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MATERIALS AND NEW DESIGNS IN SUSTAINABLE COMMUNITY DEVELOPMENT

A case study of Phumani Paper's Eshowe and Endlovini Projects

by

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Submitted in fulfilment of the requirements for a MASTER'S DEGREE IN TECHNOLOGY FINE ART in the FACULTY OF ART, DESIGN & ARCHITECTURE at the Technikon Witwatersrand South Africa

Supervisor: David Paton Co-supervisor: Kim Berman 2004
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The group of potters from Eshowe.
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Declaration

I, the undersigned, hereby declare that the work contained in this dissertation is my own original work and it is submitted in fulfilment for the degree of Master of Technology: Fine Art at Technikon Witwatersrand. This work has not previously, in full or in part, been submitted to any university for a degree.

Joao MM Ladeira
04 October 2004
Abstract

As a Fine Art graduate student, I worked at Phumani Paper Project's research unit based at the Technikon Witwatersrand from 2001 to 2004. The experience allowed me to render my services as a trainer for craft product design to help develop and sustain the poverty alleviation programme for Phumani Paper's papermaking projects around the country. Participants of the project benefit from the program in terms of training in the making of craft items, personal capacity building, and income generating opportunities.

South Africa's history is fundamental to understanding the present social imbalance which the government, non-governmental organisations and private organisations are trying to address in various ways.

My research work at the KwaZulu-Natal Papermaking and Packaging Project (KZN-PCPP) in Eshowe culminated in the writing of this dissertation. My research explored issues related to materials and design for the sustainability of the KZN-PCPP.

In regard to poverty alleviation I used Participatory Action Research (PAR), which was core to the activities and works presented in this dissertation.

New designs for the packaging of craft products introduced during my intervention period helped improve the marketability of the products produced at KZN-PCPP, and helped the participants to learn new skills. I focused on the introduction of sugar cane paper pulp in the making of ceramic wares. This added value to the potters' experience and to a certain extent helped reduce losses due to breakage during transportation.

Keywords

Phumani Paper  Poverty alleviation  Community development

Case study  Eshowe  Endlovini

Ceramics  Community building  Training

Development  Sustainability  Sugar cane paper pulp

Paper making  Packaging  Participatory Action Research
Introduction

My three years of work experience with Phumani Papers, a poverty alleviation papermaking project run by the Technikon Witwatersrand (TWR), have provided me with a unique opportunity to work closely with rural craft projects around the country. This programme offers the TWR's post-graduate students the opportunity to conduct research and work with participants from its projects countrywide. Most of the people who work on the projects are from disadvantaged communities in townships and villages. They benefit from the programme in terms of training in the making of craft items, personal-capacity building and income-generating opportunities.

During my work for Phumani Papers, I was located at the KwaZulu-Natal Papermaking and Craft Packaging Project (KZN-PCPP), based in Eshowe. This gave me the opportunity to follow closely, and intervene in, the production of craft products. My research on the sustainability of the Eshowe project resulted in my registering this field of research for an M.Tech Degree.

In Chapter One, I will discuss the present government's policy with regard to development projects and their sustainability, highlighting some of the Department of Arts, Culture, Science and Technology's (divided into the Department of Arts and Culture and the Department of Science and Technology) poverty alleviation projects in South Africa. One of the results of DACST's interventions was the creation of Phumani Paper, a poverty alleviation project set up by the Fine Art Department within the TWR's Faculty of Art, Design and Architecture. My chapter ends with a brief description of the creation of the Eshowe project within the KZN-PCPP, itself a project of Phumani Paper.

In Chapter Two I will discuss and analyse the context of the research I conducted at the KZN-PCPP in Eshowe between 2002 and 2004. The KZN-PCPP is involved in the manufacture of handmade-paper craft products made from recycled paper, and has a small, but important, ceramics unit.

My research was based on the enhancement of the design of the packaging and the introduction of new technology into the paper projects in Eshowe. Part of my work in the KZN-PCPP included experiments introducing sugar cane paper pulp (SCPP) into the clay bodies to be made into ceramic plates and pots, instead of the commercial product referred to as "paper clay". My theory was that the addition of SCPP, made from sugar cane waste, into a clay body might enhance the final products. I will also introduce PAR as the applied methodology in my research. I will discuss my research under the three pillars of Sustainable Development practice which are Economic Sustainability, Social Sustainability and Environmental Sustainability.
In Chapter Three, I will begin with a case study, contextualised within the methodological theory of PAR and my fieldwork practice, as discussed in Chapter Two. I will then discuss the tools used in the collection of data which are appropriate to my methodology and fieldwork practice. Thereafter I will gather and describe the data which the tools have generated so as to tentatively describe the economic, social and environmental impact of the KZN-PCPP.

I will also do this by analysing data collected from Phumani Paper's market survey of the KZN-PCPP craft products in regard to product design, marketability and the fundamental question of sustainability. I will analyse data from an impact assessment conducted by MPhil student Taryn Cohn regarding the issue of poverty alleviation projects' impact on communities.

In Chapter Four I will present the results of the introduction of the new technology. I will discuss the various activities related to the Endlovini-based unit research, presenting the technical results and findings of the experiments with SCPP. I will also discuss the technical results of the design enhancements of the packaging for the craft products from the Eshowe-based unit. An analysis of the environmental impact and the impact on the social and economic lives of the participants of the KZN-PCPP will be done.

In conclusion, I will present an overview of the research as a viable solution to the sustainability of the KZN-PCPP. I will propose possible solutions to the problems I have identified in my research which relate directly to the Eshowe project's potential viability as a sustainable enterprise.

I chose to focus my research on the KZN-PCPP, one of the 20 projects of Phumani Paper, because of the interest I developed in working with community groups through my experience with this particular project. This has instilled in me a desire to make a concrete contribution with my knowledge and experience as a fine artist, not only to the development of the project, but also to help make a difference in the lives of the participants of the project.

My research aims to undertake a qualitative assessment of the KZN-PCPP, the production and marketing of its craft products for the purpose of economic, social and environmental sustainability and upliftment of the quality of life of the people involved. It can be said that the nature of these projects, in general, has its roots deeply planted in fighting the legacy of poverty.

My aim is, therefore, to help bring about small but significant changes that will contribute to the sustainability of the project. By this research I hoped to improve the quality of the products for better marketability and, therefore, improve the income and quality of life of the people involved in the project.
Chapter One

Poverty in South Africa and the role of community-based projects in its alleviation

In practical action, a new nation is being forged; a nation whose New Patri­
tism and sense of pride derive not only from ideas in our hearts, but also from
concrete progress made in improving the well-being of all. Our task is to mo­
bilise all our people, to create more and more opportunities, to ensure that the
citizen’s potential is given the fullest expression. We have to do this and more,
sensitive to the feelings of the majority and the minority, the have and the
have-nots, those who have the media to communicate their ideas and those
deprived of such resources.

– Nelson Mandela opening parliament (1997:1)

In the context of my research, the word poverty refers to the lack of opportunity
and access to resources which allows for the economic and social development of
the economically disadvantaged members of our society.

One of the first problems I identified in the communities with which I worked was
that of migrant labour. Many of the people I met in villages were single parents
whose partners had gone to the cities to look for work. Migrant labour is a serious
problem and has a significant negative effect on family structures. Most migrant
workers spend very little time with their families and often are only able to visit them
once a month – less frequently, if they work far from home. This problem is a major
cause of dysfunctional families, and consequently poverty, in both rural and urban
areas. The same situation is the cause of many inherited illnesses amongst the
disadvantaged, which still represents a major concern in this country.

According to CT Kurien (1978:8) South Africa has a

... socio-economic phenomenon whereby the resources available to a society
are used to satisfy the wants of the few while the many do not have even their
basic needs met. This conceptualisation features the point of view that poverty
is essentially a social phenomenon and only secondarily a material or physical
phenomenon.

South Africa’s new democracy faces many challenges left over from the legacy
of colonialism and apartheid. Poverty, which grew out of great imbalance in wealth
and opportunity entrenched by previous political systems, is one of its greatest
obstacles and challenges.

David Berger (2002:5) defines poverty in the South African context as
... the inability of individuals, households or communities to command sufficient resources to satisfy a socially acceptable minimum standard of living. Poverty is perceived by poor South Africans themselves to include alienation from the community, food insecurity, crowded homes, usage of unsafe and inefficient forms of energy, lack of jobs that are adequately paid and/or secure, and fragmentation of the family. In contrast, wealth is perceived to be characterised by good housing, the use of gas or electricity, and ownership of a major durable good such as a television set or fridge.

To present a general view of the extent and seriousness of poverty in South Africa I refer to figures published in the Report on Poverty and Inequality (Online:2004) prepared for the Office of the Executive Deputy President and an inter-ministerial committee for poverty and inequality in May 1998. The report shows the levels of poverty across the country. The figures reveal that the poorest province is Eastern Cape with about 71% of its population living in poverty, followed by Free State with 63%, North West with 62% and Northern Province with 59%. The richest provinces were Gauteng with 17% and Western Cape with 28% of the population living in poverty.

Present low education levels, high unemployment, lack of basic infrastructure, such as clean water and proper health care, add to the problem. It is, therefore, vital for the government to create new structures to counteract these factors.

The Summary Report – Poverty and Inequality (Online:2004) notes that in a close analysis of the reality of how many South Africans are living today, it is critical to note that, in per capita terms, South Africa is an upper-middle income country, but despite this relative wealth, the experience of most South African households is of outright poverty or of continuing vulnerability to being poor. In addition, it says that the distribution of income and wealth in South Africa is among the most unequal in the world, and many households still have unsatisfactory access to education, health care, energy and clean water.

These imbalances can be reduced by providing the required infrastructure to enable people to free themselves from the bondage of poverty, but for many a lack of education and meaningful qualifications is still a major problem. For them finding proper jobs in order to compete with the rest of the working class continues to be a dream.

According to Raymond Parsons (2004:30) "With an unemployment rate of 33% when GEAR (Growth, Employment and Redistribution) was drafted, the formulation of a labour policy was a tremendous challenge. In addition, SA's labour market was extremely badly fragmented, with stagnation in the formal sector and growing unregulated low-wage employment."
Poverty is as much a product of unequal educational opportunity as it is any other socially engineered situation. The apartheid educational system for the black population was inferior in quality to that offered to the white population. This was an obstacle to personal and professional development, with huge social impact. Within this context, poverty in South Africa also means a lack of proper education or professional development.

After the 1994 democratic elections, the Department of Education issued its Mission Statement (Berger 2002:6) in which it stated: “Our vision is of a South Africa in which all people have equal access to life-long education and training opportunities which will contribute towards improving the quality of life and building a peaceful, prosperous and democratic society.”

The Constitution (Online:2004) regards education as a basic human right. Section 29 states that: “everyone has the right to basic education, including adult basic education, without discrimination of any sort”.

The policies and systems are now in place, but it is only through their efficient implementation that education will liberate people from mental, social and economic poverty. A challenge of the new democratic government is a reduction in the gap between the advantaged and the disadvantaged members of society. Addressing the needs of an entire population is not an easy task. The lack of infrastructure requires long-term funding, strategy and people who are properly trained to address the problem. Compounding this problem are other by-products of disadvantage: crime, violence, rape and corruption, which grow into a vicious circle, making it more difficult to fight.

Since 1994, the government has launched several initiatives such as the Reconstruction and Development Programme (RDP), and GEAR, to address the pressing needs of the majority, by fighting against poverty and unemployment. The programmes could only provide partial solutions to the problem of poverty. They have so far provided, according to Poverty and Inequality report, (Online:2004) “improved access to safer water for 4 million people, improved sanitation services for over 3 million people, built 600 new clinics, 700 000 houses, [and] had 1,5 million more households connected to the electrical grid”.

It is the South African government’s policy to eradicate poverty and reduce the imbalances between advantaged and disadvantaged communities. One of the many programmes promoted to deal with this situation is the Poverty Relief Programme, in which the DACST promotes the craft sector as a tool for empowerment and job creation1.
1.1 GOVERNMENT POLICY: THE CRAFT INDUSTRY AS A MEANS TO REDUCE POVERTY

In South Africa, a great number of craft products are produced in rural and disadvantaged areas. This creates job opportunities and empowers people.

One of the problems craft initiatives have is getting their products to the marketplace. This requires proper roads and transport, often not available in remote areas of the country. An example is the group of potters in Endlovini village, in the heart of rural KwaZulu-Natal, with whom I worked. It is difficult for them to transport their goods to the market because the village is far from major centres, and does not have a proper public transport system. Problems such as these challenge the government to intervene.

According to DACST's Annual Report 2000/2001, bridging the gap between rural and urban areas entails not only the setting up of infrastructure but also building the culture and craft industry. In order to address this issue, structures are being set up to promote culture- and craft-related projects around the country. DACST has played an important role in the efforts to create infrastructure that encourages the practice of craft and promotes cultural industries.

The fight to eradicate poverty became one of the driving forces behind the many initiatives and programmes initiated to promote the culture and craft industries. In 2000, DACST was allocated funding from the Poverty Alleviation Programme by the National Treasury, according to its Annual Report (2000/2001:27-28).

While the government's focus on creating new job opportunities and eradicating poverty by building cultural industries is welcome, the broader issue of the promotion of craft and culture as a national heritage has still to be resolved. This is a fundamental question which affects many people working in the craft sector. The dictates of the market often compel people to manage the industry in a way that changes the original nature of the products – even an object's traditional meaning is, at times, ignored to attend to the economic needs of the industry.

J Forester (1996), cited by Zarina Patel (2004:290), says, "a prerequisite to considering options and choices is that we must have a sense of what is at stake, of who and what are involved, and to whom and what we need to pay attention". However, in both developed and developing countries, including South Africa, there is a growing awareness of the important role that the cultural industries play in defining identity as well as in sustaining and developing heritage in the contemporary world. The craft industries play a key role in the empowerment of rural communities and, of course, in the economy by generating a significant income for, and interest in, the country.
South Africa would benefit more from the craft industry if the creation of satellite craft projects was regarded as a potential initiative for the development of disadvantaged people. Basic infrastructure, such as a venue, tools and machinery have to be provided before projects can begin production. Basic business and marketing skills also need to be provided to ensure that the projects survive.

At a workshop convened by the Mineworkers Development Agency (MDA) held in March 2001 in Johannesburg MDA CEO, Kate Philip, suggested that this form of empowerment could be done at relatively low cost. It could be achieved, she said, by initiating small projects managed by a small number of people, though leaving it open for the eventual growth of the business. Participants would have to be guided and their progress monitored during the foundation phase until they gained confidence and the project became independent.

When setting up a project in some rural areas, it is crucial to adjust the urban concept of business to the participants' way of life. This is because people in rural areas usually have other activities that are not easily subsumed by the urban concept of business. Their lifestyle is different and so are their daily priorities, which do not match the urban and modern concept of business.

