AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

303.4 →
G178
DEL
South Africa

South Africa Working Paper No. 1

**RURAL WOMEN'S ASSOCIATION:
AN ASSESSMENT OF THE SUCCESS FACTORS AND
SUSTAINABILITY**

Contributors:

Sister Lydia Pardeller and the Members of the RWA

Marna de Lange

Dumisani Magadlela

Stephanus Smal

Annie Sugrue

Chris Stimie

Barbara van Koppen

IWMI INTERNATIONAL WATER MANAGEMENT INSTITUTE

H 25317 C2

Pardeller, L. ; M. de Lange; D. Magadlela; S. Smal; A. Sugrue; C. Stimie; and Barbara van Koppen. 1999. *Rural women's association: An assessment of the success factors and sustainability*. Colombo, Sri Lanka: International Water Management Institute (IWMI). iii, 45p. (South Africa working paper no.1)

This study, was made possible with the support of the Department for International Development (DFID), reference NRE 9800 605/966/001A.

/ rural women / irrigation programs / women's rights / irrigated farming / land tenure / environmental aspects/ sustainability / social organization / South Africa / Sekhukhuneland /

ISBN: 92-9090-389-7

IWMI's Working Papers are intended to stimulate discussion among people interested in aspects of irrigation management. These papers make available the results of recent or ongoing research, and the informed opinions of IWMI staff members and collaborators, as early as possible. The views expressed are, therefore, those of the author/s and do not (at this stage) necessarily represent the consensus of IWMI or its partners. IWMI will welcome comments on this paper, which should be sent either to IWMI or to the authors at the following address:

Communications Office
International Water Management Institute
P. O. Box 2075
Colombo
Sri Lanka

© IWMI, 1999

All rights reserved.

The International Irrigation Management Institute, one of sixteen centers supported by the Consultative Group on International Agricultural Research (CGIAR), was incorporated by an Act of Parliament in Sri Lanka. The Act is currently under amendment to read as International Water Management Institute (IWMI).

Contents

Chapter 1 — Justification, Objective, and Methodology of the Study	1
1.1 Justification	1
1.2 Objective and Methodology	2
Chapter 2 — Development Context of the RWA	5
2.1 Recent Political History of Sekhukhuneland: Apartheid, Chiefs, and TLCs....	5
2.2 Land Tenure in Sekhukhuneland.....	6
2.3 Social Aspects in Sekhukhuneland and Apél.....	7
2.4 Environmental Conditions and Agricultural Potential at Apél	9
Chapter 3 — Overview of the RWA.....	11
3.1 History of the RWA.....	11
3.2 RWA Objectives and Activities, Today	12
3.3 External Support	15
Chapter 4 — Organizational Structures and Functions	19
4.1 Basic Organizational Structure	19
4.2 Administrative Roles and Functions	20
Chapter 5 — The Irrigation Projects of the RWA.....	25
5.1 The Vegetable Garden Project at Apél.....	25
5.2 The Irrigated Maize Project at Apél	28
5.3 Costs and Financing of RWA Irrigation Projects.....	33
Chapter 6 — Success to Date and Beyond 2000	39
6.1 Success up to 1999.....	39
6.2 The Rural Women and Their Organizational Strength	39
6.3 Sister Lydia's Initiative and Discipline	41
6.4 Donor Funding	42
6.5 The RWA beyond 2000.....	43

Chapter 1

Justification, Objective, and Methodology of the Study

1.1 Justification

no rain, no grass

Just bare earth and Aloe

this is all that is left after years of devastating drought in Sekhukhune

.....1992

This quote from the Rural Women's Association (RWA) of Apél provides a glimpse into the difficulties faced by the Sekhukhune district in Northern Province, South Africa, in 1992. It is a perspective from the women themselves when questioned about their lives before the women established a self-help organization. It was into this situation that a Catholic nun, Sister Lydia Pardeller, originally from Italy, arrived in 1992, having worked in rural Africa since 1962. The Catholic Church runs a mission station in Apél and Sister Lydia was charged with assisting rural women in development programs. Together, the women of Apél and Sister Lydia started an organization called the Rural Women's Association (RWA).

In 1999, Sekhukhune remains one of the poorest areas in South Africa, but according to the women of the RWA, the situation at Apél and many neighboring villages has improved significantly through the activities of their organization. People are still battling poverty and hunger, but in contrast to the situation in 1992, Apél is, in 1999, a bustling area full of hope and economically active women.

The RWA's activities initially centred on the thriving vegetable production at Apél, but they have broadened to include many other economic activities and have spread over an area with a diameter of 100 km, and today, the RWA has a membership of about 1,500 women. At Apél, the RWA has a large building used as a resource center, a restaurant run by local women, a telecenter with access to the Internet, a Montessori crèche, brick-making, carpentry, tree-felling, and sewing groups. It was the obvious success of the RWA and the fact that so many women are involved that initiated this study. This study provided an opportunity to learn from poor rural women's ability to help themselves and their families through access to resources, self-managed organization, and discipline.

1.2 Objective and Methodology

The aim of this study is to identify the success factors of the RWA at Apél and its likely sustainability over time, especially with regard to the vegetable production at the Mission Station of the Franciscan Order at Apél.

The following methodology was used for this study:

- interviews with members of the RWA
- use of existing documents supplied by the RWA, especially earlier funding proposals
- interviews and discussions with individuals and organizations familiar with the area both from a historical and current perspective

No earlier evaluation reports were available for the team. As the RWA is funded by less formal sources of funding, evaluation of the project has not been an important component.

