

**SCIENTIFIC REPORT
MLAZI RIVER CATCHMENT MANAGEMENT
PROGRAMME, 2000-2001**

Report to the
Water Research Commission

by

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CENTRE FOR RURAL DEVELOPMENT SYSTEMS
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LIST OF ABBREVIATIONS

CMA	Catchment Management Agency
CMR	Christelike Maatskaplike Raad (Christian Social Services)
DWAF	Department of Water Affairs and Forestry
EEASA	Environmental Education Association of Southern Africa
EMAFOW	Environmental Management forum of Outer West
FSG	Farmer Support Group
HIC	Hammarsdale Industrial Conservancy
ICM	Integrated Catchment Management
INR	Institute of Natural Resources
MRCP	Mlazi River Catchment Management Program
NGO	Non Governmental Organisation
PAR	Participatory Action Research
PRA	Participatory Rural Appraisal
RLF	Rainman Land care Foundation
UIBCMP	Umlaas Irrigation Board Catchment Management Project
WESSA	Wildlife Environmental Society of Southern Africa
WMA	Water Management Area
WUA	Water User Association

EXECUTIVE SUMMARY

The Farmer Support Group – through its Mlazi River Catchment Programme – was commissioned to develop a framework for community participation in catchment management in South Africa. Over the past seven years, a multi-disciplinary team helped to start twenty four water efficient organic community gardens, thirty three school environmental action clubs, seven craftwork groups and a number of subcatchment committees, local environmental committees and conservancies. Of these, about half are functioning well, while about a quarter are likely to be able to sustain themselves without further external assistance. Thousands of young people and hundreds of decision makers are more aware of the fact that they live in the Mlazi River catchment, and that their activities impact upon this ecosystem.

Programme goal for phase 3 was to finalise a framework document for community participation in integrated catchment management. During this phase, the programme aimed to help members of subcatchment committees (and of other interest groups, including commercial farmers, community gardeners and craft groups) to learn more effective participation in the activities of the catchment management agencies.

Earlier phases of the programme identified four major areas needing intervention:

1. The development and promotion of ecologically sound farming and land use practices
2. Working with local communities to enable them to pursue their own development
3. Promoting and enabling networking and collaboration among local leadership and multiple stakeholders, and
4. Awareness raising among youth and adults about social, ecological and economic issues impacting on the catchment.

Given the provisions of the National Water Act, these four major areas make up the most important aspects of achieving the aim of phase 3. Ecologically sound land use practices included rainwater harvesting using swales, mulches, compost and wetlands. This was found to reduce water use dramatically during the earlier phases of the programme. Local communities were best helped with their own development through participatory techniques, which helped them to analyse their problems, and to find solutions to these problems. Collaboration was promoted by bringing diverse communities together into small local “platforms” where they could discuss common problems, and begin to understand the other person’s perspective. Awareness among youth and adults was raised through the activities of school environmental action clubs, through discussions and presentations to a large number of local groups, and most importantly, through introducing a large number of people to the riverine environment and teaching them about stream life practically. These practical biomonitoring activities were reported in a regular catchment newsletter, which helped many catchment residents to develop a catchment identity.

Many people were helped to generate money through craft activities based on wetland

conservation, and these constitute a contribution towards sustainable livelihoods based on sound natural resource management. Others were able to improve household food security through direct production of food, and some are selling surplus production locally. Organic certification could help these people to sell their produce at a higher price, and the eThekweni Municipality has recommended that small-scale farmers should be assisted with organic production and certification for export.

As a pilot programme, the Mlazi River Catchment Programme has enjoyed a relatively high level of resources. It has shown that even after seven years of facilitation, neither catchment management nor sound land use has been well enough established to continue without further outside support. However, the programme has also demonstrated that it is possible to bring communities together in a way which allows them to relate better to one another and to their local environment. Quantifying this improvement and evaluating its worth is very difficult, but the use of many local people in the programme team means that human capacity has been improved in the area, and also that team members are still available to contribute to on-going development activities.

However, community participation has been poor in the process of establishing a local catchment management agency for the Water management Area. People feel that they will not be helped by an agency that is too remote to achieve anything practically on the ground. Collective action at local level is considered a more likely route to bring about improvement. It is expected that some of the local groups will continue to work towards improved management of their environment, while others will collapse without dedicated support and facilitation. Attempts have been made to set up more permanent local institutions, and these may continue to support local initiatives.

The main conclusion of the programme is that intervention at local level is far more likely to achieve real progress, even if this is quite modest. Effective intervention at large-scale catchment level takes a very long time. Thus, integrated catchment management should focus on enabling people to work together and take collective decisions at local level.

1. INTRODUCTION

This report covers the period 2000 to 2001, which is the third phase of a Water Research Commission funded programme run by the Farmer Support Group. In the first phase, between 1995 and 1996, the program worked in the Ntshongweni area only, looking at problems within the subcatchment. Solutions based on improved land and water use were tried out, and communities were engaged using participatory processes. In the second phase, between 1997 and 1999, the program expanded activities to a larger part of the Mlazi River catchment, and worked at improving the riverine environment and getting communities to work together. Rainwater harvesting and organic gardening were strategies used to help manage land and water more effectively. The current third phase concentrated on handing over the activities which had been started to the communities, and to other competent bodies, given that the Water Research Commission felt that the primary research had been completed.

The interventions undertaken by the programme were aimed at developing an integrated approach to catchment management, and building awareness among communities of the inter-dependence of resources and communities along the whole course of the Mlazi River and its tributaries. Four areas of intervention were identified in Phase 1.

1. The development and promotion of ecologically sound farming and land use practices – Productivity
2. Working with local communities to enable them to pursue their own development – Equity
3. Promoting and enabling networking and collaboration among local leadership and multiple stakeholders – Structures for collective action
4. Awareness raising among youth and adults about social, ecological and economic issues impacting on the catchment – Environmental education

These interventions gave rise to a large number of activities in the catchment area, some of which are well-enough established to continue unaided, while others will either require on-going assistance, or else will gradually come to an end. This report analyses the activities and their relevance to integrated catchment management in South Africa.

2. PROJECT BACKGROUND

2.1 PROJECT AREA

The Mlazi River Catchment is located south of the N3 freeway between Pietermaritzburg and Durban. It is nearly 1000 square kilometers in extent, and has been divided by MRCP into three areas, the Upper, Middle and Lower areas, in order to facilitate their management. The Upper Area includes communities such as Ntembeni, Tafuleni and Baynesfield. The Middle Area has communities such as Mpumalanga, Ntshongweni and Salem. The Lower Area (below Ntshongweni Dam) includes the southern Durban Industrial Basin, with Umlazi Township and Chatsworth. Due to financial constraints our activities are limited to the Upper and the Middle parts of the Catchment.

The Mlazi River flows into the Indian Ocean south of Durban near Umlazi Township. The river rises in the hills above Baynesfield, south of Pietermaritzburg, where land use is mainly afforestation, irrigated crop production, sugar cane and dairy farming. After crossing the Richmond road it passes through Hopewell, and then meanders through the rich irrigated vegetable farms of the Tala Valley, which are interspersed with cattle and game. By the time it crosses the Eston road, the river has been impounded many times – including Baynesfield Dam, Mapstone Dam and Thornlea Dam, three major dams constructed by the Umlaas Irrigation Board. The river flows on through the rest of the Tala Valley and then south of Mpumalanga Township (about 100,000 people) and into the Ntshongweni Dam which is highly polluted by chemicals. This led to the dam being decommissioned in 1992. At the Dam, the Mlazi meets the Sterkspruit or Mncadodo, which rises near Cato Ridge and Hammarsdale, joining the Cliffdale Sterkspruit (from Drummond, Inchanga and Cliffdale) below the Hammarsdale Falls, and then flowing into the dam. From Ntshongweni Dam, the Mlazi makes its way down past Silverglen Nature Reserve to Chatsworth and Greater Umlazi (500,000 people), and then through the increasingly industrial landscape of the Durban Industrial Basin with its manufacturing and petrochemical industries, into the Indian Ocean.

Rural poverty and land degradation in the Ntshongweni area is typical of many rural and peri-urban areas in Africa. In spite of the availability of many resources, limited access to support services, training and advice, many rural people, especially women, live in impoverished conditions, and make short term land management decisions which tend to accentuate the downward spiral of rural poverty. Assisting people to develop more sustainable livelihoods provided the motivation for a local initiative in the middle of the Mlazi River catchment.

Initially the programme worked only in the middle of the catchment. The intention was to expand into the entire catchment, and to set up a Mlazi Catchment Management Agency. It was envisaged in the draft Water Act that each catchment would have such an agency. The programme administratively divided the catchment in three parts, characterizing rural, peri-urban and urban areas. However, due to changes in legislation as promulgated, and limited resources available and the urban nature of the lower catchment, this area made up of

communities like Umlazi Township, Chatsworth, etc.), was excluded from the programme, and activities were undertaken in the upper rural and the middle peri-urban parts of the catchment.

2.2 INSTITUTIONS OPERATING IN PROJECT AREA

Farmer Support Group

The Mlazi River Catchment Programme is one of the programmes, run by the Farmer Support Group (FSG). FSG is an innovative service organization at the University of Natal. FSG assists farmers and other land users, especially women and the poor, and development practitioners, in sustainable and productive natural resource management, institutional development, and entrepreneurship. FSG uses participatory and innovative methodologies in education, training, advice, technical support, and partnerships. FSG is part of the Centre for Rural Development Systems, and has recently been appointed as Centre of Excellence in Community planning, Indigenous knowledge, and Appropriate Technology for the SADC region.

Christian Social Services (CMR)

Christian Social Services is a semi-governmental organization, which started to operate in Ntshongweni in 1994. Government pays salaries of the social workers, while the development the church through donations pays workers' salaries from their fundraising initiatives. CMR is involved in charitable development projects, providing funding to community projects. Their involvement in Ntshongweni developed from assisting community members with community gardens to block making and sewing.

Msinsi Holdings

Msinsi Holdings, previously called Shongweni Resources Reserve, was involved in the programme in the initial stages. They assisted the programme with planning processes, recruitment of staff, and accommodation. They now manage six Umgeni Water conservation areas, and have turned the land surrounding these dams into tourist destinations. Their social responsibility brief is to facilitate development in all the communities surrounding their reserves.

eThekweni Metropolitan Outer West Operational Entity

The Outer West Operational Entity was one of six local entities that now make up the eThekweni Metropolitan Council. The majority of communities served by the programme, are under the jurisdiction of this local entity. Due to the work done in this area, the programme was asked to help facilitate various agricultural development processes, and assist in development planning processes such as the integrated development plan, and in environmental projects such as school beautification.

eThekweni Metropolitan Waste Water Department

This department is actively involved in awareness campaigns organized by the programme. These campaigns were aimed at conscientising the schools as well as the public about the importance of saving water and also with sanitation education, preventing and reporting sewage blockages, etc.

Umlaas Irrigation Board-Catchment Management Project

The Umlaas Irrigation board has been operating in the upper catchment for many years. Staff from the Board's Catchment Management Project worked closely with programme staff in the upper catchment. They were key in establishing subcatchment committees, and helped in creating an enabling environment for small community projects, monitoring the health of the rivers, etc. Due to their local knowledge and expertise some of the conflict related issues between the white commercial farmers and the black communities could be resolved. Their Conservation Officer, Mr. Angus Burns, has carried out much of the river biomonitoring for MRCP, and both he and the Board's Chair, Mr Laurie Forsyth, serve on the MRCP Steering Committee. The Board is currently being reconstituted as Mlazi Water Users' Association.

Rainman Landcare Foundation

The Rainman Landcare Foundation (RLF) was founded by Dr Raymond Auerbach, former programme coordinator, to provide a local institution for the promotion of soil and water conservation through rainwater harvesting and Landcare. RLF is currently involved with Junior Landcare, together with the Department of Agriculture. The programme introduced RLF to participating schools, where they support the School Enviroclubs. Through funding received from the Department of Agriculture's Junior Landcare Programme, they have been able to follow up on the projects that the programme had started with the schools. They are also working with out-of school youth leaders through the Department of Agriculture's Youth Clubs, and are training farmers in organic production methods and helping them to be certified as organic, so that they can sell their produce for a good price.