For example, in a particular area of Lesotho, Philip found that men involved in stone cutting only wanted to work one week out of a month in order to get a cash income of R400 a month, because their livelihood incorporated a whole range of other activities.

It is, therefore, important to acknowledge the backgrounds and experiences of those participating in the projects. Peoples' natural life-skills have to be included in the process of setting up new projects. Different customs and social backgrounds have to be considered when designing a community project. For example, in some areas, gender roles are better defined and more structured than in other areas. Age is also an important factor, especially in rural communities where the roles attached to the age and experience of different members of society are well defined.

Many other social factors have to be taken into consideration before forwarding any business proposal for the setting up of community projects. It is necessary to first identify the needs and existing knowledge and skills that could be used within the project. This helps the participants develop a sense of belonging and gives them a sense of ownership of the project.

Philip also said that most of the projects around the country were initiated with the intention of providing job opportunities and fighting poverty. This, at times, lead to the projects employing more people than they could accommodate. It is important to ensure sustainability of projects and this depends on whether the project can provide for the needs of its participants.
There seems to me, however, to be a growing number of successes in project initiatives set up by non-governmental organisations (NGOs) and the government in several parts of the country.

In the years I have worked with community projects I have learned that for the project to be sustainable, special attention must be given to training. This has to be done with sufficient time to allow participants to familiarise themselves with new methods of production. It is essential for trainers to be familiar with the local environment and the people's way of life, because this helps to convey their message in the most effective and empathetic way.

It is imperative to have continuity during a period of training. When trainers come from cities to train in rural areas, this often makes the process difficult and expensive. A solution is to build the entire period of training into one uninterrupted programme. When this is not possible, the break in training should not exceed a month.

We reap many benefits from cultural activities such as traditional dance, crafts and other initiatives, such as the restoration of identity and a balance in the expression of the varied ethnic groups in South Africa. It is important to restore the dignity lost during the apartheid era. Cultural activities can play a vital role in reviving people’s self-esteem, an important element in rebuilding society. This could have a positive impact on the process of moral regeneration that is much needed in today's society. Craft-making can make an enormous contribution because it is something with which people can identify, which can be seen and handled.

Some crafts are specific to a particular ethnic group or region. The promotion of these crafts, which are linked to cultural values or traditions, could contribute to rescuing products and practices that are in danger of being lost. Acknowledgement of these different cultural identities could help to bridge the gaps between communities around the country by providing an opportunity for people to experience other cultures and learn to appreciate each other. This can help to build communities by bringing people together. An example is the annual Reed Dance in KwaZulu-Natal, which brings together people from all corners of the country, and beyond. These cultural events are useful in promoting local identity, especially for costumes and other crafted products worn on the occasion.

The craft industry is largely environmentally friendly because it often involves products that are made from natural or recycled materials. Craft products and practices are often used to promote and educate people about issues pertaining to the environment.

The different facets of culture such as the performing arts, like theatre, cinema, public concerts and television are a source of not only entertainment but also em-
ployment and empowerment, and therefore contribute to the economy. Similarly, according to the Craft South Africa Information Handbook (2001:8), the visual art forms, especially in the craft sector, have become "... the third biggest money-spinners after public service and agriculture in many areas".

This sector, however, still needs a lot of assistance for its full development and sustainability. As I have mentioned, craft production still faces many challenges like poor roads and transport infrastructure which are a barrier to accessing markets to sell the products and, at times, to acquiring the raw materials for production. As many craft products are made from materials bought from retailers, the final product can become very expensive.

1.2 INVOLVEMENT OF DACST IN THE SETTING UP OF THE PHUMANI PAPER PROJECT

DACST's Annual Report (2000/2001:28) set targets and identified and categorised projects for funding. These include:

- Craft development projects;
- Music development projects;
- Projects that promote indigenous art forms;
- Projects that promote cultural performances and cultural festivals in rural areas as stimulants for cultural tourism activities;
- Projects that provide business training for cultural practitioners; and
- Projects that develop community-based infrastructure such as resource centres, cinemas and small-batch production units that enhance the social and economic aspects of communities.

In line with this vision, the DACST and the TWR entered into a partnership in 2000 to create and fund the Phumani Papermaking Project as a Poverty Alleviation Program, based at the Doornfontein, Johannesburg, campus. This programme received DST funding for three years, which was extended to 2004.

These funds were aimed at achieving the following:

- Developing appropriate technology to convert locally available natural resources to pulp, to be made into paper.
- Training unemployed people from target communities in the use of this technology and establishing local manufacturing facilities.
- Training participants in business skills to give them the ability to develop their newly acquired technological capacity into sustainable businesses.

The TWR supplies the Phumani Paper Project with a venue and other resources, such as expertise from staff, and research students to help co-ordinate the programme.

Phumani Paper Project's head office and research laboratory are on the TWR's
Doornfontein campus. Projects around the country are co-ordinated from this venue. Among the services it offers are:

- Research on the production of handmade paper, and the testing of different types of fibres;
- The creation and manufacture of products out of handmade paper;
- Administration services; and
- Marketing and selling of the products.

The project offers a number of services to the communities it serves. According to Phumani Paper's Annual Report (2001:4), hand papermaking as an activity and its applied products provide appropriate technology for viable craft industries in impoverished communities because it:

- Creates employment;
- Recycles waste products, which promotes environmental conservation;
- Services and expands craft and other target industries (wine, jewellery, indigenous craft, etc.);
- Establishes the infrastructure and skills base for a new cultural industry;
- Replaces expensive imported packaging;
- Fills gaps in local and tourist markets;
- Contributes to community development and poverty relief;
- Provides indigenous branding of the African Renaissance for the export market;
- Transfers appropriate technology and training;
- Promotes community service in tertiary institutions;
- Establishes partnerships between the government, industry and educational institutions;
- Forms links between the DACST, DTI, the Departments of Environment and Tourism, Water Affairs and Agriculture;
- Has multi-sectoral benefits through the establishment of secondary projects and recycling programmes;
- Promotes capacity building and empowerment of women and youth through training and income generation; and
- Will provide leverage for further resources and investment opportunities.

One of Phumani Paper's projects is the KZN Papermaking and Craft Packaging Project located in the small town of Eshowe in KwaZulu-Natal.

For practical reasons, the Eshowe project has three distinct types of activities under the same funding programme.

One unit deals with the production of handmade paper from sugar cane fibre. Eshowe is a farming area, which produces a lot of sugar cane. The idea of using sugar cane as fibre for the production of papers is very practical because it is easy
for the project to get its supply of sugar cane waste from the nearby farms.

Another unit produces photo frames, conference folders and journals as well as packaging boxes to hold locally produced crafts. The third unit produces crafts such as embroidery and traditional Zulu pots and plates and other decorative gift objects like ashtrays and ceramic birds.

These units involve about 40 permanent and 15 part-time participants. They recruit mainly women, who are taught how to make paper and its by-products.

It is important to note that efforts initiated by the government or non-governmental organisations do have an impact on the life of the community involved. Whether on a large or a small scale, initiatives such as craft projects provide jobs for the community and, therefore, a source of income, especially needed in previously disadvantaged communities. These initiatives are a way of empowering people and reversing the level of social and economic poverty in communities around South Africa.

It is through the South African government’s initiative on poverty eradication that I began collaborating with Phumani Paper, which ultimately lead to my research project.

In Chapter Two I will discuss my work and experiences with the KZN Paper-making and Craft Packaging Project (a branch of Phumani Paper in Eshowe), its importance in the development and sustainability of the project and its potential to impact on and improve the lives of the people involved. I will also elaborate on the activities of and the contribution made by the above-mentioned craft manufacturing projects to the community of Eshowe and its surroundings, especially the people of Endlovini village.
Chapter Two

Phumani Paper at Eshowe: A context for Participatory Action Research

In this chapter I will discuss and analyse the context of the research I conducted at the KZN-PCPP in Eshowe between 2002 and 2004. My research is based on the introduction of new technology into the papermaking project in Eshowe, in which paper pulp, made from sugar cane waste, is added to clay to enhance ceramic products. In this way, I hoped to contribute to the socio-economic and environmental sustainability of the Eshowe project.

My research and interventions have not only been aimed at enhancing the structural quality of the ceramic products and their packaging, but are also aimed at making such products more economically viable. Essential to my project is the use of PAR as a methodology. I will discuss this methodology further in this chapter as well as the associated literature that underpins this methodology.

Before I focus on the technical innovation at the Phumani Paper project in Eshowe and the results, I will briefly discuss the background to the formation of the papermaking project in Eshowe. I will then discuss the context and need for the experiments I have done in the use of paper pulp made from sugar cane waste. I aim to show that these interventions contribute in an important way to the social, economic and environmental sustainability of the papermaking project at Eshowe.

2.1 THE CREATION OF THE PROJECTS

As stated in the DACST Annual Report (2000/2001:27-28) the fight to eradicate poverty has been one of the driving forces behind many programmes initiated to promote cultural and craft industries. The Poverty Alleviation Programme resulted from what was formerly known as the Reconstruction and Development Programme (RDP), launched by former president Nelson Mandela in his State of the Nation address at the House of Parliament in May 1994.

In 2000, the DACST was allocated funding from the Poverty Alleviation Programme. Part of this allocation was put into the creation of a pilot project in Eshowe to create jobs for the community. This was seen as an initiative to root out the state of extreme poverty in South Africa. It was within this context that the KZN-PCPP was set up as a pilot project, to create jobs and fight poverty. This was an initiative of the DACST, now divided into Department of Arts and Culture (DAC) and the Department of Science and Technology (DST), which funds Phumani Paper projects in partnership with the TWR.

In 1999 the DST/TWR pilot project resulted in the TWR receiving a poverty relief
grant of R3 million, to implement similar projects in seven provinces. The following projects were then set up:

**Table One: Craft projects**

<table>
<thead>
<tr>
<th>Province</th>
<th>Project</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Cape</td>
<td>Kuyasa Project</td>
<td>Kommetjie</td>
</tr>
<tr>
<td></td>
<td>Kwa-NoThemba</td>
<td>Khayelitsha</td>
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<tr>
<td></td>
<td>Flower Valley</td>
<td>Gansbaai</td>
</tr>
<tr>
<td>Free State</td>
<td>Kutlwano and Thusanag projects, which later merged into Kutlwano Papermaking Project</td>
<td>Welkom</td>
</tr>
<tr>
<td>Gauteng</td>
<td>Twanano</td>
<td>Ivory Park</td>
</tr>
<tr>
<td></td>
<td>Aids Link</td>
<td>Hillbrow</td>
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<tr>
<td></td>
<td>Kopanang</td>
<td>Geluksdal</td>
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<tr>
<td>Limpopo</td>
<td>Khomenani</td>
<td>Poloketsirus</td>
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<tr>
<td></td>
<td>Lebone</td>
<td>Lehurutshe</td>
</tr>
<tr>
<td></td>
<td>Bosele</td>
<td>Mnakau</td>
</tr>
<tr>
<td></td>
<td>Amogelang</td>
<td>Winterveld</td>
</tr>
<tr>
<td>Eastern Cape</td>
<td>Eastern Cape Papermaking Project</td>
<td>East London</td>
</tr>
<tr>
<td>KZN</td>
<td>KZN Paper Craft and Packaging Project</td>
<td>Eshowe and Endlovini</td>
</tr>
</tbody>
</table>

It is important to stress that, at the beginning of this funding programme, the focus for the budget allocated to the projects was on creating jobs. For DACST, as it was then called, the most important mission was to create as many jobs as possible and DACST viewed this as a vehicle to fight poverty. As a result, marketing and sales were secondary to funding. DACST provided funding for equipment, training and running costs, while the TWR covered the cost of consumables, stipends and technical expertise through research conducted by its staff and students.

The satellite projects listed above were established under the management of Phumani Paper, at its national office on the TWR’s Doornfontein campus. The office receives and manages the funding for all its projects countrywide. At this initial phase of the programme, the main focus of Phumani Paper was to implement DST’s objectives by introducing new technologies to economically disadvantaged communities and transferring skills that could provide new jobs.

After the first three year’s learning experience, termed the “funding phase”, it was clear to DACST that in order to make this poverty alleviation project a success, the emphasis had to be placed on long-term economic sustainability. Therefore, the Phumani Paper projects lobbied for a proper marketing plan and budget in order to turn the projects into viable businesses. Through adaptation of their products in relation to the demands of the market and new marketing strategies, these projects are now...
making the transition from fully funded projects to sustainable businesses.

The TWR entered into this partnership because it could provide human resources, an ideal venue and conduct research into the manufacture of handmade paper. B.Tech and M.Tech students are employed to conduct experiments and research at Phumani Paper's Papemaking Research and Development Unit (PRDU) on the Doornfontein campus. This research directly benefits the satellite projects around the country, especially by exploring different fibres for paper production. Amongst the tests conducted were a number involving fibres from invasive plants, which have proven to be suitable as raw materials. An example is Port Jackson willow (*acacia saligna*) in the Western Cape, which results in a very successful paper.

### 2.1.1 Setting up the KZN-PCPP workshop

The project at Eshowe was set up in 2000 as an initiative of the Poverty Alleviation Programme. As a masters student working in the Research Niche Area of Design, Technology and Sustainable Development I felt I could make a meaningful contribution to the development and sustainability of the many rural projects with which I worked. My research fits into the activity area of PRDU, supervised by Kim Berman.

The KZN-PCPP at Eshowe was initially subdivided into three separate manufacturing units:
- The Siya Thuthuka unit, which produces sugar cane handmade paper;
- The Ukukhanye kwe Sizwe unit, which produces boxes to package locally produced crafts; and
- The Endlovini unit, which produces embroidery products and ceramics.

With a Fine Art and Arts and Culture education background, my involvement as a research student in Phumani Paper lead to my working in Eshowe as a product trainer. From the beginning of 2002 I initiated development in new designs for handmade paper by-products, e.g. boxes for the packaging of ceramic plates and pots, and I trained workers. These experiences made me aware of certain critical needs for the development of the project's sustainability, such as the enhancement of standards for all products. During my M.Tech research, I have attempted to regularly improve the quality of the products and their design, in terms of the aesthetic and functional requirements of the market.

### 2.1.2 My involvement in the Paper Research and Development Unit (PRDU), leading to research in the KZN-PCPP

Before discussing the adoption of PAR, which became the core of my research methodology, I will briefly describe the process that lead me to Endlovini village, where I began realising the importance of this methodology.

At PRDU, amongst other activities, the B.Tech and M.Tech students from the
Fine Art Department at the Technikon Witwatersrand do research in product design and fibres for the production of handmade paper, and provide training for those who participate in the projects managed by Phumani Paper.

As an M.Tech student, my first assignment with the PRDU was to do fieldwork supervision of various projects around the country and train participants in craft product design. I was also asked to design and screen-print decorative swatches for the surfaces of paper boxes for the Eshowe project. As there was also a problem of breakage of the pots in their boxes during transportation, I needed to intervene in the production of the ceramics themselves. At this point, I began working on my M.Tech research to find design, material and structural solutions.