The bulk of the work was carried out during a 2-day field trip where all the members of the team participated (discipline and focus in brackets):

Marna de Lange (civil engineer; small-scale irrigation, water law and irrigation policy, participatory methodologies, and gender)

Dumisani Magadlela (sociologist; small-scale irrigation, poverty, rural development, and sustainable livelihoods)

Stephanus Smal (agricultural engineer)

Annie Sugrue (environmentalist; urban community development facilitation)

Chris Stimie (agricultural engineer; small-scale irrigation, rural community development, and training)

The field trip included for part of the time two additional Agricultural Research Council (ARC) employees, KO Bang and Stephanus Smal experienced in technical issues related to small-scale irrigation farming. Doug Merrey, Deputy Director General, and Barbara van Koppen, Coordinator, Gender, Poverty, and Water Project of the International Water Management Institute, Sri Lanka assisted in final data collection and reporting.

Arrangements for an agronomist with a background in agricultural economy to join the team fell through. Another weakness was that the team did not include a member fluent in Sepedi (Northern Sotho) and thus the executive members of the RWA (the Central Coordinating Body) carried out translation. The responses of RWA members could have been influenced by the

presence of the executive, although there were no specific incidents or apparent tensions during the fieldwork to suggest this.

In this report the development context of the RWA is briefly sketched in chapter 2. Chapter 3 gives an overview of the RWA in the past and today. Chapter 4 focuses on the organizational structure of the RWA as a whole. In chapter 5, a detailed analysis is presented of the varying aspects and the financial sustainability of the irrigation projects, especially the vegetable garden and the maize project at Apél. Chapter 6 concludes by identifying the success factors of the RWA in the past. The likely sustainability of this success in the future, when Sister Lydia will have left, is assessed.

Chapter 2

Development Context of the RWA

2.1 Recent Political History of Sekhukhuneland: Apartheid, Chiefs, and TLCs

Lebowa was a self-governing territory (homeland) during the apartheid era (1948–1994). Apél is a village of approximately 14,000 people in Sekhukhuneland, one of the 12 constituencies of former Lebowa. Lebowa has, since 1994, been integrated into the new democratic state of South Africa and the laws and political divisions of the new state are applicable. The area now falls within the Northern Province, with the city of Pietersburg housing the provincial government. Being a rural area, Apél falls within the Northern District of the Northern Province, the Southern Magisterial District of the Northern District, and the Transitional Local Council (TLC) of Noko-Tlou/Fetakgomo.

The administrative subdivisions are as follows:

<i>Administrative subdivision</i>	<i>Population</i>
South Africa	40,000,000
Northern Province (1 of 9 in South Africa)	6,480,459
Northern District (1 of 2 in Northern Province)	5,259,516
Southern Magisterial District (1 of 4 in Northern District)	1,693,522
Noko-Tlou/Fetakgomo TLC (1 of 7 in the Southern MD)	n.a.
Apél village (1 of 88 in Noko-Tlou/Fetakgomo TLC)	14,000

Note: From Department of Water Affairs and Forestry's *Guide to communities and their water service levels* 1999.

The area that the RWA activities cover is home to about 120,000 people.

The Bapedi are the primary tribe occupying land in Sekhukhuneland. Prior to apartheid, Paramount Chief Sekhukhune, a member of the Bapedi tribe, whose headquarters were in Mohlaletsi, governed Sekhukhuneland. He was imprisoned during the apartheid regime for his outspoken opposition to apartheid policy. During Chief Sekhukhune's incarceration, the previous government divided his land into what were called clans, which are essentially extended family groups. These clans were reportedly bribed into denouncing Chief Sekhukhune and making one of the clan members the new chief (called a *mokgoshi*) for each of the newly appointed areas. Generally, the new chiefs were former aides (*Indunas*) to Sekhukhune.

The Northern Province is relatively inactive politically, compared to other provinces, but the area of Apél is an exception. Sekhukhuneland has a tradition of activism: in the 1950s there

were disturbances in this area, but from the 1950s to the 1980s the area was fairly quiet until the rise of the United Democratic Front (UDF) in the 1980s. The head of the UDF, Peter Nchabeleng, lived in Apél and this area was therefore considered the center of the UDF. He was assassinated in the late 1980s, apparently because of his political activities.

The clan living in Apél is the Tau-Mankotsana family and the current chief is called Chief Moloke. This clan works closely with some of the other clans in the area, having a cooperative approach to development projects.

During the apartheid years, the Tau-Mankotsana traditional chief ruled in accordance with the decisions of the Government of Lebowa. He was assisted by a council of advisors and elders who were appointed by the members of the clan. The Chief and his Council were regulated by the Commissioner of the Government of Lebowa who had absolute power to approve or reject proposals from the chief and his council. Due to the reorganization of Sekhukhuneland, these chiefs had no representation on the Lebowa Legislative Assembly, which forwarded proposals and influenced the Lebowa Parliament. It is primarily for this reason that Apél is so underdeveloped, in many cases far more so than in other territories in the former Lebowa homeland.

Traditional leaders enjoy great support amongst rural people and because of their powers within rural areas, the Government of South African recognizes traditional chiefs in the SA constitution. The Green Paper on local government includes traditional chiefs in its governance structures, although there remains tension between the new democratic system and the traditional system of inherited powers. The traditional organization exists fairly much as it did before the first democratic elections in 1994 and it is not likely that this will change in the foreseeable future. In general, there are territorial battles between the chiefs and the boundaries meander, but this is characteristic of many rural areas ruled by traditional leaders and it is important to note that all persons interviewed with respect to the RWA emphasized the valuable support given by the chiefs for their projects.