KwaZulu-Natal Department of Agriculture and Environment

The programme worked closely with the KZN-Department of Agriculture. In all agricultural projects extension officers were brought in to ensure continuity after the end programme. Mainly two districts were involved: Inchanga and Vulindlela. Staff helped community gardeners with garden inputs such as fencing material, irrigation infrastructure and seedlings. Such partnerships have been mutually beneficial in financing garden development, and introducing the Department to participatory processes and water-efficient organic communal garden systems.

Mondi Forests

A partnership was formed between Farmer Support Group and Mondi Forests. This culminated in the funding of one development facilitator's post for the Upper Catchment by Mondi Forests.

2.3 PROGRESS IN PHASE 1 AND 2

The Ntshongweni Catchment Management Programme (NCMP) and its partners in the Mlazi River catchment started working in the Ntshongweni area. Through time, support gradually spread to cover most of the middle and upper Mlazi River catchment. The change was expressed in its name, which was changed in 2000 to Mlazi River Catchment Management Program (MRCP). The project was started with support from Umgeni Water (1994) and continued as a Water Research Commission project thereafter. The project was conceptualised as a participatory action research approach, set out to examine how poorer, previously disadvantaged communities could be linked to others in the area with access to resources, for the mutual benefit of all, and to develop a framework for community participation in integrated catchment management in South Africa.

Some of the major achievements were as follows: Hammarsdale industries in consultation with the Mpumalanga community have formed a Hammarsdale Industrial Conservancy, which led to industries addressing some of the local pollution issues. Sub-catchment committees had been formed to help with the peaceful resolution of the conflicts between former black and white communities emanating from illegal hunting, impounding of livestock, forest fires, etc. Twenty-eight School Environmental Action Clubs have been started, and eight of these were successful enough to be regarded as model clubs, likely to be able to sustain themselves. Twenty-four communal gardens were established. Each year, two or three newsletters were distributed to about 400 catchment residents, informing them of what is happening in the catchment. Formal biomonitoring of benthic invertebrates three times per year monitored and evaluated the health of the river. School children were also involved in this process, and became more aware of river health problems. Many other activities were supported and many local organizations were assisted.

The sustainability of these structures after the withdrawal of the MRCP was something that was of major concern to both FSG and the WRC. The National Water Act (Act 36 of 1998) provides for the constitution of catchment management agencies (CMAs) in the nineteen Water Management Areas of South Africa. It emphasizes the role of CMA's, yet much work will have to be done at the subcatchment and catchment levels in order to ensure proper participation in CMA's. Some subcatchment committees had been formed but were still reliant on outside help from MRCP and Umlaas Irrigation Board staff. The work in 2000 and 2001 was therefore to improve the sustainability of these committees and activities, and facilitate their participation in the CMA-formation proceedings.

2.4 GOALS, AIMS AND VISION FOR PHASE 3

The programme, which was conceptualised as a participatory action research approach, set out to examine how poorer, previously disadvantaged communities could be linked to others in the area with access to resources, for the mutual benefit of all, and to develop a framework

for community participation in integrated catchment management in South Africa.

Overall goal in phase 3 of the programme was: to finalise a framework document for community participation in integrated catchment management.

With the end of WRC funding, phase 3 was aimed at initiating a process of hand-over. Programme staff was to assist members of subcatchment committees and other interest groups, including commercial farmers, community gardeners and craft groups to become more effective participants in the process towards establishing a catchment management agency.

In a strategic planning workshop staff formulated the following vision for the Mlazi catchment:

By the year 2004 the people living in the Mlazi River catchment will ensure that the river and its tributaries are respected and cared for. They will do this by:

- ❖ Complying fully with the law as it relates to their own land use;
- ❖ Keeping agriculture, forestry, industry and mining out of the riparian zone;
- ❖ reducing the levels of pollutants that are being generated;
- ❖ recycling and treating pollutants that are generated;
- ❖ setting appropriate water quality and pollution load standards;
- ❖ monitoring water and environmental quality to ensure compliance;
- ❖ Building up a data base of river quality through regular biomonitoring;
- ❖ Participating, through conservancies and sub- catchment committees.

2.5 SITUATIONAL ANALYSIS

During the Mlazi strategic planning workshop, team members presented and discussed their progress reports. From these a SWOT analysis was done to assess in how far objectives were met, identify gaps, and develop work plans for phase 3.

Achievements and Successes

Discussions were held and workshops organized by DWAF to inform the stakeholders about the proposed Mvoti to Mzimkhulu CMA. Three subcatchment committees had been formed in the upper and middle catchment. Committees for environmental action like Mpumalanga Environmental Forum and EMAFOW had been formed; these structures are mainly for creating a platform where conflict arising from illegal hunting, impounding of livestock, etc. could be addressed. Some community members had been encouraged to participate in committees monitoring landfill sites (e.g. the Salem Landfill Site Monitoring Committee). A Catchment Celebration had been held in 1999 to celebrate the activities of this catchment, also with the intention to form a catchment committee. Environmental awareness had also

been raised through the formation of twenty eight school environmental clubs that had been involved in different activities. Monitoring of the health of rivers was done three times per year through the biomonitoring programme, and it helped the catchment residents to understand the impact that incorrect land use has on the health of the rivers. The major activities carried out in the catchment were reported through the Mlazi Catchment Newsletter, produced three times per year. Four craft groups had been formed and people trained in craft production.

Weaknesses

The level of dependency within the structures established was a major concern. With the CMA the stakeholders had just started to participate in the discussions aimed at the establishment of the CMA, for the WMA but local based structures like the subcatchment committee were still not taking part in those meetings. In addition:

- ❖ Craft committees relied heavily on programme staff for marketing and sales opportunities
- ❖ No catchment committee was elected to coordinate the activities of the subcatchment committees and other stakeholders had not been identified
- ❖ Issues of land pertaining to the community forestry needed could not be resolved in the time available.
- ❖ Ecological farming aspects were not practiced widely, although the awareness to save water was raised
- ❖ Sustainability of the school clubs had not been secured yet
- ❖ Biomonitoring of the catchment still relied on the programme
- ❖ Unwillingness of farmers to be proactive in learning new things

Opportunities

- It was expected that as soon as the Catchment Management Agency was operational, stakeholders could meet and discuss issues and concerns in the catchments, and that the CMA could share its problems with its constituent.
- Decentralisation of activities by DWAF would benefit local communities.
- Sub-catchment committees were expected to be the main link between the CMA and their respective committees. They were also expected to become a platform for conflict resolution between white and black communities.
- Ten families will be in a position to sustain themselves with income craft provided they received additional training.
- Biomonitoring is a proven and available tool for people in the catchment to become aware of the health of their rivers.
- Some schools have the potential to become model schools, and thus become leader in developing self-sustaining Enviroclubs in those schools.
- Some gardeners were interested in learning more about organic farming methods.

Threats

- Non-participation of sub-catchment committees in the CMA proceedings, and the difficulties presented by the need to coordinate the activities of the Mvoti to Mzimkhulu water management area.
- Withdrawal of the MRCP at the end of 2001 could jeopardize sustainability of the work done without some kind of continued support to the sub-catchment committees
- Lack of initiative from crafters to organize themselves and dependence on programme staff for transport and marketing.
- Lack of initiative from other organizations in pursuing the National Water Act 's brief for CMA's.

3. CATCHMENT MANAGEMENT AND COMMUNITY PARTICIPATION

3.1 WATER RESOURCES MANAGEMENT IN SOUTH AFRICA

The National Water Act states that the objective of water resources management is to ensure that water resources are protected, used, developed, conserved, managed and controlled in such a way as to achieve optimum environmental sustainability, social equity and economic efficiency.

The National Water Act promises to do the above by ensuring that:

- ❖ It meets basic human needs,
- ❖ It promotes access to water by ensuring that the disadvantaged people who had no access to water in the past enjoy equal rights to water as those who were advantaged. It does this by redressing the results of past racial and gender discrimination.
- ❖ It promises to facilitate social and economic development and to provide for the growing demand for water.
- ❖ It protects aquatic and associated ecosystems, reducing and preventing pollution and degradation of water resources.
- ❖ It meets international obligations.
- ❖ It promotes safety of dams.
- ❖ It manages floods and dams.
- ❖ It establishes suitable institutions and ensures they have appropriate community, racial and gender representation.

The Act provides for the formation of institutions to ensure the implementation of integrated water resources management and the facilitation of the involvement of stakeholders in each of the nineteen water management areas. The Act provides for the following institutions:

- ❖ Catchment Management Agency (CMA);
- ❖ Water User Association (WUA);
- ❖ Body responsible for international water management;
- ❖ Or any person who manages water can be defined as an institution in terms of the Act.

In terms of the Act, the CMA is a statutory body in charge of water in a particular water management area. As this Act promotes the establishment of the CMA, the role of MRCP in this context is to ensure that people participate in the CMA proceedings in order to fulfill the spirit and letter of the Act.

3.2 LEGAL FRAMEWORK

Written by Dr. Raymond Auerbach

Act 36 of 1998 is a wide-ranging piece of legislation. It establishes that there is no such thing as “Private Water”. All water is said to be “public good” with control of the resource vested in the Minister of Water Affairs and Forestry. The Act commits government to making water available to all people, especially those who did not enjoy access to it previously. The motto of Water Affairs “Some for all forever” summarises the provisions of this part of the Act.

This brief review looks at provisions in the Act for Integrated Water Resource Management. The Act points out that all water that falls as rain finds its way to the soil. Some is stored as groundwater through deep percolation, but most runs off, and flows into streams and rivers, and eventually into the sea. Although quite significant amounts evaporate, they then rejoin the hydrological cycle again as rain. Each river system in the country is made up of many tributary streams, each carrying the runoff from the hills and valley slopes above it. The area draining into a particular river is the river’s catchment, and each river catchment, according to the Act, should be managed in consultation with the communities living in that catchment.

The Act makes provision for two avenues of funding the process: firstly, all water users in a catchment should pay a Catchment Management Levy, based on the costs of managing water in that catchment. Secondly, all those who intercept water, which would otherwise contribute to stream flow, should pay an Interception Levy. Needless to say, many water users are not happy about the idea of now “paying for rain”, as some critics put it. There are three primary areas of objection. Some argue that any money paid will go straight into the Treasury, and will not contribute towards improving local catchment management. They argue that the idea of the levies is not bad, but that it is likely to be an inefficient process, contributing little to integrated water resource management. A second objection is an ethical one, claiming that government does not have the right to charge for the rain, which is a good not provided by government. Finally, there is a strong economic argument, which is

presently being made primarily by foresters and sugar cane farmers. They argue that government cannot quantify the amounts of water used by different crops, nor can the value of this water use in terms of conservation and job creation be quantified. The levies will lead to an unfair and inefficient tax on categories of land use such as forestry and cane, simply because they are a little easier to identify, and tend to be large scale enterprises, where levies could be more easily collected.

Controversial though these aspects are, there is general agreement that farmers, foresters, industrialists and urban planners need to take a careful look at how scarce water resources are used. Integrated Catchment Management is an approach, which aims to bring water users in a catchment together to plan and manage water use rationally. Although the discussion papers published before the Act became law provided for a Catchment Management Agency for each River Catchment in the country, the Act itself did not carry through these provisions. Apparently it was felt that an agency for each of the several hundred river catchments in the country would be too expensive. Instead, South Africa has been divided up into nineteen Water Management Areas, each of which is to have one Catchment Management Agency. There is one Water Management Area stretching from the Umvoti right down to the Umzimkulu River. A Danish-funded project is currently supporting DWAF in how a Catchment Management Agency can be set up for this Water Management Area. Community participation, water conservation and appropriate land use are all important aspects of making the NWA work.

3.3 INTEGRATED CATCHMENT MANAGEMENT

Written by Dr. Raymond Auerbach

Most agricultural producers in southern Africa share a dependence on scarce water resources, and this makes the ecological unit formed by a watershed or catchment (an area which sheds its rainfall run-off into a common river system) a useful one to use in managing shared resources. In order to bring people together to manage soil and water resources in a way that is socially, economically and environmentally sound in our dry continent, it makes sense to use river basins as a management unit. Pereira (1973) comments that "In newly-developing countries local communications can sometimes prove to be a difficulty in the organising of agricultural communities on to a catchment basis, since the roads run mainly along the drainage divides and bridges may be far apart. Rivers are often the boundaries of tribal or clan areas, but even where they are also linguistic or national boundaries, the logic of watershed discipline is inescapable if both sides are to develop the water resources of their common valley".