In my bid to improve the quality of traditional ceramic ware, I experimented with the process of introducing SCPP into the clay body out of which plates and pots were to be made. The use of locally produced SCPP, with its high cellulose content, as a beneficial additive to clay bodies, was the major focus of my investigation.

2.1.3 Sugar Cane Paper Pulp (SCPP)

Commercial “paper clay” (processed cellulose fibre) is difficult for rural potters to access. This is the main reason why we opted for a local product, which makes use of sugar cane fibre and recycled paper. The use of sugar cane fibre makes the product more identifiable as a “local product” of the region of Eshowe.

In order to define and describe the usefulness of sugar cane paper pulp (SCPP), I believe it is appropriate to first explain the product paper clay and its application. Paper clay, which is produced commercially, is a more versatile product than earthenware, allowing for multiple uses in the ceramic industry.

Rosette Gault (1998:7) gives the following definition: “Paper clay is, as the name suggests, a half solid half fluid plastic modeling mix of clay, paper pulp and water. The proportion of clay in the mix is greater than the proportion of paper, so objects constructed in this material can be fired intact in kilns without turning to dust as the paper burns off.”

Inclusion of paper clay in earthenware gives it a greater workability, longer drying time and fewer problems with cracking. This means it is more workable for longer. When paper clay is added, it is possible to suspend work for long intervals during production without the products drying out and cracking. This means the artist can work, and stop, and resume the work again, whenever it suits them without damaging the product, which earthenware clay does not easily permit.

One can make paper clay out of paper that is non-glossy, ranging from office paper to egg boxes. This paper is broken into pieces and soaked in water overnight. It is then blunged by hand or using an electric mixer, which speeds up the process.
The soaked paper, once beaten, is reduced to a pulp compound, ready to be mixed with fibres. At PRDU we experimented with fibres such as cotton linter, milkweed, mielie husks and banana leaves, depending on what final product was required.

2.1.4 Prior research conducted in the field

In 2001 a research workshop initiated in collaboration with Phumani Paper and the TWR Ceramic Design Department was conducted by Michelle Legg, an M.Tech student in the ceramic design department. The workshop explored the possibilities of introducing paper clay into the clay traditionally used by the potters of Tugela Valley in KwaZulu-Natal.

Legg conducted her workshop at the teachers training college in Eshowe, where she introduced paper pulp as an additive to clay bodies. Instead of commercial paper clay, Legg used recycled paper pulp and experimented with pulp made by the Eshowe project (containing sugar cane fibres) and fired the pots in a small ceramic kiln. Potters were excited about the experience of the new technology, but could not implement it. They came from villages in the Eshowe region, and could not afford to travel to the venue. If they were to produce work in their villages and transport the greenware to Eshowe, the likelihood of the ware being damaged or broken before firing was extremely high. The use of an electric kiln would have required a departure from their traditional method of working and was impossible in villages which do not have electricity.

An informal conversation with Legg in April 2002, at the TWR in Johannesburg, provided me with information concerning that workshop. Legg said that the potters were satisfied with their traditional methods and did not fully trust the new ones. This was due to the limitations encountered, especially concerning issues of transport from their villages to the paper project at Eshowe.

Another problem she encountered was that the production of paper pulp without the use of machinery is labour intensive. Paper pulp also grows the stachybotrus fungus after it has been stored for some time, which is a health and safety concern. This fungus releases microscopic spores which, when inhaled, can cause the lungs to bleed and can be fatal to infants.

It also became apparent to her that, because of cost, the use of imported paper clay would not be economically viable.

Legg abandoned her investigation into the paper clay method for use in rural communities after concluding that it was not viable for the needs of Phumani Paper, nor her own research.
2.2 PARTICIPATORY ACTION RESEARCH (PAR)

Having learned from Legg's experience, I opted for a different approach to conducting my research. I began implementing PAR, a methodology that allowed the people who worked on the projects to play an active role in the research. In PAR participants contribute their knowledge and actively co-define the research project and its goals. They also learn new methods through their involvement and continuous assessment. In this process the participants' input is as vital as the facilitator's. Together, the participants and I developed a new strategy which accommodated not only my experiences, knowledge and requirements, but also those of the participants.

2.2.1 Applying Participatory Action Research Methodology in my Research

My research on the activities of the Eshowe and Endlovini projects was based on the hypothesis that by improving the quality and strength of the packaging boxes, introducing new decorative patterns, as well as improving the internal structure of the ceramic ware, I would be able to contribute to the long-term sustainability of the project and, on a certain level, improve the lives of those who worked on the project. Though small in scale, my research project has the potential for a significant impact on the development of the KZN-PCPP.

Together with contributing factors such as improved marketability, increased numbers of clients and efforts made by the co-ordinator especially during the past three years, the team of participants of the project has played a vital role in helping to lift the standard of service, and has contributed significantly to the project's increased sales.

Sustainability and development were the key issues that drove my research activity throughout its implementation. As Zarina Patel (2004:285) points out: “Sustainable development has become a policy driver in most modern industrialised countries, and global processes have largely driven South Africa’s engagement with sustainable development.”

Ernest Stringer (1999:11) says of community-based action research theories within sustainable community development projects: “the primary purpose is as a practical tool for solving problems experienced by people in their professional, community, or private lives”.

With this in mind, I designed my research so that the participants could collectively contribute towards improvement in their working methods. I adopted this approach as it seemed to me the most suitable to my research and would work in the context of the everyday life of the participants. It looks at aspects of their work, for example, the way they conceive their work, in relation to their customs and
tradition. My approach could also be seen as an approach that in Stringer’s words (1999:17) "... focuses on methods and techniques of inquiry that take into account people’s history, culture, interactional [sic] practices, and emotional lives".

This confirms that by basing my approach on Participatory Action Research theories I could successfully achieve my end results. As Stringer (1999:156) points out when referring to PAR as a methodology:

*Significant decisions ... should be made at meetings attended by all stakeholders or their spokespersons. All [participants] should know what is happening and have the opportunity to contribute to discussions about issues. ... Equality of worth ... is bound up with equality of knowledge ... PAR may seem a time-consuming and maybe even inefficient way to go about to [sic] decision making, but the investment can pay off bountifully in the long run. [Participants] who are clearly informed about purposes and procedures are likely to invest themselves energetically in activities and to work tenaciously to maintain their ownership of the research."

PAR is also known as Community-Based Action Research, which is explained by Stringer (1999:9) as “an evolving approach to inquiry, community-based action research speaks to the current crisis of research by envisaging a collaborative approach to investigation that seeks to engage ‘subjects’ as equal and full participants in the research process”.

Stringer (1999:11) explains further that, within the process, the facilitator’s role becomes less of a directive role. Therefore, Community-Based Action Research’s primary purpose lies in solving problems experienced by people in their professional, community, or private lives in a practical way. This results in a more collective vision where many aspects are brought forward, not only at the intellectual level, but also at the social, cultural, political, and emotional levels. Participation therefore is a key concept in Community-Based Action Research.

Marie Hoff (1998:12) says that:

*Participation in decision making also helps foster the trust in one another which is necessary for a willingness to subscribe to communal (vs. individualistic) solutions to problems and needs. Moreover, without participation in the process of setting priorities and choosing goals, people in societies around the globe are increasingly unwilling to accept strategies imposed by elitist, bureaucratic, or authoritarian powers.*

With this vision in mind I began looking for ways to collaborate with the rural potters to make use of traditional9 methods which they still practiced, while also introducing new ideas.

PAR as a methodology was effective in strategising for the development and
sustainability of the Eshowe and Endlovini projects. The 1987 United Nations World Commission on Environmental Development (the Brundtland Commission) says that sustainable development is a “development that meets the needs of the present without compromising the ability of future generations to meet their needs”.

Kristin Helmore and Naresh Singh (2001:5) elaborate on the UN definition of sustainability:

Narrowly viewed, sustainability is often used in reference to environment or cross-generational sustainability. In other words, it may be defined as the management and use of natural resources to ensure that these resources will remain intact for future generations. Broadly speaking, sustainability is a key indicator of success or failure in development projects.

Helmore and Singh (2001:6) argue that sustainability promotes four essential characteristics: economic efficiency, social equity, ecological integrity and resilience.

In my research project I tried to include not only the economic aspect, which was a main motivator, but also the social and ecological dimensions. Working, especially with the potters, I was often confronted not only with their traditional working process, but also the other daily-life aspects rooted in their culture, where I constantly needed to adapt my thinking. With the time limitations of my research trips to Eshowe/Endlovini, I often had to ensure that I did not force potters to adopt my working pace. I had to take into consideration a few aspects, such as hospitality: at times I had to wait for the right moment to intervene and learn to gauge when it was my turn to take the leading role in facilitating after being formally introduced.

Age and gender carry status in rural communities and play a significant role in decision-making and the carrying out of activities. I was the outsider, male and educated, which could have influenced the outcome of the exercise. Men are usually given higher status than women in rural communities, though some communities are more matriarchal. In Eshowe and Endlovini men tend to take the leadership roles.

Following these cultural rules, interaction became a kind of “ceremonial event” for me where everything had its right moment and where time became secondary. My participatory approach allowed the participants and me to get to know each other before I introduced my plan for the project.

I learned that, despite the urgency and importance of my mission, relationships were the foundation for any implementation and that people come first in these villages. For this reason, I understood that it was critical that I adapt myself to their customs and conception of time, if I was to succeed in my aims. This process was
a very positive experience for both the potters and me. In fact, building a familiar atmosphere in the beginning allowed people to feel free to participate more in the discussions and make better contributions in the workshop.

Within the social context of sustainable development, the exchange offered both me, as the facilitator, and the participants an opportunity to enrich our experiences. The relationship also motivated the potters to work together and aroused excitement about the work as the research project offered something that was potentially economically advantageous. PAR has been the methodology used to build up a working plan with the participants.

Adhering to the research meant that the potters could have better and stronger ceramic products, enabling them to sell more, and consequently impacting positively on their income generation. It was a "win-win" situation and assisted the development of the Endlovini project initiative.

Most of the participants were women who were heads of households and the sole breadwinners. They were keen to improve their ceramic sales, because this would better enable them to provide for basic needs such as food, clothes, or paying school fees and hospital bills.

The implications of the entire process of my research went beyond the technical aspects of producing craft, it also touched the lives of those in the household. This coloured the participants' response to the research, which on a certain level influenced their social lives too, an aspect which I will deal with in Chapter Three.

This experience echoes Helmore and Singh's (2001:73) statement that sustainable living deals with every facet of life of people: political, social, cultural, historical. People do not have separate faculties for environment and food security and social interaction. When people participate as citizens, their priorities are defined by how they interact with one another ... with market forces, and with globalisation. All of these affect how people decide on a certain programme of action.

I realised that I had to adopt an effective approach from the beginning of my research. The right leadership approach was crucial to the participants' response to the research. Helmore and Singh (2001:73), elaborating on relationship and leadership matters in response to stakeholder's adherence, explain that:

When pressures of shocks and stresses become too great, people lose the incentive to take action. However, important changes occur when the right kind of empowerment is applied. Community leaders emerge out of nowhere. People start creating circles and groups. This is called citizen's collective action or social capital, but it requires leadership among the community members themselves. Such developments are the natural effect of involving community members in
local development. Projects cannot be designed to create these things. They emerge out of a process in which people engage themselves in developments.

From November 2002 to March 2003 the rural potters and I exchanged our different experiences in the field of ceramic production, and I gradually began to introduce the essence of my research. On July 16 2003 I organised a workshop at which Professor Juliet Armstrong, from the University of Natal, gave a demonstration to the potters, teaching them how to mix paper pulp with clay and stimulating discussion around traditional ceramics. About ten participants were trained at the workshop.

The aim of this one-day workshop was to introduce the technique of paper pulp preparation and its use in the making of ceramic ware. The workshop was very successful. Working with the rural potters was an exciting experience. We had to adapt the workshop material to the environment and cultural background of the participants. The potters had no formal training, therefore, we had to adapt our use of language and terminology so that it would be comprehensible and practical. Concepts of time and measurement had to be modified to suit their traditional methods of working.

The training was also aimed at providing enough information for the potters to be able to carry on experimenting on their own. For practical reasons we needed someone to take a leading role for carrying out the tasks while we were not there. The participants elected Lindiwe Ngubane as their contact person. She was to lead the experiments and report to me.

It is important to note that, until recently, the potters could easily find the right clay in the area, without having to walk long distances. With constant digging of the soil for extracting the clay and the action of erosion in the river beds, finding the right clay has become a bit difficult and the potters now have to walk at least two kilometres to find the right type of clay for pot making. For this reason, the use of paper pulp would be beneficial as it reduces the amount of clay needed.

Before the workshop, clay had to be collected from the river beds near Endlovini village. The clay was dried and re-wet only for later use. Potters had to wedge the clay before we could use it.

We demonstrated and gave directions for testing the new method of processing clay. The process we used was adapted to suit the participants' method of working. For example, instead of using the conventional scientific way of measuring and weighing our SCPP to prepare the mixture, we used a way familiar to the participants. A small paper pulp ball, the quantity contained in one hand, was our measurement to use against the amount of clay to be used. This quantity was then mixed with two or three similar quantities of clay to give us the amount required for
the experiment.

This process was efficient as it conformed to traditional and local processes of working with clay. PAR used as methodology for this research workshop proved very effective and suitable for the technical requirements of the training.

After the workshop with the Endlovini potters, we developed a working strategy of mutual trust in which their long tradition and experience of making ceramic ware was appreciated. For practical reasons, from the first contact I made with the potters, I was accompanied by Fundisile Biyela — an artist and member of the community, well known to the potters. Biyela is the co-ordinator of KZN-PCPP and played a very important mediating role throughout my research.

Biyela was my adviser and interpreter, and helped supervise the work while I was away. Biyela’s role was crucial as she acted not only as interpreter, but also partly facilitated meetings, allowing everyone to feel more involved in the research.

The workshop was followed by a number of experiments in producing ceramic ware by mixing clay with SCPP and testing the endurance of the new clay composition during the firing process. Once back in Johannesburg, communication between participants in Eshowe and Endlovini and myself became more difficult, but I was able to track their progress through phone discussions.

Between 2002 and 2004, I made a number of trips to Endlovini to meet with the potters. The first three trips were for establishing contact and maturing the research idea. Later trips were for workshops, to examine their progress and decide how to proceed according to the results obtained from the potter’s experiments.

Once my relationship with the potters was well established I could introduce the idea of exchange of knowledge and partnership, based on PAR principles, which, unlike Legg’s Phumani Paper intervention, was gladly accepted by the potters.

However, it was important to understand that for the potters, although the ceramic activity occupied most of their time during the day, other daily activities were considered equally important. Although it generated income, the potters still had to strike a balance between ceramics and other responsibilities. This meant the participants’ priorities were different from mine, and helped me realise that my intervention was just one step towards developing and sustaining the potter’s activities.