2.2 Land Tenure in Sekhukhuneland

The most common form of land tenure in the area is a communal tenure system under which an individual may be issued with a Permission to Occupy, commonly referred to as a PTO. The chief, who holds the land in trust, grants this permission, through agreements with the previous government, and the magistrate rubber-stamps the permission. These agreements are

considered legally valid in today's political dispensation, although this has caused some disquiet amongst the democratically elected leaders in local government (Transitional Local Councils). The local chief has allocated the land occupied by the RWA to them and each group holds a letter confirming this allocation.

Most rural people consider the PTO as a safe form of tenure. They believe themselves to be protected through this agreement. In most cases, this is simply a signed letter from the chief stating which piece of land, with size and position, is indicated in the PTO. There have been very few cases of removals after such agreements, and as such, this is the basis upon which the people feel tenure is sound. However, this form of tenure is not accepted as collateral by commercial banks, the Land Bank, or any other financial institutions. This is a most unsatisfactory situation from rural people's point of view, since it presents a major obstacle to economic advancement.

PTOs are more often than not issued to a male member of the family, yet it is primarily the women who make productive use of the land.

There has been much criticism of the land tenure situation in the rural areas, but the scope of this document is not wide enough to cover these arguments.

2.3 Social Aspects in Sekhukhuneland and Apél

As discussed above, the population of Sekhukhuneland comprises predominantly the Bapedi (Northern-Sotho) tribe, with some people from other tribal origins. The clan in Apél is the Tau-Mankotsana clan. All the chiefs for this clan come from the Nchabeleng family. The prominent language spoken in the area is Sepedi (Northern-Sotho). There has been very few white or Indian people living in and around Apél since their farms were bought up as trust land for the establishment of the Lebowa homeland after the 1913 Land Act.

The resident population of Sekhukhuneland are primarily women and children. Most of the men live and work outside the rural area, often but not exclusively on the mines in Gauteng and elsewhere, often as unskilled labor. The men return every few months, but it is not uncommon for them to remain away for long periods and even to not return at all. The women who receive any income from men are considered fortunate. Most families rely on the old age pension, which is currently R500 per month received by the grandparents. This pension has not changed much in the last few years: it was R470 in 1995, R490 in 1996, and it has been R500 since 1998. It is not unusual for an entire family of 6 to 15 members to survive on one old age pension. In recent times, Sekhukhuneland is seeing a return of some of the men from the cities

because of increased retrenchments, which are a result of macro (national) economic changes that began soon after 1994. This has further increased the financial burden on the household.

Traditionally, the African woman's role has been to provide the food for the household. However, the natural soil fertility in the area is not very good, requiring mineral fertilizers to achieve adequate production for household food needs. In many instances, families do not have access to mineral fertilizers, because, on the one hand, it is not locally available, and, on the other, mostly because families do not have the cash to buy both fertilizers and improved seed. There are very few economic opportunities for women and men in Sekhukhuneland, as the area is remote and has little industrial and business activity. Men generally own small local businesses such as taxi services and local bottle stores. Some economic opportunity has been created in the area in the form of a government-supported irrigation scheme, the Arabie-Olifants Irrigation Scheme. Apél falls just outside (downstream) of this highly subsidized scheme. The success of this scheme, like so many others of its kind, has been questioned for various reasons. For one, it has failed to foster independence among its participants, as is currently clearly evident, since there is very little production following the collapse of the government-support services.

The churches are playing a very important role in the area. Most people in the area belong to the ZCC (Zionist Christian Church). There is an active, if small, Catholic congregation served by various mission stations throughout the area. There is also an active Anglican church and other Christian churches such as Lutheran, all with comparatively small numbers.

The government clinic at Apél is open from 07:00 to 16:00 each working day. The clinic provides very basic assistance, first aid, and simple drugs. It is not open at night and the residents must go to the Jane Furse hospital which is approximately 80 km away (depending on the village) for emergencies. Doctors visit the health care centers infrequently, maybe once or twice a month. The infant mortality rate in the area was very high before RWA's activities had effect: the statistics for 1992 quote 192 deaths/1,000 births, one of the highest figures in South Africa. Primarily TB, malnutrition, infectious diseases and diarrhoea caused mortalities from dirty water, and unhygienic conditions. The women now say: "we are no longer burying babies," since the RWA started with food security, skill-based income-generating activities and helped improve access to clean water with boreholes and tank water.

Generally, Apél and surrounding communities comprise groups of women who have, since the arrival of Sister Lydia and the formation of the RWA, recognized the value and benefits of regular interaction and group efforts in community development initiatives. What they have fully

appreciated, as seen through their active involvement in the sustainability of the RWA, is the immeasurable value of group cohesion and joint effort. Social mobilization, here spearheaded by Sister Lydia, has helped them almost defeat starvation and earn hitherto unknown incomes. The RWA has fostered ties among the women as individual actors and as groups. The success of their social organization is in stark contrast to the nonexistence of any visible forms of social organization among men for developmental purposes. This is especially indicated by the lack of any men's effort to come up with specific strategies to fight the same problems of household food shortages and poor incomes that the women are now so successfully able to deal with.

The target group for the RWA was very specifically women. This group was undoubtedly the most disadvantaged in the area, having been excluded from participation in the Arabie-Olifants irrigation scheme, which ends just upstream of Apél. In fact, because of the perceived social and economic injustices, they used to steal oranges from the orchard at Mooiplaats, their closest neighbor on the Arabie-Olifants scheme, eventually resulting in the removal of the trees.