Some ideas on the philosophy and practice of ICM in South Africa have been brought together in a joint publication of the Department of Water Affairs and Forestry, and the South African Water Research Commission (DWAF, 1996). This publication gives an excellent

overview of the challenges of ICM. The National Water Act (DWAF, 1998) also provides a framework for the development of Catchment Management Committees, which will work with Water Management Area Authorities. The Water Act attempts to institutionalise catchment management, but initial ideas of a Catchment Management Authority for each catchment were dropped in the final Act, because of the cost of setting these up, and also the perceived lack of capacity in rural areas. However, it must be remembered that there will always be relatively small capacity in DWAF in relation to the magnitude of the management problem throughout the country. In comparison, as the Asian experience shows, there is potentially very large capacity in the rural areas, contrary to the opinion of many commentators. If the proposed Water allocation plans are revised every five years (as specified in the Water Act), local people will need to be intimately involved in negotiations.

From the range of perspectives discussed above it appears that both land reform and farmer support need to recognise the inter-connectedness of our resources, many of which cannot be individually owned.

In considering ICM, Görgens *et al.* (1997), highlight the intimate connection between water resources and land use. They are concerned about the inadequacy of proposed structures if participatory management is to develop. Yet they do not comment on the lack of involvement of the national and provincial departments of agriculture. The fact that ICM tends to be driven by water managers may prove to be one of the greatest strategic limitations to its success.

Neither DWAF nor any other Government department has the capacity to manage thousands of farms, smallholdings and factories. For ICM to become a constructive reality, it will have to be practised by thousands of farmers and resource managers because they believe that it is the right thing to do. Helping to bring about such a situation requires enabling support, but it has its limits. The Working for Water programme has shown how local energy can be harnessed in the service of the environment. However, a critical factor will be the extent to which paid labour with a defined goal can be transformed into voluntary responsible catchment management (Preston, 1998).

Görgens *et al.* (1997) point to fragmentation between national and provincial levels of governance. They point out that DWAF has little control over land-use. They fail to note the parallel between existing conservancies and the proposed catchment management agencies (CMAs) or "statutory participatory catchment forums". Experience has shown that many of the people who are active in existing conservancies are the very people who are already motivated towards collective action. Often, they also have intimate knowledge of local resources, as well as useful skills and networks.

Görgens *et al.* (1997) state that Water Boards have a function, but should not become CMAs. Rather, as one of the relevant bodies, they should sit on the CMA. The proposal in the National Water Act to transform Irrigation Boards into Water Users' Associations, which

should include all users, is certainly a way of using existing structures, providing that sufficient resources are available to ensure that historically disadvantaged communities are adequately briefed and represented on such Associations. The relevance of this to ICM lies primarily in the need for institutional arrangements which promote cooperation between relevant government departments in meeting the needs of farmers (or, in the case of ICM, an even broader range of actors within the catchment). One major lesson learned through the recent review of farming systems research in sub-Saharan Africa is that cooperation at District level happens spontaneously if there is an enabling environment, or even if personnel at head office do not oppose cooperation (Anandajayasekeram, 1998). Understanding of farming systems, and the active cooperation of irrigation boards and other farmer groups, especially conservation committees, is therefore a vital part of successful ICM.

Görgens *et al.* (1997) express the opinion that the lack of technical and managerial expertise will seriously compromise decentralisation efforts. The Minister will have to rule by decree, as there is little provision for regulatory mechanisms in the Water Bill. Influencing land use, however, requires a combination of participatory planning, encouragement and semi-structured self-regulation combined with clear and enforceable penalties for serious non-compliance. Here, the difficulties experienced in implementing aspects of the Environment Conservation Act 76 of 1989 are relevant: an attempt was made in 1994 to formulate draft regulations in terms of section 26 of the act, in order to make environmental impact assessments obligatory for specified activities. It is likely that they will not come into effect for several years. These and other problems have been pointed out clearly by Maritza Uys (in: Görgens, 1997). A catchment authority could administer various other acts, such as the Conservation of Agricultural Resources Act 43 of 1983 and the Mountain Catchment Areas Act 63 of 1970.

The relevance of these Acts to the National and Provincial Departments of Agriculture is obvious, and their involvement is essential, as well as that of the Department of the Environment. Already, DWAF is working on River Health with the latter department. The lack of involvement of agriculture departments is likely to pose a serious limitation to the introduction of ICM.

The position of women can also be further undermined by ICM and water harvesting if they are not implemented with great sensitivity according to D'Souza (1997). She reports that in small dry Indian catchments (500 -1500 ha, 150-800 mm mean annual rainfall), watershed development often results in women having to cope with extra work, because their roles of feeding cattle and keeping the home-fires burning are more difficult with the extra disciplines adopted. However, if sensitively handled ICM can lead to employment and income (afforestation and pasture development work), lengthened growing season and decreased risk due to increased soil moisture, more diverse agricultural possibilities and increased food security. Where male leaders have been encouraged to give greater space to them, women have gradually taken a greater role in decision-making structures in the villages. Feldstein and Jiggins (1994) have reviewed approaches to analysing and making space for the

perspective of women in agriculture. Much can be achieved simply by structuring surveys and workshops in such a way that space is made for hearing the point of view of women.

Jiggins (1994) details some of the changes which will be needed in terms of a change of approach to the role of women if food security is to be achieved in the coming century. She emphasises the importance of educating women, pointing to the key role of women in managing natural resources. Due to their social roles, women are more connected to life and the nurturing of life, and as such tend to have a greater appreciation of the wholeness of life as a connected system. This insight can lead to the development of networks for collective management of natural resources if projects are designed and carried out with an understanding of both the potential of women and the constraints, which they often face (due to workload and male prejudice). Whereas men in the majority of societies hold key leadership positions and invest time in maintaining formal organisational relationships, it is women who quietly hold personal relationships in society together. Jiggins concludes that the health, education and earning capacity of girls and women are intimately related to better management of natural and agricultural resources. Given this integrating aspect of women in community development, the relevance of involving women in collective action is clear.

The approach of the MRCP in working with craftswomen and with community gardeners was influenced by these insights, and the effects of both empowerment of women and its absence has played a significant part in successes and failures in the programme.

3.4 SUSTAINABILITY RELATED TO CATCHMENT MANAGEMENT

According to the Brundtland Commission, it is “a development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. The International Council for Local Environmental Initiatives defines it as development that delivers basic environmental, economic and social services to all without threatening the viability of the natural and the World Conservation Union, United Nations Environmental Programme and World Wide Fund for Nature define it in "Caring for the Earth" as: Development improving the quality of life while not exceeding the carrying capacity of the supporting ecosystem.

The term sustainable development itself suggests an end point, something that can be achieved. This is problematic as it is difficult, if not impossible, to achieve sustainable development in our current world system. Nevertheless, Oelofse (1999) suggests that it is useful to talk about sustainability. He defines sustainability as “a pathway or direction that we need to move along so as to achieve greater balance between the social, economic and ecological environment”. He says, "Sustainability is about applying the goals and principles of sustainable development so that we can achieve a better quality of life while protecting the integrity of ecosystems, and is about improving what we are doing while at the very same time seeking to transform society so that the way we live in the world is socially and

ecologically just, and this will require a radical shift in the way we do things”.

3.5 CAPACITY BUILDING

Broad policy development and political restructuring by the government of the day calls for decentralisation of power to the local or 'grassroots' levels and to see to strengthening structures operating at this level. Within the rather huge WMAs, smaller more localized institutions are required to ensure optimal participation of multiple stakeholders in decision making around water related issues. It is against this background that the third phase of the programme viewed capacity building as one of the most important activities needed.

Auerbach(1999) sees capacity building as an essential element for development to be sustainable and centred in people. This is similar to his views of participation, empowerment and gender equity. A combination of these processes is considered important for sustainability of projects. Oxfam (1999) defines capacity building as a process that improves peoples' capacity to determine their own values and priorities, and to act on these priorities. This definition proposes capacity building as an approach to development rather than a set of pre-packaged interventions. Understanding of the environment is critical in order to understand what capacity is lacking and why having that knowledge or ability matters. The process of identifying capacity needs is preceded with identifying capacities already existing, with special attention to local, traditional knowledge.

Oxfam (1996) further argues that, for capacity building to generate a genuinely inclusive form of development, interventions must take into consideration the different ways in which the impact will be felt by individuals and social groups. Amartya Sen (1995) posits development's purpose as enhancement of peoples' quality of life and therefore reasons that it should give them access to a wider spectrum of capabilities. This view differs from the more conventional approach to development, with its emphasis on 1) expanding goods and services, 2) facilitating increase in utilities and 3) meeting basic needs. Development is seen as growth-centred, in that individuals get to own things (materials) perceived by the outsiders as symbolizing a developed state of being. This statement falls squarely to the relief mode of intervention, in which people are seen to be in a state of crisis and ought to be assisted to meet their most basic needs. Both schools of thought are based on a paternalistic way of seeing the poor as helpless and therefore needing handouts, or they are poor and need infra-structural development such as halls and all will be solved.

However, development experience has shown that capacities will not trickle down through a power structure unless active steps are taken to ensure that this happens. This requires effective planning with local structures trained to build capacity of others.

4. METHODOLOGY

The aim of phase 3 is to finalise a framework document for community participation in integrated catchment management.

The hypothesis for action research was stated as follows:

Community participation in ICM can be stimulated effectively by the creation of an enabling environment. This requires the provision of demonstrations of what is possible technically, socially and economically, effective communication to catchment residents and a process of capacity building for a wide range of program participants.

A methodology was developed drawing from methodologies for capacity building, platform building, participation and effective monitoring and evaluation.

4.1 PARTICIPATORY ACTION RESEARCH

The overarching methodology used by the programme is Participatory Action Research (PAR). PAR initiates a learning process to improve a situation while at the same time adding to public knowledge for social action. PAR involves – as the word says – participation, action and research which tends to be a problem to traditional researchers who are used to research but not to the participation of the “researched” in their own research. It poses a problem also to social scientists involved in research, who are often more interested in research and participation than in action.

In PAR, researchers and “researched” work together as partners to (re)define problems, act collectively to address these problems and enhance their potential to mobilize for social action (i.e. empowerment). Thus, the ultimate outcome of a successful PAR project is (disadvantaged) groups speaking and acting on their own behalf. PAR is underlined by five principles: participation, co- learning, collaboration, empowerment and improvement (Bhana, 1999).

In PAR, partnerships are facilitated between community members and program staff, enabling resource-poor rural communities and individuals to be empowered. PAR emphasizes the need to build on local knowledge and contributes to addressing the practical concerns of people in their immediate situation and in their relationship to the larger society. Booysen (1979) points to a swing from analysis to synthesis in science, and cautions Universities in general and agricultural scientists in particular to serve the needs of society by synthesizing specific knowledge into approaches that help society to towards a sustainable future. Also, "If science is to serve society, scientists need to have some idea of where they are heading" (Auerbach, 1999).

The PAR methodology embraces long-term sustainability as a goal of development. In this way, the priority of conservation of natural resources is satisfied without compromising on the social aspects, which demand a more people centred approach in order to help all communities to understand some of the difficulties that neighbouring communities are faced with.

4.2 PROCESS APPROACH

The process approach has been developed to design project interventions in a participatory manner. The process approach consists of five components:

1. Mobilisation: A process by which individuals become capable of understanding their own situation and analysing its deeper causes, in order to distinguish one or more problems of development. The program tries to create favourable conditions which will allow these people to discover and develop their analytical capabilities for themselves
2. Organisation: Identifying the problem in the manner just described, encourages people to get together for action-research. One of the stages of action-research may be to organise groups to conduct a micro-project. Once groups have been formed, their members should decide to organise themselves with the aim of attaining their common goal.
3. Training: The main objective in the training of client groups is to facilitate their access to the information they need.
4. Technical support: To attain their goals, the groups will need both technical and financial assistance. The programme encourages group members to search for this assistance within the appropriate institutions.
5. Systems management: This last element allows the four elements above to be put in place, while maintaining a balance between the local level and the institutions, and strengthening local capabilities (Dangbengnon, 1995).