After carefully considering these different aspects, I had a clearer idea on how to proceed with my research. Firstly, I decided that instead of basing my research at the papermaking studio in Eshowe, I would move my practical work to Endlovini. This move could be regarded as essential in PAR methodology. Working with the potters in their own environment proved to be more appropriate. Secondly, I aimed at establishing good personal contact with the group.
In this way I could reassert my hypothesis that the use of locally produced SCPP as an additive to the clay traditionally used by rural potters could benefit the local ceramic craft industry. At the same time, this intervention assisted in solving some of the reported problems (Phumani Paper: Annual Report 2000/2001) which local potters were experiencing such as:

- Persistent cracking and breaking during the firing process;
- Structural weakness of the finished products, affecting transportation; and
- How to provide sufficient products of quality for the tourist industry.

From the start of my project, in March 2002 when I visited Endlovini for the first time and began contact with the potters, I was faced with three significant ethical questions:

- Whether my intervention, introducing SCPP in the composition of the ceramics, was going to change the nature of the traditionally-made, ceramic wares;
- Whether by such action I was contributing to relinquishing the traditional manner of production; and
- Whether it was either ethical or necessary to carry out such research.

After discussions with various people working in the field, I decided to proceed with my intervention. The recommendations I received, such as improving the internal structure of the ware rather than the external appearance to protect the original design of the pots, or working only on items that were already a result of recent innovations such as plates made from plastic moulds, were later reinforced by interviews I had with the potters in Endlovini village.

I still had to find a solution on how to supply the Endlovini potters with the pulp needed to mix into the clay. Preparing SCPP involves boiling the fibres and processing them with a Hollander Beater, a machine specially made for beating natural plant fibres, to make the pulp used for the couching of paper. This process, used by the Eshowe-based project, appeared too expensive and complex to be used by Endlovini potters, at least initially. The alternative was to use a traditional way of preparing paper pulp.

Because the Endlovini potters were not yet able to produce SCPP for mixing with clay bodies, we decided that pulp could be supplied to them by the KZN-PCPP at Eshowe, so that they would be able to begin small-scale experiments. At least twice a month, people from Eshowe went to Endlovini to purchase ceramic wares from the potters. This was also used for the exchange of pulp and ceramic products between the two unit. This exchange was seen as another way of linking the groups in a mutually beneficial way.

Trips to Endlovini village are done on a regular basis, therefore, there was no reason to store the pulp for a period of more than a week. This reduced the pos-
sibility of stachybotrus fungus growth in the pulp.

In March 2004 I organised a three-day workshop in Endlovini. Its aim was to introduce the Endlovini potters to hand beating sugar cane fibre mixed with waste paper to produce their own pulp. It was important for the potters to produce their own pulp to avoid dependence on the Eshowe-based papermaking unit for the supply of paper pulp. The workshop was successful. This time, six women and one man attended.

Having planned a three-day workshop, I had initially intended to start at 8am. This would have allowed me to make effective use of my time during my stay in Eshowe/Endlovini. Unfortunately, that was not practical. The workshop could only start at 10am because the potters needed time to perform their household and community duties before attending the workshop. At the start of the workshop I was surprised to learn the number of tasks already accomplished that morning. Some of the participants had attended a meeting where they acted as mediators to sort out a conflict between two neighbours; carried water from the river to the hill tops where their houses were located; cooked and washed clothes.

Using PAR principles to promote sustainable development seemed the most appropriate vehicle for achieving long-term economic sustainability in the Eshowe and Endlovini projects. It also seemed a viable methodology to help participants help themselves to improve the quality of their lives and the project itself.

The first day of the workshop revolved around feedback. During the introductory session, we discussed the results obtained from the experiments done during my previous visits, during which we had mixed different quantities of SCPP with clay bodies. At this stage the role of Biyela was very important. After this I gave a step-by-step demonstration of the method used to prepare sugar cane fibres before mixing them with paper for the composition of the pulp that would alleviate their dependence on pulp from the Eshowe-based unit.
An important part of the day was when potters gave me their feedback on the working process and practical suggestions on how best to continue the experiments. Amongst the suggestions were, for example, that we increase paper pulp-clay ratio from 30%:70% to 50% paper pulp to 50% clay.

The second day was based on practical work: I began by working with the potters to beat together the fibres and the wet paper, we then mixed the pulp with the clay body. We stored the mixed clay by covering it with plastic bags, in preparation for the following day’s work.

During the third day, the potters played a major role in demonstrating how best to prepare the clay before making the pots. The focus was on techniques employed in the making of ceramic ware like pots and birds. We agreed to use the mixture of paper pulp and clay to make smaller pots used for Phumani Paper orders to test whether these experiments improved their strength for the purposes of transportation. If so, use of the mixture could become standard for all ceramic orders.

At this stage, it is appropriate for me to briefly explain the working experience of the Endlovini Potters, which helps to consolidate my research.

2.3 THE ENDOLOVINI POTTERS’ EXPERIENCE

The Endlovini women ceramists have a long tradition of working with clay without formal training. Experience inherited over generations still continues today in that their children help with production. Over the years, this tradition has created particular stylistic and formal characteristics, which identify this craft as particularly Zulu.

Bell and Calder (1998:47) argue that there is a need for this practice to be preserved as a national heritage, as they observe that this craft is slowly disappearing. This assumption comes from the fact that there is a lack of a sustained and immediate demand for functional items like traditional beer pots. This is because most rural dwellers now use cheap, factory-made plastic or metal cups instead of traditional handmade ones. Traditional beer pots are now used mainly during ceremonial events.

In support of Bell and Calder’s observations, I believe that as with any other dynamic cultural activity, if not supported, it could eventually change its nature to adapt to the particular needs of the society. Therefore, the indigenous ceramic practice of the KZN rural potters needs to be encouraged, while at the same time providing alternative ways to respond to their economic needs.

Although the tourist market is active in this region, it is still not sufficient to support the economic needs of the crafters. I have observed that life in the villages is changing, and subsequently needs are changing too. In the villages, people are
now making more use of, and benefiting from, technology by using a variety of products such as metal or plastic cups and plates, as well as cellular phones. We need to acknowledge that there is an ever-increasing number of needs, which generate the need for alternative ways to earn income and afford new, basic necessities.

The potters themselves do attempt to change their economic situation. For example, rural potters are now adapting their products to target the tourist market: they produce miniature pots, which have a solely decorative purpose, as opposed to traditional functional objects for everyday use.

2.3.1 Encouraging craft

As I could not assume that a lack of “interference” would encourage the production of traditional ceramic products, it is important for me to refer to the fact that there are initiatives to revive traditional craft in KwaZulu-Natal. Since 2002, for example, there have been activities aimed at creating conditions that allow the practice to be more sustainable. The University of Natal has started a programme to unite all KwaZulu-Natal crafters, to encourage collaboration and address issues that will further promote traditional craft practices. The project was initiated by Armstrong and one of its aims is to inform potters about issues such as the value of their craft and the contribution that it can make to culture, tourism and South Africa’s economy.

After having talked to the crafters I realised that the kind of assistance my research and intervention should provide, parallel to the envisaged outcomes of my research, would be:

• To facilitate an awareness of the historical/cultural value of both their craft and their products;
• To forge connections with the crafters’ own histories, such as traditional practices alongside the practice of ceramic craft, as a linking point to the ancestral world; and
• To develop increased opportunities for the crafters’ children to learn about their culture and heritage.

In adopting PAR methodology, it became clear to me that both the above aims and my broad research outcomes were achievable. My contribution would be viable if I focused my intervention on those craft products already influenced and altered by the taste of the tourist industry.

Some of these changes in design were introduced to this region of KwaZulu-Natal by a small group of volunteers who began to work at the mission at Endlovini Village in 1998. I will now provide a brief history of these influences and alterations.
2.3.2 Innovations and outside influences on local ceramic production

The Endlovini Project was set up by Mary-Ann Orr in 1998. It was supported by Phumani Paper from 2000. During the first three years, Orr worked with local artists Fundisile Biyela and Ntombi Nala, to conduct ceramic workshops where new ceramic designs, such as ornamental teapots and candle bases, were introduced. These were manufactured and sold at the local tourist markets. Through their input, the potters from the Endlovini Project created a new range of craft products. The reduction in size of the iphiso (pot used to transport beer/water), now specially commissioned by Phumani Paper, was so that it could be easily transported by tourists. This small adaptation obviously changed the original function of the pots, which are now purely decorative.

This new range included pots, plates, ornamental teapots and candle holders with bird and lizard motifs and ran alongside the traditional craft of beer-pot making. These products, however, exist outside the conventions of traditional Zulu ceramic production and are eclectic and thus difficult to trace back to their origins.

Crafters also began to use techniques such as plastic plates as moulds against which a slab of clay is pressed to replicate the form of the plate. These adaptations have influenced and encouraged ceramic production in this region of KwaZulu-Natal. With the exception of the iphiso, which is usually decorated with Zulu ethnic patterns, innovations for other craft products do not necessarily relate to or tap into, traditional Zulu design types. There is, therefore, a rich area for intervention regarding new design ideas, which do not tamper with the production of traditional Zulu ceramics.

I chose to focus my interventions and applications of new technology on the products made for the tourist industry. These are packaged by the KZN-PCPP in Eshowe. Due to the fact that these products have already been modified and contain a degree of external influence, my intervention seemed justified. I kept in mind that the potters may harbour complex or contradictory feelings and perceptions about some aspects of tradition and change. These feelings and perceptions are, however, still in need of further investigation and analysis.

It is vital to note that the process used for general ceramic production is essentially still traditional. Clay preparation and the firing process are still done using traditional methods, which involve the extraction of the clay from the river beds, drying, crushing and re-wetting the clay and wedging it before it is ready to be used. A method of pit firing is used. In this process wood, and sometimes dung, is used as fuel, and is placed on top of the ware, which is carefully assembled in a heap. The wood is lit and allowed to burn until it is completely consumed. This process can take a whole day.
Although still using a traditional working process, the project had the potential to be a successful business enterprise and, therefore, it was suitable for my primary research objective: to increase the chances of the economic sustainability of the KZN-PCPP as a whole.

It is my hope that my interventions will continue to encourage and develop the adaptation of tradition to present needs. This is because, while providing an opportunity for improvement and innovation, traditional methods such as clay gathering, coiling and pit firing are still being used. It is also my hope that the newly developed products will, through use of these traditional methods, still be immediately recognisable coming out of the heritage of traditional Zulu design.

2.4 ENCOURAGING ECONOMIC SUSTAINABILITY

As I have mentioned, the development and sustainability of the KZN-PCPP is an essential part of my research. During an interview with Anna Myeni (July 16 2003), a member of the Endlovini group of potters, I asked how much it would cost to sell the group’s products in, for example, Durban. She answered that if they were to transport their products from Endlovini village they would need to hire a vehicle at a cost of up to R800 each time.

Added to this cost was the risk of the pots breaking while they were being transported. Sales usually do not generate more than R1 300. Transporting the pots is an expensive operation in terms of time and energy and is certainly not very profitable or encouraging for the crafters. The price of their products ranges from as little as R5 for the miniature pots to R70 for the bigger pots.

The potters were attempting to exploit the “market” of local travellers by selling their products on the streets near taxi ranks in Durban. According to Myeni, some travellers still buy craft products before travelling, although this represents a small and uncertain proportion of sales.

The fact that potters travel to the cities to sell their craft products shows that an effort is being made to respond to the concern raised by Bell and Calder. I recognised that my collaboration with the rural potters could encourage their craft and also channel it to more accessible city markets and thus generate more profit.

I came to the conclusion that my original plan had to be adjusted. I would certainly not be able to help preserve the potter’s tradition by changing the external appearance – the design patterns – which was my original plan. I realised that there was no need to change the stylistic and formal character of their original pots. In fact, these were the very qualities still desired by the tourist market and which needed to be encouraged. The exquisite level of craftsmanship evident in much of their ceramic output certainly does not need any external intervention.
Instead, as regards my aim of contributing to the development and sustainability of the economic life of the rural potters, I realised that a greater range and variety of products made in the Eshowe region could lead to increased sales for the Endlovini potters.

In fact, as I drove in and out of the region of Endlovini during my trips to the project, I realised that the craft produced in the more accessible areas (located near the cities, towards the coast, such as the Inyoni craft market near the N3 highway south of Durban) had more evidence of adaptation to suit the consumer. Craft there has become decorative, replacing its original functional purpose, such as storing beer.

The KZN-PCPP's new ceramic designs such as ornamental teapots and ceramic lamp bases are manufactured and sold to the surrounding game lodges. One of the KZN-PCPP's closest supporters is the George Hotel. The tourism officer there brings visitors, who are mostly from Europe and America, to the project to view the making of the handmade paper and its by-products. Sales to the tourists who visit Eshowe generate cash for the potters.

The pots and plates are packaged in decorated sugar cane handmade paper. These products are sold mostly in cities—Cape Town, Grahamstown, Durban and especially in Johannesburg and Pretoria. Occasionally articles have been exported to Boston and New York.

Although commissions, such as those by Phumani Paper, do introduce incentives for design change, the importance of my intervention with regard to this type of products was that it helped generate funds for the potters without interference with the traditional ceramic products of the region. This may be a small initiative, but meaningful as a response to some of the issues such as poverty eradication debated at the last World Summit on Sustainable Development held in Johannesburg in 2002.

Apart from the transfer of technical skills, the project has had a significant impact on the social and economic aspect of the lives of the participants. According to Phumani Paper's Annual Report (2001:16-17), Bryan Mthembo, a member of the KZN project based in the Endlovini village, said in an interview conducted by Phumani Paper that he enjoyed working on the project for a variety of reasons. Firstly, it enabled him to help his mother to support his family by bringing in extra income. Secondly, he had learned how to make craft products, which kept him busy and helped him to concentrate more on the positive aspects of life, and less on negative influences such as alcohol.

For some of those working for the KZN-PCPP, it is not only a means of generating income, it is a source of human development which is an aspect of social sus-
tainability (one of the three pillars of sustainable development).

In the interview with Mthembo he said that the money he received from the project addressed his family's needs and made his family happy because they always have bread on the table. This helped him to focus in life. His life had changed completely because he had managed to limit his intake of alcohol and remove himself from bad company. This had transformed his social life.

Other members of the project with whom I interacted had similar experiences and, as a result, I concluded that, whether or not there was a significant economic improvement in the lives of those who worked for the KZN-PCPP, some of them were satisfied that the project gave them a certain status in the community and in the village. The fact that they now had stable jobs reflected a certain image in the community and people in the village looked on them as responsible and respected members of the community.

In my next chapter I will refer to the Eshowe-based unit and the Endlovini-based unit separately and I will conduct a case study of each one, with the tools used to measure the outcomes of the research.