2.4 Environmental Conditions and Agricultural Potential at Apél

Rainfall less than 500 mm/annum

Evaporation 1,800–2,000 mm/annum

Mean annual run off is 5–10 mm/annum, thus about 1 percent of the rainfall. This is attributed to the flat topography and sandy soils

Soil: moderate depth, sandy loam

High erodibility index

The area is 'savanna veld' type and temperatures in peak summer months, from October to February, sometimes reach 40 °C to 45 °C. There is no rainfall in winter.

Expected sediment yield for the quaternary basin B51C (area 638 km² of a basin total of 54,473 km²) is 1.1 t/ha/annum, which is moderate. In reality, the sediment yield is much higher because the area is denuded of vegetation. Apél is very barren and practically no soil is being formed, which means there is a net soil loss. The sediment deposit in Arabie dam, that is, upstream of the former homeland area, is only 1 percent. Downstream of Arabie dam the sediment load in the river is excessive, as borne out by the pumping problems in the maize project, as described in chapter 5.

Chapter 3

Overview of the RWA

3.1 History of the RWA

Sister Lydia Pardeller's parish appointed her at Apél to assist rural women in development programs. On arrival, Sister Lydia approached the nursing sister at the local clinic for an introduction to any women who were doing voluntary work in the area. She was introduced to Ruth Raphela who organized a group of 43 women with whom Sister Lydia could begin her work.

In discussions, the women identified the following key problems:

- Shortage of food.
- They had nothing productive to do with their time.

The key solutions the women saw were:

- to grow food
- to learn how to do something productive with their hands such as cooking, sewing, etc.

The mission had no funds beyond supporting the nuns, but it was situated on about 2 hectares of land, portions of which the group could cultivate. There was widespread scepticism in the community about the agricultural potential and Sister Lydia was told that they were wasting their time, since "nothing grows here."¹ Nonetheless, the available mission land was divided into 43 small plots and the women began digging, thus thoroughly preparing the soil to grow vegetables. This was the first group of the RWA.

Although Sister Lydia herself was a nurse, she had intimate knowledge of crop production and experience of hard physical labor from an early age. As a child she helped her parents cultivate crops during the short summer season in the Alps, for which the soil had to be collected in baskets and carried up the mountain annually to enable production.

¹It is interesting to note that this is exactly what Karel Schoeman was told in the 1940s when he started planting citrus at the Moosrivier farm in the nearby Groblersdal area, about 120 km upstream of Apél: "nothing grows here." Today, Moosrivier is world-renowned for its citrus and exports 80 percent of its 1, 000-hectare production to Europe and Asia.

This first community garden project in the Apél mission station was very successful and the women grew high-quality vegetables. Sister Lydia soon approached the local Chief for additional land to expand the vegetable production. The Chief allocated a portion of land directly north of the mission land. This area of about 2.8 hectares lies within a natural drainage channel to the river and she was told that it was not really suitable for planting. However, work on this land also became successful and the local people were surprised at the abundant production. Subsequently, the Chief allocated an additional extent of 20 hectares below the vegetable garden for maize production. In total, the RWA is using about 23 hectares of land in Apél to produce food.

Initially, Sister Lydia imposed very strict rules for the vegetable garden, to force the women to grow vegetables instead of maize, since they "love to see maize grow." The objective was to improve children's diet, so everyone was required to grow at least five different types of vegetables, mostly spinach, beetroot, tomato, onion, and carrot. This was very difficult, because most of the participants only knew beetroot.

The vegetable project is organized into six sub-groups and the maize project into five sub-groups. The vegetable and maize projects at Apél are described in-depth in section 4.

As more women applied to join the RWA from areas outside of Apél, the activities expanded. The need arose to become a legal body to access and manage funding from outside sources. They decided to register as a Section 21 (not-for-profit) company and developed an organogram so as to comply with one of the conditions for registration. Now, nearly 5 years later, the RWA is reconsidering its organizational structure, as they now have a better understanding of their organizational needs and are thus ready to tailor a new structure to serve their purposes. The organizational structure is discussed in section 5 of this document.

The following rural villages have groups or activities related to the RWA: Apél, Nchabeleng, Nkwana, Pelangwe, Tseletsele, Indie, Malomange, Malope, Mashoanyaneng, Nkotokwane, Strydkraal, Mmatadi, Mashabela, Machacha, and Marishane.

3.2 RWA Objectives and Activities, Today

3.2.1 Objectives and philosophy

The RWA has set its objectives as follows:

- to eradicate poverty in the area
- to ensure food security

- to assist rural women to feed their families
- to generate and improve rural women's income
- to improve literacy levels
- to empower women to work for themselves and their families
- to provide life skills and capacity for self-help
- to promote child development (early learning policy)

In line with its original objective, the RWA philosophy is to start off with food production and to follow it up with other activities. New groups are encouraged to initiate their projects in this order.

3.2.2 Current activities

There are currently over 30 groups in the RWA, of which 16 are gardens, and the rest are various other entrepreneurial activities as listed below. This does not include smaller groups, such as the restaurant and crèches.

The single only requirement to be included in an RWA group is that the individual has to be a woman living in that area. No men are allowed to participate as members in the project. They are however encouraged to participate actively in the labor aspects of the project, particularly the heavy work.

The following are current groups of the RWA and their activities:

- 16 vegetable gardens (with 30-80 women benefiting from each garden)
- 2 maize projects
- 1 poultry project
- 3 catering projects;
- 1 fencing project
- 28 nurseries
- 23 Montessori crèches/preschools
- 1 Montessori teacher training center for village ladies
- 10 adult literacy projects
- 1 library service
- 1 telecenter

- 14 sewing projects
- 3 resource centers for women

Additionally, there are candle making, brick making, carpentry, aqua nurseries, knitting and firewood projects. Previously, women had to travel up to 10 km to have their maize ground, but now RWA has two electric mills and a tractor-driven mill.