4.3 PARTICIPATORY RURAL APPRAISAL

Participatory Rural Appraisal (PRA) is a methodology for interacting with rural and urban people, understanding them and learning from them and with them. It involves a set of

principles, a process of communication and a menu of tools seeking people's participation. PRA is "A family of approaches and methods to enable people to share, enhance and analyse their knowledge of life and conditions to plan and act. Architect of PRA methods, Robert Chambers (1997), says that PRA is an empowering process of appraisal, analysis, planning, action, monitoring and evaluation. Researchers traditionally went to communities, analysed information and then provided solutions (Participants, 1993). Through PRA, the responsibility is shifted back to communities whereby outsiders go to an area as learners, conveners, catalysts and facilitators. These processes are meant to promote a bottom up approach to community development as opposed to 1970's top down approach which imposed both problem analysis and solutions on the communities.

PRA offers a broad range of tools. They should be used in a creative and flexible manner, keeping the particular purpose in mind. Different tools can be used in many ways. Some examples are given below.

Semi structured dialogue

Semi-structured dialogue is a combination of the facilitator(s) initiating interviews followed by discussions among participants on the topic concerned. These topics can and should be revised as learning takes place. Furthermore, questions raised and answers given depend on the interests and knowledge of both the participants and the facilitators. Semi-structured dialogue is an informal process and it is therefore more appropriate to talk of a dialogue than an interview. Semi-structured dialogue is central to PRA because it is the process whereby trust and rapport are established. Such trust and rapport are essential if reliable and relevant information is to be obtained (Neumaier et al., 1997)

Transect

Transect walks are undertaken by facilitators and participants to explore the area. It can be used to understand the topography of an area, combined with information related to the physical environment, land use, agro-ecological zones, problems and potentials of the area. A historical transect shows land use trends over time, and create awareness on changes and identify important events.

Venn diagram

A diagram is drawn using circles and lines visualizing relationships of a community with local groups, individuals and outside organizations. A Venn diagrams shows information flow and linkages, degree of importance, and importance in decision making.

Seasonal analysis

Calendars and matrices can be drawn indicating seasonal trends and activities, and identification of related aspects of livelihoods such as seasonal variations and their linkages with food, employment, work, labour, etc.

Maps and models

Mapping is an important tool to get a starting point for establishing rapport between facilitating team and community participants. Many people can get involved in mapping. Maps can be drawn on different aspects of rural life. Resource maps show natural resources: kind of soils, rivers, ponds, trees, crops, etc. One of the results of a transect walk is a map. Social maps indicating wealth, literacy, social stratification can help identify minority groups and target groups for programs. Literacy maps are helpful in planning adult literacy programs. Models can be built for instance to visualize a catchment and discuss issues and problems facing the catchment. Maps and models are preferable made on the ground, using natural materials collected locally such as soil, stones, leaves and branches. Colored powders and pieces of paper can be used as well to demarcate different areas.

Matrix ranking

Ranking exercises help identify people's priorities and preferences, their criteria, and give precise information on relationships amongst several different criteria.

4.4 PLATFORM BUILDING

For ICM to be effective in practice, people need to find ways of understanding the different perspectives that exist in their catchment. Shared problem appreciation is a necessary condition for collective action. Both in Europe and in Africa it has been recognised as the first step in the complex process by which people learn to take action at a higher level of social aggregation (Röling, 1994). Building a common vision of the nature of problems affecting shared resources can be done using three primary steps, according to Röling: exploratory analysis, platform building and processes of resource-use strategy design aimed at moving towards a desirable solution.

Sustainable natural resource management means that some decision-making and intervention capacity must be created at a level of social aggregation that is commensurate with the ecosystems that need such management. Ecosystems are thought of as "hard systems" studied by biophysical scientists who are convinced that reality exists independently from the observer. Platforms are "soft systems" used by activists and social scientists who believe that things change through people's actions. If sustainability is desired, it is necessary to couple ecosystems and platforms so that society can move from exploitation of resources towards sustainable management. This may be at a whole catchment level or at a local level where a water harvesting programme may be implemented. Once again, various land users will have varying perspectives and priorities, and the step of exploratory analysis will have to precede the building of resource use negotiation platforms. Once there is communication on the basis of some shared perceptions, it may be possible help people start with the design process (Röling, 1994).

Platform building as a methodology demands time. Effective and inclusive participation

needs to be build through active engagement and capacity building. Furthermore, it requires good conflict management skills. Platforms need close monitoring of representation, vision building and decision making. Where multiple stakeholders come together, animosity is likely to occur. Articulate speakers can dominate discussions, self-appointed leaders presenting themselves a spokesperson for ‘the community’, and individuals or groups who are simply serving their own interest rather than those of inhabitants in the catchment. Feelings of betrayal, isolation, and being left behind are not uncommon, and need to be dealt with promptly and appropriately.

4.5 MONITORING AND EVALUATION

Project monitoring and evaluation can, by the provision of relevant information, indicate to those concerned (operating agencies, ministries, project management) whether project objectives are being achieved and, more practically, whether the operation, performance and impact of a project are ‘on course’. Whether tasks are being carried out according to schedule, whether inputs and outputs are achieving design or ‘benchmark’ levels, whether project impact is in accord with project objectives.

Conventional M&E seems to be dominated by the concern of physical and financial measurements and judgements, while it is felt that M&E of social development should be characterised by description, interpretation and appreciation of the role players and stakeholders.

Carnegie(2000) suggests a specific guide in devising the monitoring and evaluation plan. More emphasis must be given to social indicators, since it is more difficult to evaluate the social development impact of a project on a community or participants. He recommends that qualitative indicators of social development must come out of an intensive process of internal discussion between participants and external support staff. A decision that is reached through internal negotiation concerning the most appropriate indicators, will help both to ensure the indicators’ relevance and also that participants understand and can be involved in the evaluation exercise.

Carnegie provides examples for appropriate qualitative indicators. He emphasizes that the list is not a blueprint, but must be negotiated between the participants and support staff during the planning phase of the project, rather than during the execution phase of the project.

- Evidence of shared decision making among participants and external support staff,
- Signs of commitment among participants to the project group’s goals and activities,
- Evidence of shared leadership among project participants,
- Signs of solidarity and cohesion among the project group,
- Improving level of technical and managerial competence among project participants,

- Capacity for self-reflection and critical analysis among participants,
- Collective capacity of the project participants to undertake action in response to problems identified.

5. OUTCOMES

As mentioned earlier, program interventions centred around four areas:

- Productivity: Developing and promoting ecologically sound farming and land use practices
- Equity: Enabling previously disadvantaged communities to pursue their own development and gain access to services
- Enviro-education: Awareness raising among youth and adults about social, ecological and economic issues impacting on the catchment.
- Collective action: Establishing structures for collective action related to the wider catchment

Phase 3 of the programme was aimed at preparing local structures and other service providers for the end of the program and hand over tasks and responsibilities. Activities around sustainable land use, equity and enviro-education were geared at wrapping up, rather than initiating new work, and building capacity of existing groups and committees to work independently. Main focus was on strengthening linkages between community interest groups and service providers, and supporting structures for collective catchment management.

Programme results are presented below according to area of intervention. The first paragraph outlines the programme resources, staffing and overall management.

5.1 PROJECT COORDINATION AND FINANCIAL MANAGEMENT

Sifiso Ntinga took over as programme coordinator in May 2001. Dr Raymond Auerbach left the team to set up the Rainman Landcare Foundation. He continued to serve as a consultant to the programme. The MRCP team further comprised Ms Musa Zwane as Environmental Educator, Mr Sakhile Ngcobo as Upper Catchment Facilitator, Mr Zenzele Gumede as Craft Facilitator and Ms Lynn Stefano as Office Manager.

Finances, human resources and administrative functions continued to be administered through the University of Natal=s systems by the Office Manager, Lynn Stefano. An Administrative Assistant, Duduzile Khoza, was employed for two days per week.

Facilities and equipment from the previous project were carried over into this period,

obviating the usual delays which projects face when starting up. A computer and printer were purchased with funds from the capital allocation of R20 000, and existing computers were upgraded where necessary.

Transfer to the project of an almost new Nissan 1400 bakkie by the Water Research Commission was greeted with relief and gratitude. The old Nissan bakkie, which was leased from the Farmer Support Group, had deteriorated from years of use on rural roads and its safety was questionable. As a result, the lease of this vehicle was cancelled and programme staff has relied on the new vehicle for all travel, with provision made for limited use of private vehicles. Transport thus remained a major constraint to making regular trips to the furthest reaches of the catchment.

Reflections

Coordination and Financial management are vitally important to the health of any research or development programme. The decision to appoint an Office Manager at a senior level was a very sound one, though unpopular with the organization at the time. The results of appointing an experienced and highly competent staff member to this post were that finances and administration were well-managed, in spite of the absence resulting from changes in staffing, and the very limited budget available. The programme has also brought staff training in strategic planning, computer skills, advanced driving skills, and assistance with some of the requirements of further study.

From a coordination point of view, the change in coordinators meant that there was a considerable challenge to the new coordinator to learn many of the unfamiliar management skills, and a challenge to the old coordinator to be available as a consultant and mentor when requested, without interfering in project management. The FSG Accompaniment System was found to be most useful, as the mentorship involved in meeting with staff annually to discuss progress, problems and plans allowed for broad-ranging evaluation by both parties.

Capacity building and Learnings

Staff has developed significantly over the seven years of the programme. During Phase 3, Sifiso Ntinga completed his post graduate diploma, Sakhile Ngcobo completed his masters degree, Musa Zwane continued with her Master of Education degree, Lynn Stefano started a Diploma in Rural Development Systems and Zenzele Gumede continued with his post graduate studies through the University of Zululand. Musa had earlier completed her BEd, Sifiso completed his Advanced Diploma, Sakhile completed his internship for his Agricultural Diploma with MRCP, and then his B Tech and Post Graduate Diploma, Barry Patrick his MSc and Raymond Auerbach his PhD degree. Four Dutch students from Wageningen Agricultural University completed parts of their Masters-level studies with the programme, and two Irish students spent periods with the Farmer Support Group as part of their internships. Dlamini's Honours thesis in Hydrology worked on the Rainwater Harvesting system on the Rainman Landcare Foundation farm, Bachs Fen. Dr Simon Lorentz and his team continued to use this facility to record the effectiveness of the Rainman

Rainwater Harvesting System, but this has still not been written up. Assistance for the write up has been requested from WRC. Ms Dudu Khoza is secretary for the Salem Development Committee; both she and Sifiso have learned much about administration and community participation. Dudu is the ‘South African dream come true’. She started as messenger at MRCP, pursued a Certificate in Financial Management through Damelin in her own time and at own costs. She is now administrative assistant at FSG’s main office in Pietermaritzburg with increasing financial tasks and responsibilities.

The office manager supported the team in many ways. She also became increasingly involved in Craft Training. Staff is now able to prepare reports using a computer, to send off reports by e-mail, to chair meetings and to take and prepare minutes for Team Meetings. Staff has been encouraged to reflect critically on their work, and to see it as Participatory Action Research. The dramatic improvement in the level of qualifications is evidence of the extent to which the team has grown from the initial stages, where strategic planning was almost unheard of, while research was something which clever people do.

The Office Manager herself has developed research skills, and has used these to evaluate aspects of the effectiveness of craft training processes, while the Coordinator has been able to contribute on a wide variety of national and regional planning and policy initiatives. Sakhile has been employed by Mondi Forests, who paid the costs of his post throughout the programme’s existence, and he has made significant contributions to Mondi’s understanding of Participatory Action Research, especially in the context of Mondi’s relationship to neighbouring communities. He has made presentations to the Mondi Chief Executive Officer, and to the Minister of Water Affairs and Forestry, among many others. Musa and Zenzele have dramatically developed their analytical and strategic planning capacities, and improved their qualifications at the same time.

Zenzele has learned to drive, and staff driving competence overall has improved. All staff were subjected to driving evaluations, and attended Advanced Driver Training. Good management and pro-active training have helped to reduce the number of accidents, together with some beneficial intercession from the Almighty and several guardian angels!