Preparing sugar cane leaves for beating into fibre in Endlovini village.
PIC: Christina Lithbebe
Chapter Three

A case study of the Eshowe and Endlovini units

In this chapter I will present the outputs of the KZN-PCPP located in Eshowe and Endlovini as case studies by discussing technical and practical aspects of their product development. In the Eshowe case study I will discuss the designs and printing of decorative swatches and other designs for the enhancement of product packaging, and describe structural improvements to the packaging itself which offers more protection for transportation purposes. In the Endlovini case study, I will concentrate on an analysis of the addition of the SCPP to clay bodies.

I will begin the chapter with the case studies, contextualised within the methodology of PAR, and my fieldwork practice as discussed in Chapter Two. I will then discuss the tools used in the collection of data which are appropriate to my methodology and fieldwork practice. I will gather and describe the data which the tools have generated so as to tentatively describe the economic, social and environmental impact of the KZN-PCPP. I will also acknowledge the shortcomings in the data collected and their sources of error.

3.1 A CASE STUDY OF THE ESHOWE UNIT

It is necessary for me to reaffirm that the key concepts for this research implementation and product development are based on PAR and aimed at the three pillars of sustainable development which are social, economic and environmental sustainability.

PAR methodology was the vehicle for my research implementation to attain its goals. It was important to reach the participants by expressing myself in a way that they could easily understand and identify with. Making use of this methodological approach helped the flow of this identification and activity to happen naturally.

With this system in place, it was possible to envisage the potential outcomes based on the sustainability of the project together with improvements in the living conditions of some of the participants. Whether they were social, economic or environmental, with minimal or deep impact, those outcomes were significant in terms of making a difference in the lives of the participants as well as the impression they made on me as an integral part of the research programme. To illustrate more concretely the different procedures and measures that were introduced during workshops or product development activities, I will relate some of the activities, from workshops held at the Eshowe unit.

3.1.1 Design Patterns and Printmaking for Adding Value

As stated in Chapter Two, part of my involvement in the Eshowe unit was the pro-
cess of improving the packaging, which has contributed greatly to the safe transpor
tation of the ceramics. These improvements were decorative/aesthetic and
structural. I will take a brief look at the practical process of packaging improve­
ments and swatch printing along with their impact on the products.

Product design improvements have contributed significantly to the marketability
and the sales of the KZN-PCPP's products especially in the last few years, along
with factors such as improved approaches in marketability and a realisation in the
group that to guarantee the continuity of their jobs they needed to make the transi­
tion from a poverty-relief project to a sustainable business.

Since its inception in 1999 up to 2001, the KZN-PCPP had very little variation in
its range of products for the market. From 2001 the PRDU organised more training
in terms of product packaging and began to develop new designs which were more
suitable for the market. Because the project experienced damage to the products,
especially during transportation, a few modifications, such as reinforcing the edges
of the boxes, were made in order to offer more protection. For example, the boxes
were made from sheets of 1.2mm cardboard, cut to size to build the containers.
They needed to be reinforced with an extra layer of paper on the joints, to strength­
en them. This had to be done before laminating the whole structure with handmade
paper, to add aesthetic value.

These changes marked the beginning of the transitional phase from a non-fi­
nancially viable to a financially viable project by moving from a poverty alleviation­
centred project to a more sustainable business-oriented project. In this phase of
converting the project to a sustainable business, the PRDU played an important
role in supporting the project with training as well as introducing new features in
the production line to make products more attractive. An example of a change in­
troduced by the PRDU was the new swatch designs for decorating the surface of
the packaging boxes.

3.1.2 Preliminary Design Pattern Research

Before starting this work I researched design patterns around the Eshowe region.
I started in November 2001 by making a trip to Fort Nongqayi in Eshowe, where
there is an important regional craft collection. I visited the Vukani Museum, which
houses a craft collection from Eshowe, including the most exquisite ceramic work
by the internationally acclaimed local crafter Nesta Nala. I also visited the Craft
Shop in Eshowe with its wide range of ceramics, basket weaving, carving and
embroidery. This inspired me to draw a number of swatch samples to propose to
Phumani Paper and to the Eshowe participants.

At that stage the sugar cane handmade paper packaging boxes had a plain tex­
tured surface. Together with a design committee from Phumani Paper and the Wits
Technikon Fine Art Department, I worked on the print decorations to be added onto the packaging boxes. We designed a number of swatches, some of which were later selected for printing onto the packaging boxes.

The choices around the selection of design swatches for the packaging were carefully presented to all stakeholders, including the design committee at Phumani Paper and the participants of the Eshowe-based unit. They were excited and immediately chose those that were similar to their experience of the craft of the Eshowe region. Design swatches were then approved for mass production at the Eshowe project. These decorative designs were adapted to suit the Phumani Paper range of products and its market needs.

Researching local design allowed me to access the indigenous knowledge of the region of Eshowe and during this research I found great potential in the craft of the region. Local artist Patrick Ngcobi, with whom I had worked on design decorations at the Eshowe unit, worked with me to adapt some of the patterns. These formed the basis for designing decorative swatches for some of the packaging for the Eshowe project.

I would like to substantiate in this regard that one of the key objectives in setting up Phumani Paper in Kwa-Zulu-Natal was adding value to local craft production. As one of the traditional crafts practised in this region is pottery, it was necessary that we looked at this tradition in a particular way in order to find appropriate design patterns for packaging for the tourist market.

3.1.3 Inspiration drawn from traditional Zulu design patterns

The need to decorate the external aspect of the packaging lead to the design of patterns referenced from Zulu craft items such as the imbiza (storage pot), iphiso (pot used to transport beer/water), ukhamba (pots used for drinking or storing liquid), and other items such as ibheshu and isidwaba (traditional aprons), or iziqhaza (traditional Zulu earplugs). Inspiration was also drawn from items such as traditional costumes and pottery.

Like all products for the consumer market, the packaging needed constant improvement. It therefore became desirable to screen print swatches inspired by typical Zulu patterns such as those mentioned above in order to enhance the aesthetic appeal of the packaging but also keeping it authentic.

3.1.4 My intervention in the project

The assignment given to me by the management of Phumani Papers was to improve the quality of the boxes housing the ceramic plates of the KZN-PCPP, to design appropriate swatches to be silk-screened onto the packaging, and to train the participants in the printing process and the improvement of the structural quality
of the packaging boxes.

From 2001 I began a training programme that ran parallel with product improvements. The participants received instruction in, for example, how to laminate the cardboard and how to mix the right solution of glue and water, which are very practical and important for assuring the quality of the final product. The programme also provided basic skills that would help them look critically at a product's function, application, size and shape, and to carefully measure the product before designing its packaging box. In training the participants, I reminded them often that they should always place themselves in the position of the purchaser. I encouraged them to ask questions such as:

- Would their clients buy the product? Why?
- How much would their clients pay for their products?
- How practical were their products for use?
- How long can they last?

This helped the participants understand the kind of care needed in making the products.

3.1.5 Printing on sugar cane handmade paper

Due to its high fibre content, printing on sugar cane fibre paper required a few adaptations. To be able to use the silk-screen method to print on this paper we had to consider that, due to the absorption capacity and the texture of this handmade paper, the standard T90 mesh for printing on paper was not appropriate. We therefore had to use wide textile mesh screens T32, 34 or 43'.
Using this method, multiple swatches were printed onto A2 paper then individually cut to suit the measurements required. The designs were then glued onto boxes, or printed directly onto the product. These new swatches have helped to enhance the appearance of the packaging boxes, and consequently the marketability of the products. In Chapter Four I will show the results that are anticipated to show a convincing correlation to improved sales figures.

3.2 A CASE STUDY OF THE ENDOLOVINI UNIT

3.2.1 SCPP research implementation

My intervention attempted to achieve the following:

• The production of a lighter ceramic product;
• The reduction of cracking during the firing process;
• Increase the products' structural strength;
• Make products easier to transport to market places;
• More marketable products and an economically sustainable project; and
• Reduction in the use of raw clay.

The practical experiments with SCPP have been very satisfactory in their implementation and well accepted by the potters who described it as relatively easy to work with (see Chapter Four).

The experiments with the addition of SCPP into some of the products are so far producing positive results in terms of the weight and workability of the clay. The new mix of clay and paper pulp is softer and more elastic in its structure, while at the same time the finished product has the same textural quality and natural colour as those made using the traditional earthenware clay working process. The final product is lighter as a result of the addition of SCPP into the clay. Working with SCPP will also, in the long run, benefit the rural potters who are experiencing problems locating clay. They need to walk increasingly great distances to find suitable clay to work with. Adding SCPP to the clay will help to reduce the quantity of clay needed for production.

However, my hypothesis with regards to SCPP experiments also has a social dimension. The research has not only been based on enhancing the structural properties of the ceramic products and making ceramic production more economically viable, but also on offering environmental awareness and dealing with people and the alleviation of poverty.

3.2.2 The SCPP preparation as a local adaptation of imported cellulose fibre

The use of sugar cane leaf fibre for the production of pulp as an alternative and easily accessible material is suitable for rural potters, especially in the KwaZulu-Natal region.
The advantage of using the sugar cane fibre, as I have mentioned before, lies in the fact that the Eshowe region has a very high production of sugar cane and it is therefore relatively easy for the participants to access this natural fibre. The implications are that by recycling the paper and using sugar cane, the process is environmentally friendly. Resources such as sugar cane left after the harvest or office paper waste are utilised and recycled. This aspect of my research underpins one of the three pillars of sustainable development: environmental sustainability.

I had to switch from the machine-processed method used at the Eshowe unit to handbeaten pulp. This allowed participants at Endlovini to produce their own pulp, cutting the cost of transporting ready-made pulp from Eshowe to Endlovini. Above all, it allowed the participants to use a method that was more familiar to them.

The Eshowe project supplies office waste paper to the Endlovini potters. At Endlovini the potters tear the paper into small pieces and soak it in water overnight. The paper is then mixed and reduced to a pulp. While the paper is being processed, the sugar cane is prepared.

The grass, which is rich in cellulose fibre, is collected from the farms, and the low-fibre parts are carefully separated from the high-fibre parts, which are used for the production of pulp. The plant parts are boiled for at least two hours, or until it becomes easy to break up. Once it is boiled it becomes easier to split the fibres that are used as binding agents in the preparation of the pulp. In our workshop the cane was ready to beat after boiling for two hours.

For splitting the fibres, a round stone is used on top of a small stone basin. This stone is traditionally used for grinding maize. The cane is crushed until the fibre is broken down.

A woman crushes sugar cane fibre at workshop held in Endlovini in March 2004.
The cane pulp is mixed with paper pulp until it becomes homogenous. The paper pulp compound is drained to remove excess water. According to Gault (1998:35), paper pulp can be added to any parent clay body or prepared casting slip, be it red terracotta, raku, earthenware, porcelain, salt or combinations of these.

Gault (1998:13) says the composition of cellulose fibre $C_6H_{10}O_5$ is about 96% in cotton linter, 85% in linen flax and about 50% in soft and hard woods. While Hurter Consult Incorporated (2004: Online) says that in sugar cane plants the cellulose content is between 49 and 62% of bevan cellulose and 32 to 44% alpha cellulose.

The botanical name for the sugar cane plant is *Saccharum officinarum*, and it comes from a plant family Graminae. It has a grass-fibre type which varies in length from 1.5 to 2.7mm (Lilian Bell 1995:114). Cellulose fibre has a rough surface and this makes it a good binding agent for papers or clay bodies.

Working with the SCPP and clay mixture is similar to working with earthenware, in aspects such as workability and flexibility in terms of time. According to Gault (1998:8), after having wedged the clay it is not necessary to work immediately because it is possible to allow the clay to dry and be wet again without the risk of damage. Cellulose fibre’s capacity to absorb water makes it easy to dry and wet the clay again without it cracking. The high fibre content means that water is absorbed from within the clay as well as from outside. The water penetrates the cellulose “tubes” and expands through the walls of the clay.

After the ceramic ware has dried, it is fired using the pit fire method. During the firing process the fibres in the clay are burned out, making the ware light but strong. SCPP-made ceramic ware could be stronger than those made from earthenware clay if fired for longer or at a higher temperature as they can resist heat more than earthenware clay. (See Chapter Four).

### 3.2.3 SCPP Application

At our first workshop with Armstrong we began by mixing a ratio of 1:2 or 1:3 of paper pulp to clay. After getting feedback from the participants, we decided to use equal parts of each. By using 50% SCPP, the amount of earthenware clay required for production is drastically reduced. This means that potters can save on the quantity of clay needed and means reduction in the extraction of this natural resource, as well as the potters’ need to walk great distances.

### 3.2.4 Product Development

Over many decades Endlovini has acquired a great tradition of ceramic pot making. By talking with the participants I could trace their experience in pot-making back at least five generations. The ceramic ware of this region has a very distinctive look compared with that produced in the surrounding areas.
During an informal discussion with Armstrong, she noted that, unlike the surrounding areas of Kwa-Zulu-Natal, Endlovini ceramics have fewer external cultural influences, and seem directly linked to the design heritage of traditional Zulu culture.

Tradition is a dynamic process and all traditions are subject to change. Our social responsibility with regard to these changes is to ensure that they are improvements and benefit the local community as well as greater society. For this reason, from the beginning of my SCPP experiments, I decided not to work with traditional pots produced by the potters but instead worked with articles such as birds or plates, because these objects were eclectic, already transformed and influenced by culture foreign to the Zulu tradition. Only in April 2004 did we begin experimenting with traditional products such as the beer pots using the SCPP process.

At this moment, while writing my dissertation, the impact of these new products on the market is still being assessed. Therefore, I will only be able to relate my hypothesis to the quality of the older products, their potential economic importance and their ecological impact with regard to the Endlovini project.

3.3. THE PROCESS OF MEASURING OUTCOMES

3.3.1 Endlovini and Eshowe: Empirical evidence

Prior to my research implementation I had been involved with the Eshowe and Endlovini projects for a year. Since the beginning of 2002 I have had many informal conversations with the participants. I often asked participants questions concerning their jobs, asking what were the biggest challenges they had to face, and whether they could see how to overcome them.

After talking with them it was clear to me that the Phumani Paper craft initiatives in Eshowe and Endlovini were of great importance to the participants. It was apparent to them that the research was not going to solve all their problems, but it was making a difference in their lives.

A comparison between items from the first packaging boxes produced in 1999 and those produced since 2003, shows the marked difference in design quality. Development in terms of the design quality of the packaging, and the improved swatch designs, have greatly contributed to the marketability of the products.

3.3.2 Verbal and written evidence

At this juncture, it is important for me to refer back to Chapter Two and the workshop held at Endlovini village with Armstrong, which provided an opportunity for me to test the viability of my research not only in terms of the technical experiments, but also in terms of the methodology used to achieve those results. Armstrong confirmed the usefulness of my research and was very supportive. She helped by suggesting a few guidelines that made my research at Endlovini possible.
Another consolidating body of evidence for the efficacy and importance of my research was the feedback from informal discussions with people involved directly and indirectly with the KZN-PCPP, especially with co-ordinator Fundisile Biyela.