In Apél specifically, the following activities are to be found:

- six vegetable subgroups
- five maize growing subgroups
- tree nurseries
- poultry project
- sewing project
- two restaurants run by the women
- a Montessori crèche
- a Montessori teacher training center
- a carpentry project
- a wire-making (fencing material) project
- a firewood project
- a brick making project
- a telecenter (with email facilities)

The RWA resource center at Apél has conference facilities and many of the units within the building are used for entrepreneurial activities such as the restaurant, the crèche, and the telecenter. The Montessori teacher training center issues trainees with a certificate approved and stamped by the Department of Education office.

The RWA is considering putting more emphasis on the establishment of cooperatives to purchase and especially market goods on behalf of RWA groups. Individually, the women have difficulty in accessing the markets, but collectively, they could have more success.

3.2.3 Capacity-building in the RWA

Capacity-building has formed a major part of the RWA activities since 1992. Ladies trained through RWA initiatives are currently acting as project leaders and general trainers in

Sekhukhuneland. They are also trainers in the Department of Labor approved training programmes, as discussed below.

The Provincial Department of Labor in the Northern Province has initiated a capacity-building program within the rural areas. The Labor Skills Academy is currently implementing it. These courses cover a wide range of skills, from literacy to specialist skills like brick-making. So far, 318 women of the RWA have been trained through this program.

Many other members have been trained throughout the lifetime of the RWA, as it sends people on courses for which it pays. These courses are mainly for the development of entrepreneurial and administrative skills.

The results of the overall training program established since 1992 are:

- a large number of women trained in leadership, management, finance, motivation and responsibility, competitiveness and success, and in specific technical skills such as fence-making, poultry production, and other activities as listed above
- 50 women running their own businesses
- 15 teachers, trained in literacy and numeric, and teaching in various villages
- 400 women trained in sewing
- 20 women trained as trainers

3.3 External Support

3.3.1 *Support from the government to RWA members*

Government assistance has been very limited in comparison to typical investment in irrigation projects, but some assistance in the form of extension and technical support has had significant impact. The RWA is vulnerable when it has to rely on the advice of contractors and inexperienced professionals, and in at least one instance, inappropriate technology was chosen (see section 5.2.2 "The maize project at Apél" for more details). This illustrates the valuable role the government could play in vetting designs on behalf of rural communities. Further, the government could play a significant role in providing simple technical irrigation training to the RWA women to improve water use efficiency, as discussed in chapter 5.

The following government assistance was rendered over the years:

- As already mentioned, the Provincial Department of the Local Government provided capacity-building for the RWA through the Labour Skills Academy;
- In 1996, through the flood relief program, the Department of Agriculture, Land and Environment in Pietersburg granted R33,000 to the RWA, in compensation for one-third of lands they had planted to trees that were washed away.
- For a period, the ARDC extension wing provided weekly support to the RWA vegetable project at Apél, through Mr. George Turck, an extension officer.
- The ARDC's Mr. James Wulff has been providing technical support to the RWA since 1993.
- The ARDC's Mr. Bill Radcliff provided support for the aquaculture project at Apél.
- The Department of Water Affairs and Forestry supplied some trees free of charge for the establishment of a tree nursery.

Services were either unavailable or unaffordable from the field office of the ARDC at Veeplaats, for example, the women were told to pay R5,000 in advance before plowing services would be rendered.

When asked about local governments (TLCs) in the area the RWA replied that "they were neutral;" they neither helped nor hindered.

The government has neither injected any specific finances into the RWA nor involved itself in the initiation or management of the RWA projects.

3.3.2 Donor funding

The RWA has benefited from external donor funding, and it is this funding that has enabled the groups to get started as the start-up costs of most of the projects exceed the financial capacity of the (mostly unemployed) women in the RWA.

A full breakdown of all the donor funding that has been granted to the RWA is given below. In general, the funding has not been extensive or long term and it amounts to an average investment of about R1,400 per participant over 7 years. This is very little in comparison to the costs of a typical irrigation scheme development and has resulted in more extensive, varied, and apparently sustainable initiatives than those achieved by irrigation schemes in a similar period.

The largest single amount of funding acquired was from the Government of Ireland (R514, 000), which was used in part to build the large RWA resource center in Apél. Other monies

generated by Sister Lydia, in her personal capacity through her parish, were used to supplement the groups' capital costs at the start of their projects. Other funds have been used for training purposes.

The RWA has received funding or donations to a total value of R2,126,600 from the following sources:

Government of Ireland	R514,000
ESKOM	R23,000
Rabobank	R300,000
Caritas Holland	R120,000
Caritas Austria	R300,000
Groups in Austria and Italy	R500,000
Government of Japan	R75,000 (\$12, 500)
British High Commission	R59,600
DED German Development Organization	R40,000
Ms. Jo Rhodes and support group	R70,000
SAFMARINE	R45,000
SA Northern Province Department of Agriculture	R50,000 (Approximate value of 10,000 trees)
Royal Dutch Embassy	R30,000

The RWA has been very careful about the conditions under which they would accept donor funding. In some instances, funding was seen to interfere with the way the women wanted to run their organization and the women refused to accept the funding, for example when a donor wanted to impose sunflower production. This means that the organization has not been tempted to shift from its original objectives of food production first.