5.2 PRODUCTIVITY AND EQUITY

5.2.1 COMMUNITY GARDENS

Work in the gardens was aimed at handing over, as was the agricultural project facilitated for the Outer West Operational Entity. Two interns were brought in to assist with the work, Vusi Sithole for the upper catchment and Thabile Khuboni for the middle catchment. In September 2001, both interns successfully applied for posts as agricultural facilitators in one of FSG’s new projects.

Seven members from seven community gardens were trained in organic farming by the Valley Trust paid by the programme. They were trained in pile compost making, liquid manure, seed beds, plots preparation, irrigation, mulching , weeding and cutworm columns. Gardeners trained were expected to impart their learning to their respective garden members. Six months after completion of the course, certificates were awarded to all gardeners who had successfully implemented what they had learnt at Valley Trust.

The programme assisted gardeners in writing letters to the nearest supermarkets in attempt to expand their markets. At Ntshongweni, the Zenzele Supermarket signed a contract with Siphumelele and Zimeleni as their suppliers. Good working relationships were created between Salem and Ntshongweni and their neighbouring commercial farmers. This resulted in commercial farmers providing gardeners with organic manure.

Evaluation of the garden project, grazing area and the broiler production provided insight in how the programme had performed. One tunnel was built for the Georgedale farmers. Garden equipment such as the fencing materials, and hoes were bought for the Mpumalanga community with funds from the Outer West Operational Entity. The tunnel project was the first project of its nature in FSG's client communities. The programme also helped the Council in developing the Integrated Development Plan especially on the Agricultural section.

Achievements

- Four gardens are practicing elements of ecological farming
- Evaluation of the upper catchment projects showed impact on communities involved
- Establishment of a tunnel project as alternative for community gardens
- Good working relationship between gardeners and neighbouring commercial farmers
- Outer West Agricultural Project completed within the specified time
- Contract secured by gardeners with Ntshongweni supermarkets

Capacity Building

- Seven community gardeners were trained in organic farming
- Gardens were assisted in basic marketing skills
- All gardeners were trained in constitution writing

Reflection

Although the gardeners were practicing aspects of ecological farming, they were initially reluctant to use it because they felt it is time consuming. This also depended on the leadership of the trainee. If a trainee was a hardworking person it was easier for the gardeners to follow suit but if he/ she was not nothing would happen.

Learning

Gardeners are good in production but not in marketing and financial management. The programme was faced with a serious dilemma. Although the end of the program had been announced for quite some time, client communities resisted and insisted that they couldn't continue without them. Staff members themselves seemed to be torn between letting go and wanting to continue addressing needs presented. The internship programme proved to again to be a valuable mechanism to scout talent. Interns gain experience in development, while FSG can assess whether he or she has the ability to deal with the complexities of the work.

Challenges

The challenge rests on the shoulders of the Department of Agriculture to sustain the work of the gardeners, the tunnel project, and to address other needs in the program's client communities, such as diptank for Ntembeni and surrounding communities.

Exit Strategy and Partnerships

Gardens were handed over to the Department of Agriculture and CMR, who had been programme partners in most of the work. Gardeners were sent for training in organic farming to refresh their knowledge, encourage them to take a leading role in their gardens, and as such become independent from the program. Some of the work in the upper catchment will continue through a new programme on Social Development in Forestry funded by MONDI Forests.

5.2.2 CRAFTWORK

Craftwork activities focused on organizational capacity building. The Ntshongweni crafters registered as a co-operative. They are now entered into the Government's database which enables them to keep informed about events and other marketing opportunities. Organisational development workshops were conducted by AKHATEC introducing crafters to Community Development, Project Development, Constitutional Development, Quality Control, Quality maintenance and Pricing and Financial Management. Linkages were strengthened with other organizations, especially the Department of Economic Development and Tourism, Durban Art Gallery, and Tatham Art Gallery. Craft was sold also at the AIDS conference, and the Racism Conference. The Institute of Natural Resources (INR) assisted the groups in cultivating iNcema. They brought in a trainer from Scotland who introduced new techniques for making baskets. Many skills were shared and combined, resulting in the development of new products.

Capacity Building

The training in organizational development has resulted in the establishment of a management committee with different portfolios, ensuring effective operation of the organization.

Crafters sell their crafts at different places such as conferences, craft shops, gallery exhibitions, and Durban Harbour.

Crafters from other organisations are visiting the craft groups to share ideas about craft and organisational issues.

Those who have participated in planting iNcema, now have easy access to the reeds. Thus, they contribute towards Landcare and water management, as well as developing sustainable livelihoods.

Achievements

- Twenty five community members support their families through the sale of craftwork.
- Ntshongweni crafters received an amount of R67.000 for a pottery project from the Department of Economic Affairs and Tourism.
- Crafters trained are now training other craftworkers on how to produce quality craft.
- Partnerships have been established with local service providers (Baynesfield Estate, Mondi Forests, NCT, CLC Contractors, KZN Department of Agriculture, National Department of Agriculture, UIBMCP) in order to ensure continuity of the work.

Reflection

People are prepared to learn, as long as that learning is going to help them to develop their own life. They were taught to work with craft, and they are producing some very good craft. They are also taking care of their resources.

Learnings

Although people were interested and prepared to take initiative in producing quality and marketable craft, they continued to rely on the programme for marketing opportunities.

Challenges

With the end of the programme, crafters will need to break through their dependence on outsiders. They will have to initiate projects themselves, be proactive, and making the most of opportunities in order to sustain their livelihood.

Exit Strategy for Ntshongweni crafters

From February 2001, programme staff engaged the Ntshongweni crafters in a year long process towards self-reliance and sustainability of craft initiatives.

A one-day evaluation workshop was held in February in order to

- a) Reflect on developments from the inception of the Mlazi River catchment programme in 1995 to the present, from the crafters' perspective,
- b) Explore what has worked well and what has not worked well during this period,
- c) Determine the key issues which impact on the group in their efforts to produce and sell their crafts.

By the end of this event, the crafters had identified as a top priority the need for an individual to assist them with marketing their craft and providing a networking function with relevant government, business and service organizations. The group added to this the need to strengthen their co-operative, gain more skills, obtain premises and increase sales, as well as the issue of transport. For the remainder of the year regular meetings were held with the crafters and programme staff to monitor progress towards fulfilling these needs.

Marketing Two members of the group volunteered to take on the marketing responsibility. They were able to explore some sales opportunities in the immediate area. However, they failed to find new markets for the craft group. While the group is very active and productive, they continued to depend on the programme staff for information on sales opportunities, linking with buyers and important events, etc. Although there has been discussion about purchasing a cell phone, no one from the group has taken the steps to do so. This could be due to the fact that the cellphone networks are not easily accessible in the area, resulting in limited benefit to the users. The need for a business minded individual to assist this group is still a priority.

Strengthening the co-operative Members continue to meet once a week to share information, plan for upcoming events and work together. Each member pays R2 per week, which contributes to the cost of transport to markets, fees for stalls, etc. The proceedings of the meetings are recorded in a minute book, and the treasurer reports on finances. While there was interest in encouraging new members at the beginning of the year, this has not materialised. The group, however, is cohesive and works well together.

Skills training As part of a collaborative project with the Institute of Natural Resources (INR), the crafters attended a 3-day craft technique workshop in April, and in July Mr Mcwabe joined crafters from other INR programmes to explore marketing possibilities in the Thousand Hills area. A highlight for the Ntshongweni crafters was the invitation by INR for them to provide training to crafters in their other KwaZulu Natal projects, for which they are being paid a market related fee.

As a result of being offered USA Dollars at a Durban harbour market, the crafters requested information on how to handle foreign currency. Programme staff accompanied one of the crafters to a local bank, where the foreign exchange staff provided very useful information on procedures, commission, fraudulent notes, etc. This information was translated into Zulu with copies of the information distributed to group members, including where to obtain

current exchange rates on a daily basis and how to ensure that all costs involved in exchanging foreign currency (e.g. transport to the bank, commission, etc.) are included in the purchase price of their craftwork.

Obtain premises This issue has been on the table for some years, with various key players from the local council indicating that premises for the crafters are on the agenda. However, no progress has been made. In July this year, the crafters were informed that a building owned by the Department of Agriculture in Ntshongweni is available to them and will be upgraded in due course. Until these promises are fulfilled, they will continue to meet at the Day Care Centre once a week, which provides a point of contact for buyers and other service organisations which want to make contact with the group.

Increasing sales Certain members of the group continue to improve the quality of their crafts and subsequently increase their sales. More and more buyers are contacting the programme staff to place orders for specific items. This will be problematic after the end of the programme, especially since no one in the groups can be contacted by telephone, as mentioned earlier. Buyers are taken to the Day Care Centre, so know where to find the crafters. Crafters are now attending markets and exhibitions without the assistance of programme staff.

Partnerships

It was imperative to network with different organisations that will contribute to different types of capacity building, as an exit strategy. Durban Art Gallery contains lots of artists who came to the area to give new artistic skills to the crafts and give a platform opportunity for the craft to be displayed during exhibitions for marketing purposes. There is also Tatham Gallery in Pietermaritzburg which provides Art and Craft services.

They run workshops to develop product quality, work at capacity building and organise exhibitions for marketing purposes. The Bat Centre in Durban also performs the very same job as Durban Art Gallery and Tatham Gallery. The KwaZulu-Natal Provincial Department of Economic Development and Tourism is also working with the groups especially on transforming the groups into co-operatives, so that they can be business orientated. They also work with them in interacting/networking for marketing purposes during international conferences that are taking place in Durban. The Durban Unicity, Department of Economic Development is contributing by organising craft fairs and exhibitions where the crafters meet with potential buyers and negotiate on prices, quality, delivery deadlines and quantities. At these fairs they are encouraged to have business cards to make it easier to communicate with possible buyers. The other organisations like Akhatec and Christian Social Services (CMR) that are operating in the area also play important roles in developing the organisational capacity of the group.

Transport: Over the years transport has been problematic. The crafters have relied on MRCP programme staff to collect and deliver their craft at markets. At the Evaluation Workshop in

February 2001, the crafters saw transport as a problem which they felt they could tackle. They undertook to take their craft to points of sale themselves, paying for taxis or hiring private vehicles. This is now in place to a large extent, illustrating the importance of helping communities to come to terms with changes in support structures, and in avoiding excessive dependency on external resources.

In summary, this focussed exit process has encouraged the crafters to develop specific skills and knowledge to assist them to work on their own after the programme ends.

5.2.3 COMMUNITY FORESTRY

Members of the Ntembeni and Willowfontein communities raised a concern about the plantations bordering Mondi Forests Estate and their community. Their concern was that these plantations were not being used and consequently they have formed a criminal resort for slaughtering of cattle, scrapping of stolen cars, rape and all other criminal activities. The community asked the committee for help. After these requests, a number of meetings were held with relevant stakeholders, including meetings with a number of Amakhosi, and Transitional Local Council (TLC) structures. The land involved is about 500 ha in extent. Mr. Peterson from Mondi Forests estimated that plantation production for this project would require a capital injection of about R2 million to set up, with a potential turnover of R10 million over 10 years. The issues relating to this project were land ownership, funding, and technical assistance. Since this project is located just outside the Mlazi River catchment's boundary, a decision was made that the local TLC needs to follow up with these projects. The other reason was the political sensitivity concerning ownership of the land and this project.

5.3 ENVIRONMENTAL EDUCATION

5.3.1 BIOMONITORING

Written by Angus Burns

The biomonitoring method involves gaining the capacity to identify over 80 families of aquatic invertebrates and the subsequent collection and analysis of samples (according to standard SASS 4 and now SASS 5 sampling techniques), taken at key monitoring points located throughout the Mlazi catchment. Protocols are in place to ensure that scientific standards are maintained (this is done through Umgeni Water) and information is made available to the National River Health Programme.

The National Water Act (Act 36 of 1998) requires that responsible organizations implement water quality monitoring as a matter of course. By default, this responsibility falls on DWAF, but due to a lack of field officers, it is recognized that NGO's and other

organizations may have to take on this responsibility.

A biomonitoring map was published and included in the MRCP newsletter. This information was and is used for decisions relating to land and water management. (e.g. UIBCMP used biological information from SASS 4 to stop illegal sandwinning in the Board's area of operation). All data is subjected to auditing and made available to the River Health Programme (RHP). Mini SASS has been developed by Umgeni Water and used for capacity building in rural schools, forestry and agriculture (by MRCP and UIBCMP). Partnerships have been established between UIBCMP, MRCP, Umgeni Water, RHP and communities in the catchment through biomonitoring.