After one of our trips to Endlovini, Christina Lithebe, a B.Tech: Fine Art student and research assistant at Phumani Paper, told me that she enjoyed my approach and the kind of relationship which had developed between the participants and me, which she described as natural and uncomplicated.

3.4 TECHNIKON WITWATERSRAND-PHUMANI PAPER

Liz Unsell, Deputy Director of Phumani Paper, indicated to me that she was very satisfied with the results achieved by the KZN-PCPP, especially in the past two years. She said that the project had made great strides with regard to marketing and product development. From an economic point of view it is very important for the project to have a distinctive branding, with a variety of quality products. One of the problems she felt still had to be addressed was that there was still not enough consistency in terms of product finishes. She suggested that the project needed to further develop its range of products. Compared to other Phumani Paper projects, Linsell agreed that the KZN-PCPP products did meet Phumani Paper standards.

It is important to note that, during its first three years of existence, DACST policy with regards to the KZN-PCPP was focused on creating as many jobs as possible. Reports to DACST were based on how many jobs had been created and, out of that number, how many women were employed.

With the experience gained through the projects, Phumani Paper has identified the need to add more meaning to the Poverty Alleviation Programme and make it more sustainable. Efforts were made to transform the project into a more sustainable business where the income surpassed the expenditure. It was for this reason that Phumani Paper began to lobby for a proper marketing budget and strategy for all the projects.

3.4.1 Reports

Because of the early emphasis on creating jobs rather than developing sustainable businesses, it was difficult for me to measure productivity and sales from the beginning of the programme as not much was properly recorded. By speaking to participants, I gathered that from 1999 to 2001 the monthly sales of the entire project brought in less than R5 000.

At the beginning of 2002 I began working with the KZN-PCPP doing training in product design and improving some of the existing designs. In the same year proper data capture was put in place. This meant that it was possible to record the leap forward the project has made in terms of marketing and sales. From total monthly
sales of R5 000 or less, a single unit is now able to produce an amount more than that in a month. The figures reported below accounts only for one of the four units, the pottery unit, in October 2002.

**Table Two: An extract from the KZN-PCPP Consolidated Monthly Report – end October 2002 for Unit 4: Pottery**

| Week 1: | An order for about 500 small pots, 300 extra-small pots, 200 plates; 10 fruit bowls was placed at Endlovini |
| Week 2: | The group was busy with the order placed by the Eshowe group. Nothing was delivered to them this week. |
| Week 3: | The group supplied half of the order requested from them. This was due to the bad weather conditions. |
| Week 4: | The following products were provided: 31 x extra-small pots; 83 x extra-small pots; 341 small pots; 78 x medium pots; 13 x teapots; 71 x plates and 1 x candle holder. |

Sales amounting to R1 555 were made | Orders amounting to R52 were received for this week |

The report also contained a section on the successes of the project as well as problems to be addressed and recommendations which contained entries such as the production manager having problems recording what had been done and customers who didn’t pay on time.

The figures represented above as compared to a more recent monthly report from October 2003 show an increase in sales, which has happened gradually over the past three years:

**Table Three: An extract from the KZN-PCPP Consolidated Monthly Report – October 2003 for Unit 4: Pottery**

| Week 1: | Nothing ordered from Endlovini. Sales: R45. Orders: None |
| Week 2: | 60 small pots, 12 medium pots, 32 extra small pots and 76 dwinkie pots. Sales: R85. Orders: 420 dwinkies, 400 medium pots – R8 100, 34 dwinkies, 20 small pots – R370 |
| Week 3: | Nothing ordered from Endlovini. Sales: R305. Orders: 10 Small pots – R150 |
| Week 4: | 152 Small pots; 32 x small pots; 95 dwinkie pots and 10 medium pots. Sales: R60. Orders: 1 plate – R25, 400 medium pots – R8 000, 400 large pots – R10 000, 80 small pots – R900 |

Total: R18 925

(Monthly Report – October 2003:4)

The above report was produced by the KZN-PCPP after the merger of the paper and product manufacturing units. Total sales figures, therefore, include all units during that month. These reports also show some of the difficulties experienced
after the merger, when the group was divided, a period of many conflicts amongst participants. This transitional phase was important in that it made the KZN-PCPP members realise the need to grow as a sustainable business, and that this could only be achieved if the group understood that unity amongst participants was vital to the life of the project.

3.4.2 Research

Taryn Cohn\textsuperscript{13}, a Masters student in Philosophy at the University of Stellenbosch, did an impact assessment of all Phumani Paper projects between 2002 and 2004. I used some of her findings to gauge what stage the KZN-PCPP was at compared to other Phumani Paper projects around the country.

Cohn (2004:64) found that the KZN-PCPP was able to meet orders and deliver on time and was always reliable. They had developed a range of products that was unique and consistently recognisable, and was forming a strong “brand”. She described the demand for the products as medium. She criticised the inconsistent product quality, but said that the marketability of products was high.

3.5 ECONOMIC, SOCIAL AND ENVIRONMENTAL SUSTAINABILITY

In order to present these different outputs I sent out questionnaires and had informal discussions on social, economic and environmental issues concerning the KZN-PCPP, its participants and products.

3.5.1 Economic sustainability

Since 2002 the KZN-PCPP has been trying to improve the marketability of its products. Great efforts were made to attract customers, especially in KwaZulu-Natal and Eastern Cape.

I asked Anushka Makka, who works at Uthungulu Tourism Office, in Eshowe, and who is one of the KZN-PCPP’s biggest clients, about the KZN-PCPP’s product marketability. She said that she had been a faithful customer for about three years. She placed big orders two or three times a year. She usually bought packaged Zulu beer pots which are very marketable. She liked the KZN-PCPP products because they were unique in that: “The recycled paper, boxes etc are made from sugar cane which you only get in Zululand.” Makka found the service at the KZN-PCPP excellent. Uthungulu Tourism would definitively continue supporting them.

She recommended that the project find bigger premises because she predicted a growth in the demands for its products.

Cohn (2004:98) confirms that Phumani Paper-manufactured products have a strong identity and marketing potential:

Many of the projects in Phumani Paper [in particular the KZN-PCPP] have de-
developed very strong ranges of products, both from a technical point of view and with regard to design and identity. The products are easily among the most unique handmade-paper products in the country and have the potential to dominate the market with the right marketing and technical input. This research shows that this is a direct result of consistent leadership, input and reinforcement regarding design and technical training.

3.5.2 Social Sustainability

According to Cohn (2004:99) the Phumani Paper project has great potential for skills empowerment, research and technical assistance. She says: Unlike other craft-based programmes, Phumani Paper has developed a significant research component. As a result of the programme being administered by a tertiary education facility, and the involvement of students and academics in the programme, Phumani has become a significant resource that develops cutting-edge research. The research generated by the programme is directly related to, and drawing from what is happening at ground level, while maintaining a strong emphasis on academic validity. The technology and intellectual property that has resulted from this process has to date been an integral part of the development of the products and projects of Phumani Paper. Participants are aware that the project represents an opportunity to learn skills and generate income. They believe that the project has the potential to develop into a sustainable business, which strengthens their commitment to the project.

Cohn (2004:99) discuss the project's potential by saying: After the initial fluctuation of participant numbers following the move from stipends to sales-based income, the participant count appears to have stabilised. While there will always be people coming or going (as in any industry) those that still remain from the initial recruits have done so despite the lack of financial security they experienced in the various projects. This implies that there is a certain level of understanding of the longer-term value that the opportunity may offer them. Those participants have also been involved long enough to make a meaningful contribution to the reworking of project constitutions as a result of their experience within the project. The project has empowered participants in terms of skills transfer and has inspired them to innovate in terms of product manufacturing. For example, the KZN-PCPP has produced a number of products designed by the participants themselves. Most of the participants have developed their technical skills to the level where they are confident in the product that they are making. This does not mean that they do not need further input, but rather that the technical input they need to receive should address them at an intermediate to advanced level in terms of their craft, rather than at a beginners level, as was the case at the start of the programme.
3.5.3 Environmental sustainability

The use of SCPP has so far proved to be positive in regard to the environment. The recycling of waste paper and sugar cane leaves is a way of contributing to the protection of the environment and also makes the participants awareness of the importance of keeping the environment clean.

In Chapter Four I will evaluate the technical findings and impact of the SCPP on the project and the participants.

Participating in the workshop in Endlovini in March 2004.

PHOTO: Christina Lithebe

Participants mix sugar cane fibre with paper pulp during a workshop in Endlovini in March 2004.
Chapter 4

Presentation of research findings

In this chapter I will present my findings on the introduction of new technology. I will discuss the technical results of the addition of SCPP into the ceramic wares of the Endlovini-based unit and the design enhancements of the packaging for the craft products from the Eshowe-based unit. The impact of the use of the SCPP, the new packaging design as well as the social, economic and environmental impact of the KZN-PCPP will be discussed in this chapter.

Before presenting the research findings I would like to state that the different components of the research findings are interlinked and directly or indirectly impact on one another.

The table below presents some of the technical results collected from the research experiments.

Table Four: Properties of SCPP product (50% paper pulp, 50% clay) compared to traditional earthenware clay

<table>
<thead>
<tr>
<th>Strength</th>
<th>Negligibly stronger (slightly stronger when fired to higher temperatures)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>Lighter</td>
</tr>
<tr>
<td>Appearance</td>
<td>Similar</td>
</tr>
<tr>
<td>Workability</td>
<td>Better</td>
</tr>
<tr>
<td>Quantity of clay</td>
<td>Less</td>
</tr>
<tr>
<td>Drying process</td>
<td>Similar</td>
</tr>
<tr>
<td>Firing temperature</td>
<td>Similar</td>
</tr>
<tr>
<td>Break rate</td>
<td>Fewer</td>
</tr>
<tr>
<td>Cost</td>
<td>Potentially less</td>
</tr>
<tr>
<td>Texture</td>
<td>Similar</td>
</tr>
<tr>
<td>Recycling</td>
<td>Less possibility for recycling the greenware</td>
</tr>
<tr>
<td>Design</td>
<td>Similar</td>
</tr>
</tbody>
</table>

4.1 TECHNICAL RESULTS AND FINDINGS OF SCPP (ENDLOVINI)

The final products of SCPP and earthenware are similar in appearance. One is tempted to assume that because of the similarity they can be used for the same function, however, most of the SCPP samples are not functional, but decorative. Overall the addition of SCPP is positive and improves quality.
4.1.1 Strength

My intention in this research activity was to increase the strength of the ceramic wares by adding paper pulp to the clay body. The rationale behind this was that because of the length of sugar cane fibres, which range between 1.5 and 2.7mm, they would act as a binding agent to clay particles. In collaboration with the Civil Engineering Department of Wits Technikon, I had samples tested to measure the strength of the ceramic wares from the experiments. In this test I compared the strength of pots and ceramic birds made out of SCPP-clay mix with those made from earthenware only.

The samples were first weighed and divided into small, medium and large. The results showed that unless the firing temperature was increased, the level of strength gained was minimal. The tests revealed a very close correlation between the characteristics of the two materials. Although the addition of SCPP did not greatly improve the tensile strength of the ceramic ware, this would not impact negatively on the marketability of the products.

![Ceramic wares made out of sugar cane clay are tested for strength at TWR.](image)

4.1.2 Weight

SCPP has proved to be an effective material to use in terms of weight reduction. Experiments to date as well as the weighing of two comparative products have shown that this property has reduced the weight of the objects produced. This is a significant advantage with regard to the transportation issue and therefore has the potential to impact on the markets. Products have to be transported for long distances, and are hand-carried locally. This means that weight is an important factor to be considered. It influences the cost of transportation and consequently the final
price of the products. Reduction in transportation costs implies reduction in the final cost price and an increase in the profit margin to the producer.

4.1.3 Appearance

The appearance of the products, before and after the firing process, was unchanged, showing that the intervention would not alter the traditional nature of the ceramic products. This was also important in terms of getting the potters of Endlovini village to accept the intervention.

4.1.4 Workability

SCPP was shown to make the clay easier to manipulate. Earthenware clay mixed with SCPP acquires an elasticity which could be explored by the potters for innovative ideas. The increase in malleability provides scope for creative exploration that could lead to diversification of products. In all respects, the new clay left the potters free to employ methods familiar to them in processing and finishing their craft.

4.1.5 Quantity of Clay

The decrease in the amount of clay used in production with SCPP provides an interesting and exciting result. Mixing 50% SCPP to 50% earthenware means the amount of clay used is reduced significantly. This has implications for the cost as well as environmental sustainability. Recycled paper waste is more freely available than quality river clay.

4.1.6 Drying Process

Ceramic items made with SCPP have almost the same drying time frame as the earthenware ones. The advantage of the SCPP addition is that it allows the clay to expand and contract without cracking. This capacity is an advantage for the potters who are committed to a variety of everyday activities which means that they often have to leave their work for considerable lengths of time. Potters can now start a ceramic work, stop for a day or two and resume the work again whenever convenient for them to do so without risking the work drying out and cracking.

4.1.7 Firing

Firing methods used for these experiments were the same as used by the potters for their traditional ceramic wares. The products made with SCPP materials were lighter, and I assume they would be more so if fired at a higher temperature. More experimentation is needed on this aspect. Because the new products are lighter, they can be transported at lower cost. This also makes them ideal for the tourism industry because they are easy to carry. This factor could also open up new horizons in terms of product development. Potters can now produce bigger pots for sale due to these qualities.
4.1.8 Breakage rate

With the use of SCPP there is less waste of primary materials during the pre-firing process and especially during the firing process, because it cracks less. The potters indicated that SCPP had reduced the amount of cracking and breaking during the firing process.

4.1.9 Cost

The preparation of SCPP involves the use of waste paper, sugar cane and water. These items are easily acquired and inexpensive. Free paper waste is currently obtained from the Eshowe-based papermaking unit. However, any waste newspaper or cardboard can be used. The sugar cane leaves are harvested from the many fields around Endlovini.

4.1.10 Texture

The texture of the clay mixed with SCPP is practically the same as the earthenware, except that when wet the fibres tend to give the clay a rougher texture. If they are ground fine, smoothed by beating, this is neutralised. The rough texture does not affect the final product because the fibres are burned away during the firing process.

4.1.11 Recycling and environmental impact

Although SCPP clay is more difficult to recycle than earthenware, the use of SCPP is excellent for minimising the amount of clay used for production. This is good for the growth of the business, and also has an environmental impact because less of the natural resource is used.

4.1.12 Design

The original design motifs of the pots, plates and other items produced have been preserved. The use of SCPP as a new material for the production of ceramic craft did not compel potters to change their motifs. This ability to produce consistent products was important to the potters.