Because the project is successful it has attracted interest. In fact, there have been some difficulties with individuals and even groups offering assistance to the RWA. Their aim, in fact, was to use the RWA's success to generate income for their own purposes. Sister Lydia provided an example through an anecdote. A foreigner assisted the RWA in putting together a project proposal and agreed to take it back to his home and raise funds for the RWA. In time, the individual came back to Apél with colleagues and presented the RWA with a cheque for R9,000. The group was pleased and assisted him during his field trip, where the individual and two of his colleagues, now through a newly established organization, was preparing a further project proposal for the RWA. At the end of the 6-week field trip, the RWA was asked to offset the costs of the three individuals' fieldwork and expenses (accommodation, car hire, food, etc.) against the R9,000, much to the surprise of the RWA. Later, the RWA discovered that this

newly founded organization continued fund-raising in Europe, ostensibly for the RWA. In fact, the RWA believes that, directly as a result of the confusion and suspicion created by that organization's unauthorized fund-raising, the RWA lost funds already pledged by a donor. The RWA are now careful of people trying to benefit directly for themselves out of the RWA, to its detriment.

Chapter 4

Organizational Structures and Functions

4.1 Basic Organizational Structure

The RWA was originally established as a Section 21 (not-for-profit) organization. Generally speaking, Section 21 companies have a board of directors, which sets policy and acts as an independent financial reviewer. The board usually appoints a chief executive officer (CEO) to oversee the executive management functions of the organization. Most often, Section 21 companies, through the CEO, will also appoint managers to oversee specific areas within the organization. A Section 21 company is intended to be managed as a business organization, with hierarchical management structures and clear executive functions for the various levels. Essentially, the only difference between a Section 21 company and a standard market-related business is that a Section 21 company does not distribute its profits to its shareholders, but the profits remain in the company. Financial liability for Section 21 companies remains firmly with the board of directors.

The RWA has taken the basic Section 21 Company structure and made it fit its own needs. The RWA, in essence, has a board of directors, which is called the Central Coordinating Body (CCB). This body plays a similar role to that expected of a board of directors, in that it sets policy and advises and guides the groups, which correspond to separate units of a more traditionally established Section 21 Company. One main difference in the RWA structure to that of traditional Section 21 companies is that the RWA has not appointed a CEO to manage and run the overall organization. The chairwoman of the CCB appears to play this function in much the same way as an executive chairperson would. The executive structure of the RWA has an important financial management function for the entire RWA, much the same way as a CEO would have in a traditional Section 21 company profile. A detailed outline of the roles and functions of the CCB can be found below in section 4.2.1.

The groups in the RWA, which would loosely correspond to separate units of a company, have a great deal of autonomy, more so than would be expected within standard business structures. A detailed outline of the roles and responsibilities of each of the groups is found below in section 4.2.2.

The Section 21 company structure may not have been intended for an organization such as the RWA, because the latter is essentially a democratic organization that uses democratic principles to elect its management. In contrast, a traditional company has a hierarchical management structure, where the executive manager has final say in all decisions. Instead, the RWA has created an organogram that clearly reflects its wish to place the grass roots structures, the groups, at a superior position to the other structures. This is not in line with proposed structures of Section 21 companies, which are intended as hierarchical management organizational institutions. However, it is obvious that the organizational structure has served its purpose for the RWA, and it has accommodated the intentions and needs of the organization very successfully to date.

The following section identifies and illustrates in more detail the roles and functions of each of the separate structures in the RWA.

4.2 Administrative Roles and Functions

4.2.1 The Central Coordinating Body (CCB)

The CCB is currently composed of the following people:

Ruth Raphela	Chairwoman
Evelyn Sebest	Secretary
Selina Maseema	Treasurer
Sister Lydia Pardeller	Development animator; coordinator
Sarona Matseba	Member
Daisy Mahlatjie	Member, accounts
Lillian Nchabeleng	Member
Father Patrick Gallagher	Advisor

The CCB is the executive of the RWA and plays the role of the board of directors of the established Section 21 company.

The CCB plays the following roles:

- advises the joint groups
- plays an intermediary role in conflicts between the various groups, should they arise
- purchases, on a central level, all necessary agricultural equipment or infrastructure
- provides administrative, financial, educational, social, and economic support to the groups and help with conflict management within the group when necessary
- represents the groups at meetings with other organizations, authorities and donor/grant-funding agencies
- generates new initiatives to improve the quality of life of its members within the groups
- implements new development projects on its own or on behalf of the participating groups

The CCB is not the "controller" of the RWA groups. It plays a coordinating and facilitating role in terms of the groups, rather than a regulating or management role. It has no powers to make decisions on the activities of the groups or how they are managed. The above organogram of the RWA clearly shows that the groups are executive structures, with the CCB below them. In many cases, the CCB was unaware of the activities of all the groups, as they were only there to assist if called upon. However, the CCB plays an executive role in the financial management of the general RWA funds received from donors.

The CCB meets four times per year (or whenever necessary) together with three representatives of each of the four areas (i.e., 12 representatives from the groups) within which the RWA is active.

A large meeting with about 100 group members is held annually, to reassess the needs of RWA members and groups and to hear complaints, to look at finances and consider the level of contributions, and to reelect the executive committee of the CCB. However, the current members are usually reelected without any change.

The meeting venue is alternated between the three resource centers, to avoid concentration of activities at Apél and to enable different people to attend the meetings.

Minutes are not kept, or circulated, since the RWA does not have the personnel or finances to do this. According to Sister Lydia, "high-powered administrations" are only necessary where

public money is used and there are significant assets, which will then also require auditing. They consider this above their level of operation.