Information has been used to provide data for decision making with regard to Landfill Sites. Biomonitoring data has been used to stop illegal mining operations in the Killarney Valley area. Data is frequently referred to at River Health Programme meetings for guidance in other projects around the country. Biomonitoring is now used as part of the certification process in forestry.

The Mlazi River experiences seasonal changes in river health with the river being generally healthier during the Winter season. This is due to decreased inputs of pollution during the lower rainfall season. The upper part of the catchment is healthier than the middle sections of the catchment due to the pollution inputs being higher in the mid catchment (because of more industry and larger human settlements). The lower catchment has not been included in the biomonitoring programme. Mini SASS has been introduced to schools, agriculture and forestry with an enthusiastic response. Biomonitoring is now recognized as a legitimate, cost effective form of river health monitoring.

Achievements

- Health of the rivers is monitored which helps increase its health.
- Information is passed on to catchment residents, who help when needed.
- Catchment residents know what is happening in the catchment.

Capacity Building

- Mini SASS has enabled rural children to gain knowledge of pollution impacts on the Mlazi River and provided them with a simple means to monitor the river health in their area.
- Certain forestry and agricultural concerns have adopted SASS (in its mini and full form) for monitoring of operations. This reflects their acknowledgment of its importance and the need for monitoring of aquatic ecosystems.
- Biomonitoring information spread via the newsletter has educated people on the changes in river health due to human and natural impacts. This has resulted in people becoming more aware of catchment issues.

Learning and reflections

The merit of gathering ecological information on the Mlazi river health is major. It enables catchment managers to make decisions and identify abnormal changes when they occur in the system. The challenge is to make the information accessible to the general public. This has been achieved through simplification of the data into colour icons which have provided readers with a simple visual representation of river health on a map of the catchment. The map has also been accompanied by a simple explanation of the data.

Exit strategy and partnerships

It is impossible for the layperson to implement and sustain a biomonitoring programme of this scale without the necessary training and infrastructure. Mini SASS does, however, provide for laypersons to help with simple background monitoring but confidence in results would be low due to a lack of auditing of results. This means that an exit strategy is not really feasible in any project where such a monitoring programme has been implemented. Since the need for biomonitoring is clear (both at a functional and legislative level), such monitoring must be part of the responsibility of local authorities, WUA's and DWAF (if at all possible).

Partnerships have been established between DWAF, UIBCMP, MRCP, River Health Programme and Umgeni Water. This has allowed for ease of access to information and mutual support relating to monitoring findings i.e. when problems are identified through biomonitoring, the relevant parties are supportive and quick to act.

5.3.2 NEWSLETTER

Early 2000, it was decided to combine the English and Zulu versions of the Mlazi Catchment News, which proved to be a positive development. Complimentary feedback was received from many recipients. It also helped to keep costs down, and the newsletter was reportedly shared more between colleagues, friends, households and schools.

The newsletter played an important role in developing and sustaining the identity of the catchment, by informing local residents of important upcoming events and opportunities for community participation, for example the Shongweni Landfill Site stakeholders meetings. It also reported on the achievements of groups like craftworkers, community gardeners and environmental clubs, which helped to raise awareness of the positive impact of community efforts and encourage others to participate in such initiatives. The biomonitoring map, produced by Angus Burns, has proven to be a key-tool in raising awareness of and mobilize collective action against polluters of the river. Furthermore, issues such as the future of catchment management in South Africa, traditional hunting, and the canalization of the Umgoshongweni River (to allow waste to be dumped over it at the Shongweni Landfill Site), were highlighted, providing readers with balanced, well researched information to inform their decision making.

Unfortunately, due to limited resources, only two of three issues could be produced per year. The Department of Water Affairs and Forestry provided sponsorship for the June 2001 edition.

Capacity building and Learnings

The Newsletter played a major role in informing local people from various communities of local environmental issues. Over the past six years it has helped to develop an understanding of catchment issues, as well as a tangible catchment identity. The Newsletter has informed Durban planners of catchment issues, and alerted staff of the Department of Agriculture to the practicalities of ICM on the ground, as well as the possibilities of organic farming, which is now an item on the development agenda for the eThekweni Metro, and also for Dube (Pty) Ltd, the development company for the new King Shaka Airport Development, which publicly states that it will attempt to integrate training of organic farmers so that they can participate in the export of organic produce from the new airport and container facilities.

5.3.3 SCHOOL ENVIRONMENTAL EDUCATION

In the past, environmental education focused mainly on protection and conservation of plants and animals. The Department of Environmental Affairs and the Environmental Education Association of Southern Africa (EEASA) started the Environmental Education Policy Initiative. Through consultation with many people around the country, they made the following suggestions for environmental education:

- Environmental Education should be included in all subjects. For example, in History, students should look at how the environment changed through history, and why. In English, they could write poetry or essays about the environment.
- There should be three separate environmental courses at schools. The first would be the Environment Studies in lower primary school. The second would be “Environment for Sustainable Living” at middle school level. The third would be a separate subject at senior secondary level. This could include, for example, environmental law, environmental planning, health care or conservation management.
- Students should be involved in environmental action outside the school grounds.
- Environmental Education should include traditional environmental knowledge. Students should also look at how different cultures have managed their natural resources.

The Mlazi River Catchment Programme has mostly been working with primary schools (from grade 1 to grade 7). Very few high schools participated in the programme. Two meetings were held annually with school inspectors, principals and teachers to discuss strategic issues and to plan and evaluate activities. Capacity building workshops were held during the course of the year, to empower teachers with knowledge and skills. Schools were encouraged to engage in five basic activities: school gardening, indigenous tree planting,

alien plant control, clean up and recycling and water management.

Continuing school visits were undertaken to ensure support to school, monitor progress in environmental activities and to offer assistance where necessary. Following the year planner, developed by Wildlife and Environment Society of South Africa (WESSA), environmental days were used to raise awareness. For example, during the Water Week schools will do activities such as water monitoring (using mini SASS based on the South African Scoring System, version 4, or SASS 5), hands on activities at a stream, water audit in a school, etc.

Achievements

The programme has assisted 18 schools in developing functioning environmental clubs, of which ten can be regarded as model schools. Benefits have been multiple. The gardening projects have benefited schools in many ways. Some schools have earned some money from selling produce to their neighboring households. To some schools, gardening projects have helped in their feeding schemes. Other schools have developed good relations with community and reduced vandalism and burglary to schools, as some community members were given plots in the school grounds to start their own gardens. In this way people develop interest and are actively involved in looking after the school. Recycling has also in a small way contributed in raising funds for some schools.

Schools have entered various competitions and have won prizes, Enyosini School entered a competition sponsored by Trees for Africa and won a R500.00 cash voucher, Intando School entered the competition sponsored by conservancies and won a computer and other schools won school stationery worth R500.00.

Schools have developed their book of poems about trees and water. These poems are written by school children from different schools.

Each participating school has its own environmental policy, developed over a period of months through consultation between staff and learners. These policies act as a point of reference for developments at the school, and have helped to ensure that environmental issues are considered as part of the school's development plan. Annual competitions refer back to the quality of the policy, and the extent to which the action plan has been implemented.

A coordinating committee has been formed to coordinate the activities of the enviro-clubs.

Learning and Reflections

One of the objectives of the Mlazi River Catchment Programme is to facilitate community participation in sustainable management of natural resources for future use in the catchment. Children are the future managers of the catchment. Therefore environmental education is an important tool to raise environmental awareness and to teach responsibility in the schools. Today's children are our future decision-makers.

Communities are not homogeneous entities. They are made up of diverse groups and individuals with different norms, values and experiences. This makes it hard to predict success of project interventions and to gauge the reasons why some succeed while others fail. Some schools don't see environmental education as a priority since it is a non-examinable subject. They give more attention to subjects such as Maths and Science. Schools where coordination of enviroclubs rested on the shoulders of innovative teachers with good leadership skills, are more likely to become model schools, then those who relied on programme staff to make things happen.

Challenges

In the past two years, schools have undergone restructuring with teachers being redeployed to other areas or other schools. This process has been an advantage to some, and a disadvantage to others. A teacher who has been actively coordinating the project is transferred to a school with no environmental club or sometimes to a school with another active person. This may strengthen the new school but it is a disadvantage to the school he/she is from. In some schools, more than one coordinator has been appointed as a result.

The most challenging part was working with schools, in the catchment which starts from Entembeni (upper catchment) and meanders to KwaNdengeni and to the Indian Ocean (lower catchment). Schools in this area belong to different circuit offices, meaning that it is difficult to get teachers in one place at the same time for a meeting or a workshop. Each circuit office has its unique working system or procedure of functioning. This sometimes slowed down processes.

Exit strategy and Partnership

The above collaborations are very instrumental in the sustainability of the environmental education project, because they are still continuing with their work in the area. However, schools should play a major role. In this regard, MRCP has taken the initiative to establish the teachers' committee, which will coordinate the continuity of the project. This committee, Camperdown District Environmental Education Committee, is constituted of teachers from different schools. MRCP has had several meetings with the committee to build capacity and to strengthen the committee.

Although there has been little contact between the Environmental education facilitator and the Rainman Landcare Foundation, MRCP has helped to inform teachers about the Junior Landcare Schools component run by RLF. Nearly two thousand learners from over thirty schools have attended Landcare courses, and received rainwater harvesting, gardening and craftwork follow-up sessions from the Rainman Team. This work will continue.

Looking at the activities which schools are engaged in, a wide range of other expertise needs to be brought to bear on local problems. MRCP has developed working relations with other institutions, such as Rainman, Durban Metro Wastewater Services in the Hammarsdale area.

Durban Outer West Local Council has been very supportive of the project and donated trees to some schools. The Department of Agriculture has been actively involved in gardening projects, and has worked with Rainman Landcare Foundation on both school and out-of-school youth components from an environmental education perspective. The Department of Education has also been supportive of the project. They allowed teacher's time to be used for capacity building workshops. The Umlaas Irrigation Board was instrumental in biomonitoring. The Department of Water Affairs and Forestry provided resource materials, posters, etc. Umgeni Water and WESSA Sharenet also provided some resources.

5.4 STRUCTURES FOR COLLECTIVE ACTION

5.4.1 SUBCATCHMENT COMMITTEES

KWALINDA ENVIRONMENTAL COMMITTEE

This committee, formed in 2000, is linked with Enviroserve Shongweni Monitoring Committee where they participated as members. A cleaning up campaign was held in September 2000. Consolidation of the committee in terms of developing a constitution was done in May 2001.

UPPER BAYNESFIELD SUBCATCHMENT COMMITTEE

The Upper-Baynesfield Subcatchment Committee holds regular bi-monthly meetings, chaired by Farmer Support Group's Sakhile Ngcobo, with Dwain Mark from Mondi Forests, CLC contractors as the deputy chair and Angus Burns from Umlaas Irrigation Board Catchment Management Programme (UIBCMP) as secretary. This committee still comprises diverse representation from different land user groups e.g. Mondi Forests, Baynesfield Estate, Commercial farming community, rural communities from Ntembeni and Tafuleni, and semi-urban communities from Willowfontein, Esitobhini, Esikhulu and Matshaheni.

In the past this committee has been dominated by conflict related issues like illegal hunting in the area, illegal grazing of cattle, and crime. After a big battle in trying to deal with these issues it was then decided that the conflict related issues needed to be discussed in another forum which was the Community Policing Forum. Since then these issues have been separated and the subcatchment meetings are mainly about water related issues and also the community development related issues.

This committee has positively participated in the pre water week function in March 2001, which was attended by the provincial MEC for Agriculture and Environment, Mr Narend Singh, as well as Deputy Regional Director for DWAF-KZN, Mr Ashwin Seetal, and several hundred other people. Community participation was shown by the contribution that was made in the preparations for the function, and during the event. They thanked the minister for coming to the area by offering him vegetables from the local community garden project and a number of people displayed (and sold) crafts which are being produced locally from the

wetland reeds.

