriously bad at monitoring, evaluation and adequate reporting. And yet these processes are extremely important. How can we plan for the future if we don't know what has been achieved, and how people have benefited? The lesson from our case studies is that not one of them has a truly satisfactory system of monitoring and evaluation.

Often it is said that techniques are extremely beneficial to farmers – and therefore there is no need to measure the results – crop yields, for example. But if no measurements are made, how can two techniques be compared? And how can you tell if the benefits are greater than the costs?

Even two of the most successful soil and water conservation projects in sub-Saharan Africa have inadequate monitoring and evaluation systems. PAF in Burkina Faso has few data on yields from farmer's fields, and there is some doubt how reliable the figures are. In Kenya, NSWCP admits that it does not yet have enough knowledge of the benefits of terracing on yields and on the soil.

Adequate monitoring and evaluation systems need to be included in every project in order to collect data for analysing the costs and benefits of various techniques.

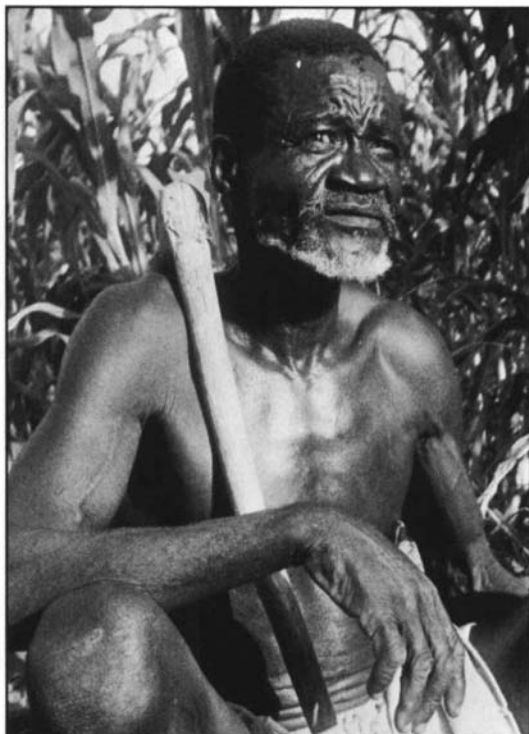
RAPID BENEFITS FOR FARMERS

Each of the main techniques introduced by the projects we have studied has led to rapid benefits for the farmers. This is

**KEEP
RECORDS –
MEASURE
YOUR
SUCCESS**

**DON'T EXPECT
DRAMATIC
RESULTS TOO
QUICKLY**

**FARMERS
WANT
BENEFITS
NOW**



GOMBRAOGO OUEDRAOGO, HAPPY WITH HIS CROP.

because the techniques used have been for moisture conservation or water harvesting rather than erosion control. Since rainfall is scarce in most of the project areas, when moisture is conserved, yields are improved. And by conserving moisture – in other words keeping rainfall on the field – soil is automatically conserved as well.

The permeable rock dams of PATECORE in Burkina Faso are a water harvesting technique. Although gullies in the valley bottoms are healed by the dams, it is the spreading of floodwaters over the fields which makes it so attractive to farmers. The *fanya-juu* terracing under NSWCP in Machakos, Kenya, is a moisture conservation technique. Because rainfall is relatively good here, all that is needed is to hold rainwater where it falls – and yields are improved. Where there is no terracing, runoff carries the rainfall away and plants suffer.

The emphasis on moisture conservation rather than soil conservation has led to rapid benefits in terms of improved crop yields in dry areas. This is popular with farmers!

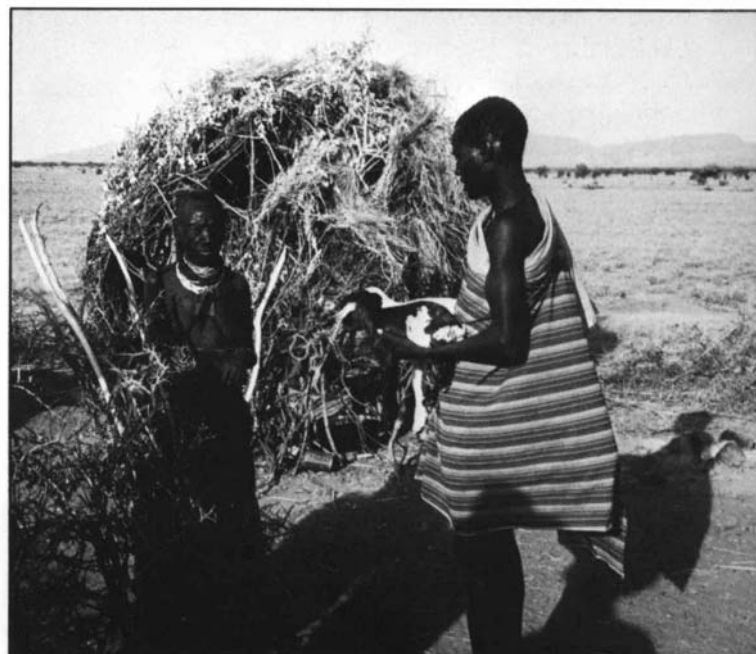
REACHING THE POOREST

One lesson which comes from a number of the projects is that the poorest of the poor don't always benefit from project activities. It is of course much easier to help those who can help themselves – those who can make use of the training and incentives that the project supplies. But there may have to be special measures taken to reach the very poorest groups.