The executive members of the CCB receive a stipend of about R600 per month to recompense the individual for her contribution. The stipend is low, but has meant that the person can give support to the organization without negatively affecting her own family situation too much. However, the organization's inability to pay its officials is a serious vulnerability, since RWA has already lost trained members to better-paid employment elsewhere.

The RWA CCB also employs field-workers to assist new groups to form and apply to the RWA for membership, assistance and support. The field-workers are also paid a small stipend for their work.

During the interviews, each member was clear on her roles and responsibilities within the organization, and the discipline is maintained to adhere to these. This has been the case from the very beginning and in no instance did anyone interviewed express any doubt about her functions and responsibilities.

4.2.2 The groups

Most of the RWA's 30 or so groups consist of 30-80 women, depending on the location and the number of women interested. There are also some smaller specialized groups, especially for catering and sewing. Each group is autonomous and has its own executive committee consisting of a chairwoman, secretary, and a treasurer, and in most cases there are deputy posts for the chair and secretary.

The duties of the group executive committee are to keep a bank account, collect monthly contributions, maintain discipline according to group rules, and call weekly meetings. They are responsible for paying ordinary expenses, such as fuel, but consult the group during meetings before withdrawing funds for out-of-the-ordinary expenditures, such as major repairs (see section 5.3.2 "Financial aspects" below).

Group rules are made when problems arise. This ensures that the rules are most suitable to the group's particular circumstances.

Four times a year, each group delegates some members to attend meetings of the CCB. These meetings are held in order to ensure co-ordination between the groups and also to make decisions at the level of the larger association, the RWA, as discussed in 4.2.1 above.

4.2.3 Establishment of new groups

The philosophy applied in the expansion of the RWA, the establishment of new groups, and the upkeep of existing groups, is to have "a little fire burning in every group, and to then just add a little bit of firewood."

Any new group that wishes to join the RWA has to comply with the following procedure:

The group must:

- be constituted with its executive
- have its own bank account (at Apél they use the local post office)
- have two signed letters from the local chief stating that the group has permission to use a specified piece of land for food production
- have weekly recorded meetings
- have R2,000 which is given to the central RWA CCB towards start-up costs

The R2,000 is used as a contribution towards fencing the land and the provision of water, usually from boreholes, and sometimes directly from a river. The RWA CCB supplies the infrastructure for pumping and water distribution and provides the balance of the costs with donor funding (see section 5.3 "Financial aspects" below for a breakdown of members' and external contributions).

Chapter 5

The Irrigation Projects of the RWA

This section provides a detailed description of the RWA irrigation projects, especially the vegetable and maize projects at Apél. It combines findings from the interviews and technical assessments and also contains some recommendations for improvement (*in italics*) in response to a request from the RWA during the fieldwork for this study.

5.1 The Vegetable Garden Project at Apél

5.1.1 Layout and participation

The vegetable garden at Apél is about 3 hectares, which is an average size for community gardens in South Africa. A total of about 300 women participate in the vegetable project. The plots are relatively small, about 110 m² (10m x 11m), on the new area outside the mission land, and even smaller, 55 m² (5m x 11m), on the original project inside the mission. The garden is organized into six subgroups, of which two are the original groups on the mission land.

Each member has the freedom of decision making to use her plot as she thinks best. They have not made the mistake so often found in community gardens, namely to try and manage it as one large communal enterprise. Communal projects almost always lead to disputes when the proceeds are shared, because not all work equally hard. Instead, each has her own plot and can be autonomous in her decisions on crop production and use (consumption, marketing).

A strength of the small plot sizes is their implication for cost-sharing. Other community vegetable garden plots are often as large as 600m², which in this instance would have meant; only one-sixth of the women would have been accommodated; each would have had to expend six times as much input costs, labor, and time; and very importantly, each would have had to pay a monthly contribution of six times the current amount (R12, instead of R2).

The vegetable plots are used very intensively. The main cash crops, namely onion, beetroot, and spinach are grown in winter (March through July), but even in the period preceding the new planting season, when the team visited the area at the end of February, very few plots were fallow. A real hotchpotch of crops was being grown in the summer season, but mainly bean with various types of chili, pepper, and indigenous crops in between.

When plots are left unplanted, new members on the waiting list are given a chance. This is arranged either through the RWA executive or by the group within which a plot is unused.

The garden and the maize projects each has a 1.8 m (6 ft) perimeter fence and is guarded at night by the pump attendant. This individual has the responsibility for safety and security at the mission, the vegetable gardens, and the maize project. In addition, he tends the river pump for the maize and is responsible for repairs of the water distribution system (pipes and taps).

At present, the pump operator/security guard seems overloaded and is subject to criticism from the women, who hold him responsible for their current difficulties with irrigation water, especially on the maize. In our opinion, an investment in his training would enable him to provide an improved service, with less personal pressure and would prevent the RWA from losing a committed employee.

The RWA has been warned of a possible danger from floods, since the newer (major) portion of the vegetable garden is situated in a secondary drainage area, like a delta, where the Mohlaletsi river, a non-perennial tributary, joins the Olifants river. Since the establishment of this part of the garden in 1992 and the maize project just below it in 1997/98, there has not been a problem with major floods, but it could be advisable to investigate flood protection. Rainwater harvesting is a priority for the RWA and it is requesting assistance for research in this regard.

5.1.2 Water supply and distribution

Water supply to the garden is from three boreholes within the garden and from one in the mission land, all of which are fitted with electrical submersible pumps, which pump directly into the distribution system to the taps. In the peak season, the pumps run continuously for 14 (05:00–19:00) hours, 6 days a week. The boreholes are 80 to 84 m deep and a combined flow of 130 l/minute or 7.8 m³/hour from these boreholes was measured at the taps during normal operation. This is about 22 mm of irrigation per week, which is just about adequate for peak requirements for vegetables in winter and would be a significant supplement to rain in summer.