4.2 RESULTS AND FINDINGS OF DESIGN IN PACKAGING (ESHOWE)

The new boxes produced by the PRDU design team needed decoration. In response to this I researched the type of decoration needed, resulting in printing patterns that share the heritage of traditional Zulu designs. The decoration and pattern additions have significantly improved the packaging.

To present a clear comparison of the products made in 2000 (at the beginning of the project) to the products introduced in 2002, I have represented them in the form of a table.
### Table Five: A comparison of old and new Zulu plate packaging boxes

<table>
<thead>
<tr>
<th>Where produced</th>
<th>KZN-PCPP</th>
<th>PRDU–Wits Technikon</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>When</strong></td>
<td>2000</td>
<td>2002</td>
</tr>
<tr>
<td><strong>Who</strong></td>
<td>Eshowe project design team</td>
<td>PRDU design team</td>
</tr>
<tr>
<td><strong>Medium</strong></td>
<td>Cardboard, handmade sugar cane paper</td>
<td>Handmade sugar cane paper, cardboard, silk-screen, plastic beads</td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>Box built out of 1.8mm cardboard, but offered less protection, especially during transportation</td>
<td>Box built out of 1.2 mm cardboard, but with reinforcement on the joints, offered more protection for transportation</td>
</tr>
<tr>
<td><strong>Design features</strong></td>
<td>Natural and rough surface laminated with sugar cane handmade paper. Design simple and straightforward</td>
<td>Box built with smoother quality of paper</td>
</tr>
<tr>
<td><strong>Decoration</strong></td>
<td>No decoration</td>
<td>Surface laminated with sugar cane handmade paper. Plastic beads added. Decorative silk-screen design by J Ladeira</td>
</tr>
</tbody>
</table>

Above left and top: Silkscreened packaging boxes for pots and plates. Above right: A plain packaging box. PHOTO: J Ladeira
Table Six: A comparison of old and new Zulu beer pot packaging boxes

<table>
<thead>
<tr>
<th>Where</th>
<th>KZN-PCPP</th>
<th>PRDU–Wits Technikon</th>
</tr>
</thead>
<tbody>
<tr>
<td>When</td>
<td>2000</td>
<td>2002</td>
</tr>
<tr>
<td>Who</td>
<td>Eshowe project design team</td>
<td>PRDU design team</td>
</tr>
<tr>
<td>Medium</td>
<td>Cardboard, handmade sugar cane paper</td>
<td>Handmade sugar cane paper, cardboard, silk-screen, plastic beads</td>
</tr>
<tr>
<td>Type</td>
<td>Box built out of 1.8mm cardboard</td>
<td>Box built out of 1.2mm cardboard, but with reinforcement on the joints. Surface laminated with sugar cane handmade paper. Design patterns made from silk-screen for decoration and plastic beads</td>
</tr>
<tr>
<td>Design features</td>
<td>Natural and rough surface, laminated with sugar cane handmade paper</td>
<td>Box built with smoother quality of paper, offered more protection for transportation</td>
</tr>
<tr>
<td>Decoration</td>
<td>Colourful sugar cane handmade paper used for lamination. No design patterns or printing</td>
<td>Silk-screen prints by J Ladeira</td>
</tr>
</tbody>
</table>

The old packaging box for the Zulu plate was one of the earliest designs produced by the PRDU to package ceramic plates. The design was implemented and adjusted by the Eshowe-based unit's design team. It was innovative, but not very functional, because the box did not offer much protection during transportation. The quality of paper was not good enough because participants required more training in handmade paper production. The box did not close well.

The new packaging box for the Zulu beer pot was produced by the PRDU design team (Mandy Coppes and Bronwyn Marshall), and was an improved version of the old packaging box.

The new box was lighter than the old one, and was reinforced on the corners to give it a more solid structure. Beads were added for decoration purposes. Other important features added to the boxes were patterns based on Zulu ethnic design produced by myself. Workshops on silk-screen printing facilitated this enhancement of the product’s features.

The old boxes did not offer enough protection for the ceramics, and needed improvement in terms of their external appearance as well as the ease of opening and closing.

The new boxes are more solid and offer more protection. The new decoration on the surface enhanced the design.
4.3 IMPACT OF THE RESULTS OF SCPP IN ENDLOVINI

4.3.1 Economic impact of the SCPP on the project

I would like to acknowledge that my research has some constraints in issues regarding economic outputs. This presentation does not intend to provide an analysis of the economic impact through the marketability of the products, although initial results show exciting opportunities. The fact that the new products are lighter and crack less during firing should ultimately impact positively on sales.

Sales reported by monthly reports indicate an increase in sales from 2002 (the year when the package design was improved). Refer to Table Three in Chapter Three.

4.4 SOCIAL IMPACT OF SCPP ON THE PROJECT

Since its inception the project has achieved much for its participants. Social aspects helped make working for the project a positive experience for most of the participants.

The impact assessment done by Taryn Cohn demonstrates that the emphasis on development in the Eshowe project was as much about social sustainability as it was about economic sustainability. To assess and present the social sustainability of the KZN-PCPP outcomes related to my research project I used data collected by Cohn in impact assessment research.

4.4.1 Capacity building

Some of the factors mentioned by Cohn correlate directly with my own findings. For example the improvement of the marketing strategy, the efforts made by the co-ordinators and the Phumani Paper head office to promote sustainable business practice and, above all, the efforts made by the participants helped to make the project succeed as a business.

4.4.2 Human development

After acknowledging that there are still issues to be addressed, Cohn (2003:115-136) describes the running of the Phumani Paper programme as a positive achievement because the experience of the participants had gone beyond material benefits and had placed emphasis on human development Cohn states:

*The financial performance of the project and levels of individual participant incomes appeared to have no direct relationship to the 'human development' experiences of the respondents. In other words, regardless of whether the project performed well financially or not, most respondents felt that their human development needs were addressed by their mere involvement in the project and being a part of a group. ... It was also found ... that respondents felt their*
human development had increased from the time that they joined the project. 

... In other words, the projects had a definite impact on the participants in terms of human development.

4.4.3 Mutual benefit

I came to a similar conclusion to Cohn that merely working together was already a fulfilling experience, which had a great impact on me, as well as the participants. Applying PAR methodology meant that I had a unique opportunity to share my skills and be open enough to learn from the experience of participants. My collaborative work with the participants led to the mutual discovery of positive results of the research, where both researcher and participants benefited.

4.4.4 Increased confidence

Another aspect of interest is the growing of confidence of some of the participants. This can be noted in their dealings with clients. Some of the participants had their self-esteem boosted which affected their lives outside the project. It restored confidence and health, and made new leaders in the community committed to contributing more effectively to their society in general. As Cohn (2004:117) substantiates:

Autonomy was an area that also showed mixed results regarding impact. Participants cited that the opportunity to be a part of the project and, in specific cases, hold positions of responsibility or authority, had allowed them to be more independent and confident both within the group and on other terrains of their life. Their ability to voice their opinion within the group was cited as a noticeable improvement, particularly by the co-ordinators. However, 'decision-making' as an indicator of autonomy, was an area that was less influenced according to the responses of both the participants and coordinators, with 21% of the participants scoring high compared to 25% for co-ordinator assessment. Various factors affected this. Significantly, these include both gender relations and socio-political factors.

4.5 ENVIRONMENTAL IMPACT OF THE SCPP ON THE PROJECT

For a project that has the potential to develop into a mass supplier to the tourism industry, the addition of SCPP to clay body could be very beneficial in terms of reducing damage to the environment. I assume that, with increasing demand for the products, mass excavation of the clay site would eventually lead to its exhaustion.

After the sugar cane harvest, the bagasse and leaves are burned. The idea of recycling this vegetation waste for a practical purpose creates awareness of an environmentally friendly approach. This adds value to the community around the Eshowe district as well as the buyers of the products.
4.6 IMPACT OF TECHNOLOGY AND SKILLS TRANSFER IN THE KZN-PCPP

4.6.1 Sugar Cane Waste Paper Pulp (SCPP)

The KZN-PCPP, in particular the Endlovini unit, has been empowered in terms of skills transfer in the area of ceramic science. Training was organised in the form of workshops and follow-up meetings with the participants from 2002 to 2004. These workshops were effective as participants can now produce ceramic products using SCPP on their own.

4.6.2 Silk-screen technique

Workshops on silk-screen technique were organised for the participants of the Eshowe-based unit. From the beginning of 2002 until 2004 workshops took place to equip the participants with a basic knowledge of printmaking techniques for the production of packaging boxes for the KZN-PCPP products. Results are evident from the improvement in the quality of the products.

4.6.3 Papermaking

Although I was never directly involved with the training on papermaking techniques, I witnessed the improvement in the quality of the paper produced. This was achieved through a number of training sessions. Making paper by hand is a complex and difficult process, which requires specialised skills to master.

4.7 BUSINESS AND LIFE SKILLS

4.7.1 Bookkeeping

In her report Cohn (2004:117) states:

Regarding savings systems, the programme management required that projects open bank accounts for the participants in order to ensure the safe and effective handling of their money. For many participants these were their first dealings with the banking system. The projects were also required to save a portion of their income each month for capital accumulation. In this way financial planning concepts were introduced to many participants for the first time – a positive development. This act per se may not be considered as a great revolution in the participants' life, but very significant in terms of opening up new horizons that may lead to search of greater opportunity for a betterment of the participants' everyday life.

Cohn (2004:116) acknowledges the fact that the projects do not have the capacity to solve all the participants' personal problems. Not all their material and financial demands were addressed, although it did alleviate their situation to a certain extent. For most of the participants the projects were their only source of income.

It was reported by one participant in the high-earners group that, as a result of
her increased income during the research period, she was able to move back into her own house. She and her four children had previously been forced to move in with her parents as she was struggling to support them and needed to rent out the house for extra income.

4.7.2 Communication Skills

The project offers the participants the opportunity to share their problems as they come from different parts of the Eshowe region. They were able to discuss problems such as health. The discussions made it easier for them to open up to each other, even on sensitive subjects such as their HIV status. Several participants who were suffering from chronic ailments reported that the opportunity to share their problems with others lessened their stress levels and had a positive impact on their health.

During my work period several participants from the KZN-PCPP died from AIDS-related illnesses. The KZN-PCPP has a responsibility to make sure that the project has continuity for the dependents of the participants who are HIV-positive, especially because the Endlovini unit is the only income-generating industry in the village. The HIV-positive participants regard the project as a unique opportunity to restore their dignity despite their health status.

4.8 IMPACTS AND RESULTS

During my work experience with Phumani Paper I have worked in various projects as a trainer and community facilitator. This has given me the opportunity to be very involved in the projects, to follow them closely and intervene in the production of craft products. This equipped me with the experience needed to make a contribution to the sustainability of the KZN-PCPP in Eshowe.

A new range of designs was produced, which helped establish a brand name for the KZN-PCPP for marketing purposes. For example, Anushka Makka, one of the KZN-PCPP’s best clients, stated in a questionnaire that part of the reason the products were a success with the buyers was because they are “unique and made in Zululand”.

Makka confirms that the new packaging box has made a difference to the marketing of the ceramic plates. She feels that the business and the demand for the products is growing.

My contribution therefore, has been to bring about small but significant changes that have contributed to the greater economic sustainability of the project. This has occurred on various levels: through technical improvements to quality, better marketability, boosting skills and confidence and a general improvement in the quality of life of the people involved in the project.
In both the Eshowe-based unit and at Endlovini, my engagement with the projects was a continuous learning experience. The interaction between the participants and myself was mutually rewarding in its exchange of attitudes and values that have enhanced the quality of our lives.

In this process, many traditional aspects such as time keeping and prioritisation of activities have played a vital role in mediating between my work and the potters’ rich ceramic tradition. Their experience in pot-making and the way they reconcile their working engagement with their everyday activities as members of a community was an eye-opener for me.

4.8.1 PAR

Babbie & Mouton (2001: 314) provide definitive ideas on PAR, I have presented my findings in relation to them.

"PAR recognises the researcher as an agent of change."

This was true for me as I found myself, as both researcher and implementer, bringing about changes in the working process of making ceramic products at the Endlovini unit.

"Participation of all parties throughout all phases of evaluation is imperative."

Participants were involved right from the beginning of my research work and took a leading role in assessing the experiments and contributing ideas from their own working experience.

"PAR encourages democracy in the research relationship."

The participants and I interacted as co-partners. There was negotiation and consultation throughout the process. The learning that took place was reciprocal and satisfactory for both partners.

"Its main goal is the empowerment of those involved in the process."

My intervention empowered the participants with the new knowledge, which they see as having added to the sustainability of their project. The Eshowe group are able to build on the skills they have acquired by updating and refining the designs to enhance the packaging of the products.

"As a result of its nature, it relies heavily on use of qualitative methods of data collection, as these are more participatory than quantitative data collection methods."

Some of the workshops and interactions were recorded on tape, others through written documents and notes and photographs. A translator was present at each visit and assisted in data collection. The emphasis however is on the participatory
interactions which in some cases precludes data capturing. The quality of the ex­
changes was more important to the results than the data collection.

“The incorporation of local knowledge as essential to understanding the process
of development.”

I largely used methods which were familiar to the Endlovini potters. I conducted
research in their village as well as in the workshop in Eshowe. This enabled me to
use techniques familiar to the ones used by the potters, for things such as mea­
measurements, wedging the clay, firing and so forth. The incorporation of traditional
practices is critical to the sustainability and continued use of this intervention.

“The type of knowledge collected is centred around knowledge that influences
action.”

My interaction was characterised by skills transfer. The intervention was a re­
response to needs reflected by the local communities: the improvement and market­
ability of the craft products. If new knowledge influences the increased sales for the
crafters then the results can be regarded as successful.

“The democratic nature of this approach slows the process of development down
considerably.”

As was discussed in Chapter Two the working experience and methods had to
accommodate the local conditions and visits had to be adjusted accordingly. This
was a slow process, but appropriate to the long-term objectives.

“It functions on the basis that trust exists between all parties. This is not always
true.”

One of my biggest problems was to find out whether the information I was get­
ting from the potters was accurate. I did not dismiss the possibility that the rural
potters might have wanted to tell me what they thought I wanted to hear. I was at
a disadvantage in that I am not a Zulu-speaker and relied on translation. However,
I feel confident that my research process over the 18-month period established a
level of trust that went some way towards overcoming these difficulties.

“The results of PAR are verified through a process known as social verification/
validation. However, there will not always be consensus reached by the community
verifying these results due to different agendas of groups or individuals.”

There were limitations in terms of capturing data, especially concerning areas
such as family statistics, personal finance, etc. The nature of this information could
be regarded as sensitive and invading the potters’ privacy. My research project
therefore does not attempt to gather or analyse quantitative data from a traditional
social scientific approach, but is rather a qualitative and participatory intervention.
"PAR also works on the basis that the researcher has the same objectives as the participants for the research. This is not always the case when the finder of the research dictates certain constraints or objectives."