However it may not always be a project's policy to assist those groups. For example, LPDP in Turkana District of northern Kenya deliberately aims to help only those who are not totally destitute. The reason is that LPDP has limited resources, and it wishes to concentrate on those who can use the project as a stepping stone back into self-reliance. It is not a relief programme.

PAF in Burkina Faso, on the other hand, does intend to reach the poorest. However there is an indication that some families cannot make use of the project's assistance because of their poverty. They may not, for example, be able to feed a group to work on their fields. PAF tries to overcome this problem by making food loans available through village committees.

Special planning may be required if a project is to reach the poorest of the poor.



LPDP HELPS TURKANA LIKE EMMANUEL KAMARET BACK INTO SELF-RELIANCE.

**THE POOREST
ARE OFTEN
THE HARDEST
TO REACH**

3. PLANNING A SOIL AND WATER CONSERVATION PROJECT

QUESTIONS TO ASK AND THINGS TO REMEMBER

How should we go about planning a soil and water conservation project in one of the dry areas of sub-Saharan Africa? How can we be sure that the project will benefit people – and the benefits will last?

There is no easy answer, but based on the lessons drawn from the six case studies, here is a summary of the most important things to remember, and some of the questions we must ask ourselves. Use this as a check list!

First we will look at project organisation and management, and then we will consider technical points.

I. PROJECT ORGANISATION AND MANAGEMENT

• Participation

Have we got the respect and the cooperation of the local people – the “beneficiaries”? YES NO

Are we answering their “felt needs”? YES NO

Are we involving them in all stages of planning, implementation, monitoring and evaluation? YES NO

• Training and Motivation

Are we using technology which is appropriate – such as simple surveying instruments? YES NO

Are we taking training needs seriously? YES NO

• Existing Institutions

Are there traditional working groups? YES NO

Which local institutions are the strongest? _____

Which institutions could help with planning at the village level? _____

Participation is the key to a successful project.

Training puts skills into the hands of the people.

Work with existing groups.

Flexibility is strength.

• Flexibility

Does the workplan allow a modification in targets or a change in direction?

YES

NO

Are we ready to evaluate progress and make changes if necessary?

YES

NO

• Life of the Project

Have we planned for a long enough period of project activity?

YES

NO

Is there provision to extend the project if things take off slowly?

YES

NO

• Incentives

Do we have to use food-for-work? _____

What appropriate tools or other inputs could be used instead? _____

How can we assist people in their work without creating dependence? _____

• Reaching the Poorest

Is the programme reaching the poorest people?

YES

NO

Can they afford the time or labour to make use of what is being offered?

YES

NO

How can we channel help to them more effectively? _____

Don't expect dramatic results too quickly.

Choose incentives with care.

The poorest are often the hardest to reach.

• Monitoring and Evaluation

Can we say exactly what the benefits of the programme are?

YES

NO

Is there a plan to take measurements and record useful data?

YES

NO

How can we use the information gathered? _____

• Collaboration between Organisations

Have we made sufficient contact with other organisations/projects in the area?

YES

NO

Have we discussed the workplan with the Government?

YES

NO

Do we circulate our reports to the right people?

YES

NO

Keep records – measure your success.

Collaborate to avoid confusion.

II. TECHNICAL ISSUES

• Traditional Systems

Has anybody made a study of local practices?

YES

NO

Are there any traditions of soil and water conservation in the area?

YES

NO

How could such systems (if they exist) be improved? _____

Build on what people already know.

Suitable systems survive with minimum support from outside.

Farmers want benefits now!

Approach mechanisation with care. Think before you mechanise.

Conserving fields is only the starting point.

• Suitable systems

Are we introducing a technique appropriate to the area YES NO

Is it the **most** appropriate system for the local conditions? YES NO

Has it been tested locally by other projects? YES NO

• Rapid Benefits

Does the technique improve productivity or make yields more reliable? YES NO

Is it a moisture conservation or water harvesting technique which will help provide the crops with more moisture? YES NO

• Mechanisation

Do we really need machines? YES NO

Do the people have the means to maintain them in the future? YES NO

What are the alternatives? _____

• Village Land Use Management

Is there a village committee ready to take responsibility and make plans for village land-use management? YES NO

Are there plans for grazing land and fuelwood supply? YES NO

How can the community be motivated to act collectively? _____