An evaluation workshop was held during the year to identify the strengths and weaknesses of the Upper Baynesfield subcatchment forum and to further define the objectives of the forum and to plan a way forward. Angus Burns, Sakhile Ngcobo and Diliza Masinga (from the National Department of Agriculture's Soil Conservation Directorate) facilitated this workshop (Appendix 1).

Officials from DWAF regional office and the National Department of Agriculture have been actively involved in this forum. Officials from DWAF, UIBCMP and MRCP have briefed this forum about how the CMAs will operate in the Mvoti to Mzimkhulu water management area.

UMLAAS IRRIGATION BOARD CATCHMENT MANAGEMENT PROJECT

The Tala Valley and Killarney Valley subcatchment committees are managed by the Umlaas Irrigation Board Catchment Management Project (UIBCMP). Conservation officer Angus Burns reflects on the activities of these committees.

TALA VALLEY SUBCATCHMENT COMMITTEE

The Tala Valley is characterised by intensive commercial farming and small pockets of forestry. The Tala Valley Subcatchment Committee meets on an infrequent basis to discuss issues relating to water, land management and weed control. Since most of the landowners in the area are successful farmers, very few serious environmental incidents occur. When something of a dubious nature does occur in the valley, it is immediately reported and addressed.

The committee consists predominantly of white commercial farmers with other interest groups in attendance, since there are no black rural communities in the Tala Valley. Facilitation in other languages is not an issue at meetings since all members speak English. It is clear that a “mover and shaker” is needed to keep such a committee working. Overall, the farmers are familiar with meeting protocol and conduct themselves in an orderly manner at meetings. When the committee meets, the focus is only on environmental and agricultural issues. All of this relates to water and land management with other conservation issues being raised from time to time. Conflict resolution is not a problem in the valley.

It has become clear that no exit strategy exists for this committee because they require someone or some organization to keep the momentum going. Fortunately, the yet to be Water User Association (being the transformed Irrigation Board) will continue with the initiative they started (the Tala Valley Committee was the first Subcatchment Committee to have been formed in the Mlazi River catchment by the Irrigation Board, before the

promulgation of the Act in 1998).

KILLARNEY VALLEY SUBCATCHMENT COMMITTEE

The Killarney Valley is situated adjacent to Mpumalanga Township, near the informal Mophela settlement and is a small farming community. Most landowners are simply using the land to live on whilst a handful actually farm commercially. Problems in the area consist of illegal (and / or improper) sandwinning, invasive alien plants, water quality, stray cattle and crime. The present committee meets every 5 weeks to discuss these issues. Originally, the committee met with the adjacent rural community but then decided to hold their own meetings with one or two representatives from the community invited to attend. So far, no community representatives have showed any presence at meetings.

The committee seems to function well on its own with little need for outside involvement, however, there is a need for better communication between the committee, the adjacent community and relevant authorities. One of the focuses of the new WUA will be to ensure that this committee becomes even more effective in addressing water issues and develops stronger communication lines with the WUA (old Irrigation Board). MRCP's involvement at the inception of the committee did result in some communication between the Killarney Valley residents and the adjacent Mophela community but this was short lived and communication is no longer good.

Despite a slight reduction in crime and conflict in the beginning, crime began to escalate shortly afterwards and security became a major committee issue. Due to crime and security issues, the committee decided to exclude the Mophela community as a whole from meetings, and continue to meet only as a Killarney Valley Committee. An invitation was extended to the Mophela community to send a representative occasionally, but Mophela people are no longer attending. The quorum at committee meetings is maintained and a 'meeting ethic' is maintained. Stray cattle are still a problem in the area. Sandwinning continues to be a problem but is being addressed through the relevant departments and with the help of the Irrigation Board initiative.

Alien plants have been eradicated (by Working for Water and private landowners) in some areas but this is an ongoing management problem. A positive development is that the residents in the valley recognize the Irrigation Board project and the Board itself as the authority in the catchment and contact with the UIBCMP is regular and relevant to land and water management (i.e. when an environmental problem arises, the Board's environmental officer is swamped with concerned callers). Issues are thus brought to the attention of the Board and addressed as efficiently as possible.

No Exit strategy is needed since the committee meets regularly of its own accord (this is most likely due to the security and environmental concerns of the people living there).

Achievements

The programme facilitated a process of bringing people together from diverse and unique communities to talk about problems they experienced and take joint action as residents of the Mlazi River Catchment. Facilitation was important to establish local structures, provide support and build capacity and help keep them alive and functioning. The programme has demonstrated that people can learn to take action at a higher level of social aggregation.

An example is found in the Salem community and KwaLinda community. They became involved in monitoring the platform building process and monitoring the landfill sites. The level of pollution and number of incidents at the Shongweni landfill site has dropped over the past five years. This forum afforded locals an opportunity to report their immediate problems to the authorities, in the hope that effective steps would be taken to address these, and if that failed to happen, the authorities were held accountable at the next forum meeting. This developed the capacity to call authorities to account, and helped increase understanding of environmental issues.

1. Level of water and air being polluted by the landfill site has decreased.
2. Communication lines between the neighbouring black and white communities have been improved, which has led to the peaceful resolution of their conflicts.
3. Black communities benefited from smaller projects that came through these platforms.
4. Awareness about the sharing of the same catchment has been raised.

Reflection

Catchment management requires a ‘mover and shaker’. The programme has been a catalyst in making things happen at catchment level. This type of facilitation requires a wide range of skills – offered by programme staff – such as conflict management, facilitation skills, project management, environmental education, and technical skills with regards to marketing, agriculture, craftwork, community development, etc. A combination of these skills contributed in setting-up these committees and to enable rural communities to play an active role in catchment management. It must be remembered that most South African rural areas are stricken with poverty. The main focus of rural people is to be able to sustain themselves, in some cases at the expense of environmental quality. The programme was able to raise the level of awareness of these communities and to create an awareness of the essence of catchment management. It has been a huge achievement to bring different stakeholders around the table to talk about issues that affect their catchment. It was important to begin by reviewing the relationships among the stakeholders, and then to draw-up strategies that will help in dealing with issues that impact on the relationship between the stakeholders. Once these issues were unpacked and dealt with adequately, it was possible to look at catchment issues on the same wavelength. Thus, platform building requires careful negotiation, identification of common ground, and the development of a shared vision and identity.

In setting-up a catchment management committee, it is vital to set-up terms of reference for the functioning of the committee. This will serve to keep the committee focused on specific issues that are realistic and achievable. This point is mentioned because of the experience with the community forestry initiative. A lot of energy was devoted to this initiative with little success.

The committee members need training in committee skills; this was noticed from the behaviour that certain committee members were demonstrating during some of the meetings especially when conflictual issues are discussed.

Learning

- It demands a lot of commitment from a facilitator to establish a subcatchment committee.
- The variety of institutions within a subcatchment committee makes difficult to determine the objectives of the committee.
- Level of participation depends on the availability of transport.

Challenges

Continuity of these committees is the main challenge. The functioning of the Upper-Baynesfield committee and / or others was mainly because of the financial support from WRC and other relevant players e.g. Umlaas Irrigation Board Catchment Management Programme and Mondi Forests. The facilitators were able to organize meetings, ensure that people get minutes in time, fundraise for community projects, etc. This is a job for a full-time employed person. The question now is who will be able to pay for this task. The challenge is to set-up a fundraising system to continue the work.

Capacity Building

- People in the Upper-Baynesfield subcatchment committee have attended the Land Husbandry course through Cedara, Soil Conservation services.
- People have been trained in grazing management skills and livestock disease management through Nansindlela Training Farm which is part of Institute of Natural Resources (INR).
- The Upper-Baynesfield Subcatchment Committee members have attended a workshop on the Establishment of Catchment Management Agencies that was facilitated by DWAF officials.
- This committee has attended a number of the local CMA's meetings through its chairman.
- The community's institutions were trained about setting-up a trust or a community property association, which was part of setting-up the forestry project.

Exit Strategy / Partnerships

- The sub-catchment committees in the Upper Catchment will continue under the Umlaas Irrigation Board.
- The garden project was evaluated and handed over to the Department Agriculture. Transport might be a problem as well as language, since some of the committee members do not speak English.

- Several workshops were held with project groups to ensure continuity after the end of the programme.
- To ensure continuity of the work, partnerships have been established between communities and local service providers such as Baynesfield Estate, Mondi Forests, NCT, CLC Contractors, KZN Department of Agriculture, National Department of Agriculture, DWAF and UIBMCP.

5.4.2 CONSERVANCIES

HAMMARSDALE INDUSTRIAL CONSERVANCIES

After the formation of this conservancy in 1998, representation of the Mpumalanga Community was negotiated with the committee members. In 2001 with the help of MRCP Mpumalanga community was represented on the HIC.

CONSERVANCIES IN BLACK AREAS

During the current phase of the MRCP, three conservancies have been formed in three former black communities, namely Salem, Ntshongweni and Cliffdale. Attempts have been made to form another one at Bucksfarm but lack of leadership on their side hampered progress. The others are all properly constituted. Workshops have been held to capacitate them on the running of their conservancy and also on defining the conservancy area.

Achievements

Conservancies have been formed in black areas for the first time in the history of KwaZulu-Natal, which was a step in the right direction. The programme aimed to connect previously disadvantaged communities with officials from the KZN Wildlife of Nature Conservation. The program helped to ensure that a committee was elected, and that relevant training was provided to manage these structures. The process of involving communities, while imparting the importance of taking part in environmental issues was a long process, often taking six months to one year or more, depending on the level of awareness among community leaders and its members. Furthermore, the level of invasive alien plants has decreased. Planting of indigenous plants has added value and beautified the whole area.

Capacity Building

- Thirty people were trained in writing funding proposals.
- Twenty people attended workshops on how to do year plans.
- Twenty people were also trained in committee skills.

Reflection and Learning

If people have an interest in environmental issues, the formation of such committees becomes an easy process, especially where there is strong leadership with an interest. However, if leadership is not interested they might act as gatekeepers, and communication is not passed on to community members. Transport is also often a problem if meetings are held away from the community.

Challenges

Conservancies are faced with the challenge to keep their members interest and sustain themselves. The interest and the knowledge of taking care of their environment are there, but how they are going to take it forward is uncertain. The Clermont Conservancy started 10 years ago near Pinetown with help from the University of Natal (Durban) Geography Department collapsed after support was withdrawn. These new conservancies will need support, both financial and practical, and also recognition of their seminal importance for Metropolitan Durban.

Exit Strategy and Partnerships

Programme staff trained members in business management skills. Much support is needed since the conservancy has only been formed this year. It might be useful to assist them in joining the Natal Conservancy Association, costing R150 per year, which would bring them into contact with other conservancies as part of the conservancy movement. An official from the Department of Agriculture and Environment has been brought in to provide assistance after the end of the programme. However, they might not be able to participate in the CMA proceedings since the official does not attend CMA meetings.

5.4.3 OTHER COMMITTEES

ENVIRONMENTAL MANAGEMENT ADVISORY FORUM OUTER WEST

EMAFOW functioned well until the end of 2000. After the election of the office bearers in November 2000 and the disbandment of the former Outer West Local Council, it lost its direction. The reason was partly because all the six sub- structures that used to fall under the Durban Metro Municipal Council were turned into one structure, the Durban Unicity Council. As the nature of the committee was meant to serve the Outer West residents, attempts have been made to restructure this committee. Two workshops were held in 2001 which resulted in the formation of Envirowest, an action committee for Western Durban, representing the former Inner and Outer West areas. The Committee met with the Unicity Mayor to discuss environmental management, urban agriculture and the upcoming Conference on the Environment and Development in February 2002. It is intended that Envirowest will address many aspects of Integrated Catchment Management in the lower Mlazi, Mgeni, Mhlathuzana and Mbilo catchments. Mr Sifiso Ntinga sits on the committee, which is currently chaired by Dr Raymond Auerbach.

MPUMALANGA ENVIRONMENTAL FORUM

The establishment of the Mpumalanga Environmental Forum in 1998 helped in the facilitation of the Outer West Council's agricultural project. The people who were to benefit were from different wards within the Mpumalanga township who had never met before. The Forum enabled them to get to know each other, to share experiences in farming, and the importance of the environment. Thus, a platform for resource use negotiation was created. Programme staff, local government and Department of Agriculture were also afforded an opportunity to get to know each other, to coordinate work and create synergies in service provision.