In my case the researcher and participants had the same goal: to explore a more efficient working process to improve the design quality of the packaging boxes and adjust ceramic products to suit the market. This was confirmed by the fact that the potters were ready to incorporate these innovations into their work even before agreeing on issues of payment. They embraced the research as their own and were enthusiastic about the results.

Another indication of the success and impact of this intervention was the group’s response to the research project. The participants in Endlovini were pleased to collaborate with me and they often showed their appreciation by giving me gifts and ensuring that I felt at home while I was there. The participants shared their impressions of what the programme meant to them, and it gave me great pleasure when they told me that my involvement in the project was making a difference. As I have already mentioned, a participant from Endlovini reported on the value of increased income from sales, that would help to “maintain the family at home by bringing an extra income [and] has learned how to make craft products, and that keeps [them] busy and helps to concentrate more on the positive aspects of life”. (Quoted by Mthembo, to Fundisile Biyela, Phumani Paper Annual Report 2003/4:49).

Potters at Endlovini work with sugar cane clay.
From the start of this collaborative research work my aim was to make a difference in the everyday lives of an impoverished community. I feel that this target has been reached in many ways – and beyond my initial expectations.

I am a visual artist and understand the importance of craft production in improving the quality of one’s life. My experience as an artist has instilled in me a sense of social responsibility towards the community around me, which has been a source of inspiration and commitment for my work. I have used my own art as a form of exploration and recovery from past personal and social experiences.

While this research project is not directly linked to my own practice as a visual artist I feel, as an artist, that I have a role to play in improving the lives of my community, particularly through creativity. In the book *Creative Community: The Art of Cultural Development*, (Adams and Goldbard 2001:14) refer to the role of artist as an “agent of change”. They make a case for culture as an “effective crucible for social transformation, one that can be less polarising and create deeper connections than other social-change arenas”.

The experience of working in the KZN communities supports this view of the role of the artist because my experience has in some ways had a social impact. My work over the past three years has not only addressed the technical aspects of product development, but by its very nature involves and addresses the human aspect. The research investigation was a facilitated intervention to contribute to sustainable development and change. The involvement with the community created deeper connections through mutual exchange and efforts to accommodate each other’s language, working methods, cultural values and so on. I feel that the lessons learnt from both sides added value and a level of transformation to our lives.

I agree with the statement that “artists have roles as agents of transformation that are more socially valuable than mainstream art-words roles and certainly equal in legitimacy”, Adams and Goldbard (2001:14). The Endlovini community is an isolated and “forgotten” community. There are no resources such as clinics, healthcare, and food aid. The only industry, to my knowledge, is traditional crafts, which have been indigenous to that community for generations, and are now being supported by Phumani Paper.

The Endlovini community has been severely affected by HIV-Aids. Several participants have died since the start of the Phumani Paper project in 2000. From my observation and informal information gathered, the impact of Aids is severe in that region, although it is not often openly discussed. It is possible that there are many child-headed households in the village and hundreds of people are buried every
month. Access to a clinic and clean water is a problem for most. The cost of visiting the nearest clinic is about R70 for a return trip taxi fare, which makes health care unaffordable to most people in the village.

As stated previously this research has had a small but significant impact on the lives of the participants. I have introduced new design patterns for the packaging of the ceramic products, which have been regarded as a success in that participants identify with them as similar to the craft produced in the Eshowe region. These design patterns screen-printed on the sugar cane paper used for the boxes has been seen as successful by the group, who feel that it has increased the marketability of the products and therefore the sales and income to the producers, as well as with clients.

I have also introduced my experiments with paper pulp and sugar cane waste in clay bodies to the Endlovini community to enhance their ceramic products. The Endlovini group of traditional potters has seen this innovation as valuable to their business. The outcomes of the introduction of SCPP assisted in reducing the weight of the ceramics, improving the malleability of the clay and reducing the potential of the pots to crack in the firing process, thereby adding value to the final products.

By lessening the quantity of clay used, I can assume that it also lessens the energy and time employed for finding clay. This will allow more time for the potters to dedicate themselves to other everyday activities.

While the research project has demonstrated a number of successes, many challenges face the two targeted community projects. It is hoped that awareness resulting from the design intervention and research project will lead to further developmental possibilities for the groups. These include:

Training and transfer of skills
Both groups have expressed the need for further training in product development, packaging design, business skills and new technology. These could include creative workshops for the Endlovini group so that they can produce a greater diversity in ceramic ware. The Eshowe group requires further training in silk-screen printing and craft design. Continued product development is needed to add to contemporary market trends.

Production Systems
New technology such as an outdoor kiln could be introduced at Endlovini village. This would improve consistency and increase production. The higher temperature reached by a kiln would also be valuable to strengthen the ceramic ware made with the addition of SCPP. The amount of wood needed for the numerous open pit fires would also be reduced, enhancing environmental sustainability.
The Eshowe group requires the introduction of a silk-screen unit with a dedicated printer to increase production. Designs derived from indigenous Zulu patterns can be updated and introduced to enhance marketing of the products. These designs have been proven to add value to the branding and packaging, which could lead to increased sales for the project.

Marketing

The development of an effective marketing strategy would assist in the economic stability of the two projects. The Endlovini unit is dependant on the Eshowe group for sales. At the moment the sales are sufficient to support both groups of about 20 to 25 participants with a monthly turnover of R20 000 in sales. The market potential is much greater and the groups need assistance to expand their output.

Business Development

Both groups require training in business development systems including costing, pricing, bookkeeping and entrepreneurial skills to help their business grow.

Partnerships

The Department of Art and Culture (DAC) has established initiatives to support art and craft in KwaZulu-Natal, and they are an important resource in the region. Among the KwaZulu-Natal tourist initiatives started by DAC is the Lubombo programme, which has run for three years. This project aims to enhance the skills of the crafters so that they can access higher-value markets. The Lubombo-Greater St Lucia Wetland Park, a World Heritage Site recognised for its enormous diversity of animal, bird, plant and fish life, could forge links with poverty nodes such as Endlovini to assist with enhancing its viability.

Research Opportunities

The research collaboration with partners in the region, such as that established with the University of Natal and Professor Juliet Armstrong, is crucial. These research and development opportunities can be explored for a greater understanding of the industry in the region. Other partners would need to include the Department of Trade and Industry (DTI) to provide the critical link to sustainable development.

I conclude with a statement by Steven Sack (2004:5), then the chief Director of DAC, in Investing in Culture/Poverty Alleviation magazine, which compliments my research objectives and interaction with the participants of the KZN-PCPP:

The arts are a major form of human communication and expression as groups learn to listen and understand one another. In addition the arts provide a major means of personal creativity giving satisfaction and pleasure and values. It has also become clear that culture can be a tool for sustainable development because it creates and sustains community assets.
Notes

1 An example of a DACST project is Khumbula Zulu Craft Project. This project focussed on the top quality reproductions of traditional Zulu crafts such as beadwork, woodcarving, metalwork, wirework, basketry, shield making, bone and horn carvings and pottery.

2 Presentation by DACST at the workshop convened by the Mine workers' Development Agency (MDA) held at Sunnyside Park Hotel, Johannesburg, from 29-30 March 2001.

3 The tradition of hand papermaking can be traced back from the ancient Egyptian civilization, e.g. papyrus paper or from Chinese, Japanese or Indian traditions. In South Africa we do not have a tradition of hand papermaking. Phumani Paper is, therefore, one of the leading projects engaged with the art of papermaking in this country.

4 Kim Berman is a senior lecturer in the Fine Art Department at Technikon Witwatersrand and director of Phumani Paper. The National Research Foundation (NRF) funds the PRDU.

5 Rosette Gault (1998:13), defines cellulose fibre as "a natural by-product of photosynthesis in plants and trees, [in this context] it is a main ingredient in most commercial papers. Common sources of fibres used in papers are cotton linter, linen flax, hardwoods and softwoods."

6 Amongst the fibres tested, one of the most successful was milkweed, which is now being produced in the Twanano Papermaking Project in Ivory Park, in Midrand. Fibres obtained from milkweed have resulted in a very successful paper. Amongst the M.Tech research conducted into invasive plant fibres, it is important to mention the work by Phumani Paper's Mandy Coppes, whose research dissertation is entitled: Hand Papermaking for Rural Development Using Invasive Vegetation (2003). Coppes produced the fine milkweed paper, for the Ivory Park paper project. Bronwyn Marshall is another M.Tech student who helped develop archival-quality handmade cotton paper. Her idea was to produce the equivalent of industrially-made, archival paper. Her research resulted in a very successful paper produced for the National Archive in Pretoria. David Tshabalala is another M.Tech student who explores the casting of paper pulp into different objects like toys for children or ornamental objects. Tshabalala's project aims at creating job opportunities for economically disadvantaged communities. The involvement of the Technikon students has resulted in very positive experiments that provide input for the various projects in the field i.e. in the manufacturing of handmade paper, the production of various craft items such as photo frames, photo albums, journals, and other items.
At the same time Phumani Paper also provides opportunities for in the field training with community projects for Technikon students. Some of the outputs of this programme are the products, which are made out of handmade papers.

7 Greenware is a name given to ceramic works that are not fired.

8 With the words “tradition” and “traditional”, I refer to the stylistic and formal characteristics of Zulu pot-making as comprising methods of production and end product features, which are usually dark in colour due to the firing process, round in shape with particular decorative symbols and shapes used in a broad range of Zulu material cultural artefacts such as wood carving (ithunga), ear plugs and beaded aprons (ibheshwana).

9 Professor Armstrong is an expert in the field of ceramic in South Africa, and among other activities, she works in a programme to restore the tradition of ceramic making with rural women, especially in KwaZulu-Natal.

10 Among those present were: Lindiwe Ngubane, Goodness Ngema, Thembani Ngidi, Getrude Ndebele, Bahlelile Shadu, Sizile Nhlongo, Hlengiwe Sikhakhane, Hlengiwe Nxumalo, Thembisile Nene, Balungile Mbuyisa.

11 These mesh sizes are used for printing T-shirts.


13 Taryn Cohn has conducted Impact Assessments of some Phumani Paper projects around the country. This research is registered at the University of Stellenbosch.

14 Sourced from a questionnaire sent to Anushka Makka, a client of the KZN-PCPP.
Appendix One

Questionnaire

Materials and New Designs in Sustainable Community Development: a Case Study of Phumani Paper's Eshowe Papermaking and Packaging Project

Questionnaire compiled by J Ladeira, M.Tech student number 9814543
Fine Art Department, Technikon Witwatersrand
Answered by the whole group of participants of the Endlovini Unit

ANSWERS

**SCPP information**

1. Are you satisfied, with the results of the experiment of using sugar cane paper pulp mixed with clay?
   Yes _X__ No_____

2. Is the combination of sugar cane paper pulp and clay easy to work with?
   Yes _X__ No_____

3. Is the process easier than using clay only?
   Yes ___No _X____
   How?
   Do you see any advantage in using this combination (sugar cane paper pulp and clay) instead of clay only?
   Yes, it has stopped our products from breaking.

5. What is the advantage?
   Paper doesn't break easily.

**Market**

1. Which markets do you target?
   Mostly customers come from Durban and Eshowe and they are individuals.

2. Who are your clients?
   Anyone who knows about our products.

3. How long have they been supporting you?
   They started in the year 2000

4. Do you think your market needs new designs?
   Not really, our customers haven't complained. However, we would like to introduce new designs.

5. How can you help your product to be suitable to market needs?
   (Not asked)

6. Is your product updated in regard to the overall market?
   Yes.

7. Has the addition of paper clay helped prevent breakage?
   Yes.
8. Did you get any feedback in regard to the new product from your clients? No.

Income
1. How much time do you spend in a day making pots? Approximately six hours depending on the order they received.
2. How many items can you produce within a day? 20 to 25.
3. How many rejects do you usually have? Less than 10 since we’ve learnt paper and clay mixture technique.
4. How much does each reject cost you? (Question not answered)
5. Is your market far away from where you live? If yes, how do you get your products there? Yes. They hire a truck to transport them to the South Coast (Inkomazi).
6. Is transportation easy? How much does it cost you to get your products to the destination? R8.50.
7. What are the prices of your products? Big pots R20, medium pots R15 and small pots R5.

Evaluation
1. Are you happy working in your project? Yes because we get to work together as a group.
3. What aspect of the project helps you the most? The fact that we get to earn some money, though very little.
4. What would you like to change to improve something? The availability of water because it slows down the production system.

Productivity
1. How many people are involved in this particular (paper clay) project? Seven people.
2. What benefits are there in working together? The production process is faster.
3. How do you organise yourselves for the work? Do you share tasks? Yes.
4. Are you happy with the actual system of working? Is it effective? Yes.
5. What would you like to improve?
The funding in order to buy own truck.

Sustainability
1. Do you have confidence that your clients will buy your new products?
   Now that they don't break, yes.
2. Have your sales improved?
   No, because they haven't changed their prices.
3. Do you think that the new product has had an effect on the sales?
   (Not asked)
4. By how much?
   (Not asked)
5. Are their orders more than before?
   No they are still the same as before.
6. Do you think the business has future?
   Yes
7. How?
   (Not asked)
8. Who are your competitors?
   Their neighbours
9. How do you manage this relationship?
   (Not asked)
10. Do you produce the same type of products? What is the difference (if any)?
    Yes.
11. Is the market the same?
    Yes.
12. Do you have any advantage over your competitors' products in regard to:
    a) Design?
    b) Structural quality (strength, finishing, size, weight, etc.)

Future Prospects
1. How do you see your business in future? Have you plans for its continuity?
   They will continue this business for as long as they live.
2. For how long do you wish to continue working in this project?
   Forever.
3. If you were to stop working, what do you see happening?
   They wouldn't earn anything.
4. How will you prepare the next person to take over your role in the project and the business?
   (Not asked)
5. Do you see your project growing?
   (Not asked)
6. What is your dream for your business?
   (Not asked)
7. How long do you think it will take before you achieve that?  
(Not asked)

**Remedial Steps**

1. What do you think will help your project become a bigger business?  
   Funding, availability of water and transport and a proper place.

2. Do you have any further comments?  
   (Not asked)

3. What skills do you still require?  
   (Not asked)

Participants learn papermaking and silk screening skills.  

PHOTOS: Christina Lithebe
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List of Acronyms

KZN-PCPP – KwaZulu Natal – Papermaking and Craft Packaging Project

SCPP – Sugar Cane Paper Pulp

PAR – Participatory Action Research

TWR – Technikon Witwatersrand

M.Tech – Master of Technology

GEAR – Growth, Employment and Redistribution

RDP – Reconstruction and Development Programme

DACST – Department of Arts Culture Science and Technology

MDA – Mineworkers Development Agency

DAC – Department of Arts and Culture

DTI – Department of Trade and Industry

HIV-Aids – Human Immunodeficiency Virus- Acquired Immune Deficiency Syndrome