5.4.4 MLAZI CATCHMENT COMMITTEE

Attempts to form this committee as umbrella body for all the subcatchment committees failed to produce results. After consultations with major stakeholders in the catchment, the programme organised a meeting with representatives from the following organizations: Msinsi Holdings, Umlaas Irrigation Board (now Mlazi Water User Association), Durban Unicity Council, Department of Agriculture and Environment (KZN), Buckman Laboratories, Cliffdale Conservancy, Department of Water Affairs and Forestry.

Results

At the meeting participants indicated that representation was not broad enough. It was proposed to elect a committee at the next meeting, to be organised by Department of Water Affairs and Forestry. Areas of responsibility of the committee were drafted at the meeting:

- Establishment of catchment identity
- Wise use of water resource
- Establishment of a catchment biomonitoring programme
- Water quality monitoring
- Interaction with water user group / cooperative
- Awareness creation on water and land / capacity building
- Reduction of environmental impact

The Committee's vision was to include: Integrated water management, sustainability, quality, quantity, and equity, based on the Water Act

Stakeholders to be invited to the next meeting were DWAF, Durban Metro and Local authorities, Department of Agriculture (Provincial and National), Water Users Associations, existing farmers representatives- (Community Participation), Msinsi Holdings, KZN-Wildlife, Local Conservancies, Umgeni Water Board, Tribal Authorities, Forestry industry, KwaNalu (Agricultural Union), Department of Environmental Affairs (National), and the MRCP.

It was agreed that DWAF would invite stakeholders in writing and ask whether they would like to participate in this process of setting up a Mlazi Catchment Committee. Despite follow up requests and promises of action by DWAF officials, nothing has been done since May 2001.

Challenges

DWAF's priority is the constitution of the CMA for the Water Management Area. Considering the fact that they are understaffed, the establishment of catchment forum is not likely to happen soon. Facilitation and support as provided by programme staff is still needed to take this process forward.

5.5 CATCHMENT MANAGEMENT AGENCY

The National Water Act (Act 36 of 1998) sets out the framework for the management of water resources in South Africa. This framework provides for the establishment of water management institutions, which include catchment management agencies. Mr Ashwin Seetal, Deputy Director of DWAF in the province, initiated a process to form a CMA for the area, which ran in tandem with a Danish funded three year programme aimed at supporting this process, together with two other CMA-establishment processes.

Programme staff participated in workshops for the establishment of the Mvoti to Mzimkhulu CMA. They participated in two task teams, namely Community Participation and Situational Analysis. Four task teams were established to develop a proposal. This proposal was to be submitted in June 2001 to the Minister of Water Affairs and Forestry for the proclamation of a CMA in this Water Management Area. Due to delays, submission was postponed to December 2001. Subcatchment committees have been informed about these workshops but so far they have not attended.

Reflections

The process of involving communally based structures in the CMA was not without its difficulties. If the organisers had arranged briefing to all community structures in their regions, the process would have involved local people more effectively. Language is also an issue: at the Ladysmith Meetings, participants were briefed in Zulu, rather than receiving full translation after the speaker has spoken.

Earlier discussion documents on ICM suggested a CMA for each catchment. However the Water Act provides for only one CMA per WMA. Given this set up, it was inevitable that community participation would not be able to include large numbers of local community members, as one CMA would have several hundred community groups falling within its area.

Learnings

The constitution of the CMA is taking more time than expected. The centrality of the

meeting venue inhibits maximum participation of the mainly rural areas. Lack of participation is an inevitable consequence of the scale of CMAs.

Challenges

The challenge is how the CMA will integrate the activities of about nineteen catchments in the Mvoti to Mzimkhulu CMA. How is this complex set of interests going to be administered after some of DWAF functions have been handed over to such an extensive CMA? How will community issues percolate up to the CMA, and how will CMA decisions percolate down? Will there be any meaningful consultation?

Exit Strategy and Partnerships

The constitution of the CMA is proceeding under the guidance of DWAF, and there is no doubt that it will eventually become a legal body. But what is doubtful is the participation of the subcatchment committees. Who will make sure that they are effectively participating and that the information is passed on to them? These aspects will have to be given urgent attention if we want this CMA to be participatory and if the needs of the people are to be taken into consideration.

Capacity Building

Local communities are much more aware of catchment issues than before. While much progress has been made in development cooperation on the ground, most communities are unimpressed by what participation in their CMA could bring, in terms of real, on-the-ground development. One can therefore argue that the capacity to discriminate between talk and action has been developed in many community groups. These groups are expected to attend many, varied meetings, and many suffer from “meeting-fatigue” – it is thus essential for them to prioritise which meetings are most important. They do regularly discuss progress with programme staff attending CMA meetings, and give and receive feedback on the proceedings.

6. DISCUSSION

What started as an idea on Cliffdale Hill developed into an inter-disciplinary programme touching the lives of thousands of people, and spending over R3 million of taxpayers’ money.

The programme was an honest attempt to apply the draft legislation on catchment management in a participatory way, as a service to residents in the Mlazi River catchment. In certain ways, it has been highly effective, bringing environmental issues to the attention of a large number of decision makers. Agriculturalists and water managers were introduced to effective water use and practical rainwater harvesting. And awareness was raised concerning the water and nutrient holding capacity of organically farmed soils.

The programme set up a number of community gardens, school enviroclubs, and craftgroups. The livelihood of people involved in these activities certainly improved. Black and white communities were brought together, often for the first time, in new formed. Through this, the programme has – modestly – contributed towards the building of a new South Africa, and perhaps a slightly more tolerant new South Africa than may have been the case.

In how far programme interventions are sustainable remains yet to be seen. Individuals and groups have learned much about organising people. How they pursue these skills in the future only time will tell. Several thousand young people have been exposed to ideas on Landcare and River Health. Some have learned detail about aquatic micro-organisms that may have sparked a life-long interest, and could quite easily produce a Nobel Prize-winning microbiologist or two. Some have written poems and seen them published for the first time – perhaps a future Nobel Literature Laureate or two? Others have met inspiring role models, and learned that one can take action at local level, that one does not have to be a victim of the past or a slave to the future. Hopefully, many will have been encouraged to become responsible citizens.

The programme certainly did get people participating in catchment management. As a specific attempt in a defined and unique area, it succeeded in mobilising large numbers of people to take action. It built on sound international experience, and showed that participatory action research can achieve results, both practically and academically, in a fairly cost effective way. As a framework for community participation for South Africa, it has the limitations of any practical attempt to mobilise people – it worked in the way it worked at this time and place with these people. Attempts to replicate our experiences will certainly be different – sometimes “better” sometimes “worse” – these are relative concepts, and will be judged differently by different people, with their differing values and priorities.

The team learned a great deal, and made many friends locally, nationally and internationally. Many researchers have asked for details or for publications, or to visit and see how things have progressed. Some aspects of the work will probably be used by Durban Metro to “showcase” what Durban is doing for Local Agenda 21 plans to bring together environment and development during the “Rio + 10” activities later this year. Some suggestions made to the Durban Metropolitan Environmental Policy Initiative and to the Integrated development Plan for Durban’s Outer West seem to have been integrated into Urban Development Strategies. Others will no doubt be forgotten.

The team will continue as development professionals, through the Farmer Support Group, through Rainman Landcare Foundation, through MONDI Forests, through the Umlaas Irrigation Board Catchment Management Project, and through a range of other organisations the programme has interacted with, to promote sound people, soil and water relations.

7. CONCLUSION AND RECOMMENDATIONS

People can be brought together from diverse and unique communities to talk about problems they experience as residents of a catchment, and take action at a higher level of social aggregation. Four areas of intervention have been identified to guide action at local level:

- Productivity: Developing and promoting sustainable farming and land use practices
- Equity: Working with local communities to enable them to pursue their own development
- Environmental education: Awareness raising among youth and adults about social, ecological and economic issues impacting on the catchment
- Structures for collective action: Promoting an enabling networking and collaboration among local leadership and multiple stakeholders.

It is the combination of the four, and the synergies between them that enable integrated catchment management to happen. People need to be aware of environmental issues, and how the environment impacts on their livelihood (Environmental education). They need to have the ability to experiment with alternatives and to change their practices to more ecologically sound practices (Productivity). They need to be able to articulate their needs and interests, to act upon these and access support and services in order to improve their livelihood (Equity). And, lastly, people need to be able to effectively participate in decision making in the wider catchment, and to hold others accountable for their practices (Structures for collective action).

Local forms of organization such as conservancies, sub-catchment committees, and environmental committees enable people to genuinely participate ‘from the bottom upwards’. Getting organized at local level is a prerequisite for effective participation at regional and provincial level. However, mobilizing and organizing people require careful facilitation. Strong interest and commitment in environmental issues, and support from local leadership can speed up this process. Once committees are formed, their capacity needs to be built in organizational management. Guidance and support is needed to enable committees to effectively participate in decision-making structures for the wider catchment, to represent its clientele, and keep them informed and interested.

Where multiple stakeholders come together, a careful process needs to be facilitated from exploring issues together, and finding common ground beyond the obvious differences and – perceived – opposing interests. From there a platform starts to emerge that develops a common vision and is capable of negotiating and formulating a strategy for resource-use and management in the catchment. This requires specific skills in facilitation such as community development, organizational development, project management, and conflict mediation.

In the following, specific recommendations are listed to guide interventions in integrated catchment management. There are five broad areas of improved intervention:

- **Subcatchment committees and conservancies;**

The first most important factor is having skilled facilitators, who understand both rural and urban dynamics are needed in order to ensure that community participation in catchment management is possible. The facilitator's role in this case, is to ensure that people value the essence of catchment management in South Africa as it may be perceived today and in the future, in other words facilitation of community visioning. This is done with the understanding that community participation is about maintaining an active set of networks with government, international donors, multilateral partners and NGOs. The important premise is that, facilitators must always be available as a link person between different stakeholders and be there to maintain and build relationships. This is because of the historical territorial culture of racial division as a result of apartheid

- **Craft work;**

To ensure success of the craft work function (an important micro-enterprise development venture with prospects for realizing livelihoods), the facilitator must spend some time in the community to win the support of the community as well as kick-starting project activities. Facilitation is vital if craftworkers are to learn about marketing and management. The other contributing factor is inculcating the love of craft or an interest as a business enterprise, and marketing skills are key to success. A liaison person should be identified to link crafters with the outside people e.g. resource people and customers to ensure sustainability. Introduction of a literacy programme that goes hand in hand with the craftwork to ensure that Training in quality assurance and product development is important to improve and ensure quality craft.

- **Environmental Education;**

Programmes such as Environmental Education can serve to promote production of craft from the reeds growing in wetlands, which are a natural resource, thereby providing local people with an incentive not to destroy the wetland and the broad importance of other natural resources. An experienced environmental educationalist is needed in order to understand how the activities of the school environmental clubs fit into the syllabus. A good hand-over process that involves the Department of Education and of Environmental Affairs is needed, in order to make sure that either one of them takes over the responsibility of employing a similar person to take over the clubs. One of these mechanisms could be the establishment of a structure, composed of teachers to see to overseeing activities of the environmental clubs and sustainability.

- **CMA community based stakeholder participation;**

This function would be best served by employing or engaging community facilitators to facilitate the community member's participation in CMA proceedings. Identifying champions within the community would serve to encourage others on catchment management. Other important factor facilitating communication is ensuring that workshops on the CMA are held in the vernacular of participants (Zulu) to maximize the level of participation. Newsletters are introduced to inform people about the importance of participating as people relate better to information of this nature.

Mlazi Catchment Committee;

The establishment of the catchment committee would be best implemented by DWAF, as stated in the National Water Act. The subcatchment committees would then be affiliated to this committee and their establishment would surely rely on the facilitators suggested above. To do this effectively DWAF would need to employ a specific facilitator on a fulltime basis to deal with such committees as well as the catchment committee, for institutional development since good support will be necessary.

Bio-monitoring;

The bio-monitoring function would better serve its purpose if it is implemented in the whole Mlazi River Catchment, rather than only in the Upper and Middle Catchment. Its continuation will depend upon the inclusion of institutions dealing with water management. Therefore, linkages with such institutions should be formed in order to make sure that they could take over, after the conclusion of the project.

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