Electrical current readings on the pumps show that about 5 kW of power are required for pumping. See section 5.3.1 for a calculation of the costs of water supply.

The same boreholes are used to fill four 10,000-liter plastic tanks outside the garden, for use in the brick-making project.

According to the participants, a maximum of 20 hose pipes can be used at a time, but although only 10 taps were running during our measurements, the pressure at the taps was already very low. Many of the hose pipes were leaking at the joint with the tap, and one serious leak in a distribution line accounted for 10 percent of the total flow.

Correcting these problems would improve the water distribution significantly, and would require only minor expenditure and very basic training.

Irrigation is by hose pipe, directly into small basins or short furrows and, therefore, with very high application efficiency on most of the vegetable plots. The topography in the vegetable garden is very flat, so that this high efficiency can be achieved regardless of the direction of the basins.

Breakdowns in pumps have to be attended to without delay, since there is no water storage for use by the vegetable garden. The RWA uses the services of a mechanic from a neighboring village (Mr. Masha from Strydkraal) when it experiences technical problems and it has been satisfied with his services.

5.1.3 Production, marketing, and benefits

The vegetable production at Apél is impressive in comparison with other community gardens all over South Africa. In fact, their excellent production was the main reason to initiate this study.

There is currently good production where before there was none, and where it was believed "nothing would grow." The inherent soil fertility of their sandy soils is low, but the women have been able to build up the soil fertility and soil structure through repeated soil preparation (hand digging to about 500mm with hoes and spades), composting, kraal manure, and mineral fertilizers, which they buy from the RWA office.

The crops grown on the individual plots are highly varied, showing the independence and individuality of the RWA members. The women are confident and all know the correct dates for sowing the seeds into their seedbeds, transplanting, and harvest time. Nearly all are experimenting with new crops on a part of their plots all the time, for instance, one member was growing four different types of chili among her other crops. They buy their seed from the Food Garden Foundation in Johannesburg by mail, through the RWA office.

They produce more vegetables than their families can consume, and these are of excellent quality. They produce for food and income. Their main cash crops are onion, beetroot and spinach, which they sow in the middle of March, transplant at the end of March, and harvest from May through July. They sell to neighbors and other local buyers and have become an established source of fresh vegetables for major local events over weekends, such as funerals and weddings.

However, the RWA members are still experiencing marketing as one of their most limiting problems, since they have relatively poor access to outside markets, mainly due to a lack of affordable transport. Some of the women occasionally club together to hire a local pick-up truck to take them to a major road or town where they could sell as street hawkers.

5.2 The Irrigated Maize Project at Apél

5.2.1 *Layout and participation*

The maize project was initiated following the success of the vegetable garden to augment participants' access to staples in addition to the vegetable production they had by then established. At the same time, this project created an opportunity for more women to become members of the RWA and gain access to productive land. Most, but not all, of the participants of the vegetable project, also have maize plots.

The maize project consists of 300 plots of 675 m² each (28m x 24m), amounting to 20 hectares in total. The project is organized into five groups, each with its own committee and bank account, as described before. Four to six women share one tap with a hose pipe.

The maize project is below the vegetable garden near the confluence of the Mohlaletsi and the Olifants rivers, and therefore also vulnerable to floods.

5.2.2 *Water supply and distribution*

Water supply and the river pump site

- Water supply to the maize project is sufficient for supplementary irrigation only.
- The maize project has experienced serious problems with pumping, because of the high silt load in the river and an inappropriate choice of technology.
- The group believes that the pump should only be operated at night, when there is more water available in the Olifants river. During the night it is used to fill a very large

reservoir, from which irrigation takes place during the daytime. Due to their current serious water shortages, the pump is being operated during the daytime as well.

Technical details. A submersible pump lifts water from the Olifants river. The pump is suspended in a "no-fines sump," which is a double-walled circular filter tank, constructed of no-fines concrete and with filter material between the outer and inner walls. This sump was installed under contract just over 2 years ago, but it has already had to be cleaned out completely as a result of the heavy silt load which penetrated through the filter material and the no-fines concrete walls. The original pump was damaged completely by the silt and had to be replaced at a cost of R16,000. There are several redundant no-fines sumps in this area as they have a limited lifetime of 7-8 years. During our visit, there was no significant sediment build-up in the inner chamber of the sump, confirming that the sump had been cleaned recently. The exterior surface of the delivery pipe from the pump, which is submerged inside the sump, was covered with a layer of very fine silt, clear evidence of the hazard to the pump impellers.

Pump damage is expected to be a recurring problem unless steps are taken to protect the pump. At the very least, the no-fines sump should be cleaned out seasonally to control sediment build-up around the submersible pump. Later the pump could be replaced with a normal centrifugal pump on the riverbank and the sump could be used to house a suction pipe.

The main line supplies water via a 110-mm diameter uPVC pipeline of 1, 220-m length, to an 885-m³ Erichson dam (a very large circular reservoir constructed of precast concrete panels). It appears as if the design intended overnight pumping and storage for daytime irrigation. There are about 60 takeoffs off the main line and these are fitted with 20-mm taps. Four to six farmers share a hose pipe off each tap to irrigate their crops.

The estimated pumping head is 20 m plus a friction loss of about 12 m. The pump characteristics of the Super-D 11 kW submersible pump (model T90-04 CI wet end), are as follows, suggesting a discharge of about 40 m³/hour, or 480m³ over a 12-hour period, which would fill the Erichson dam to 54 percent.

Pressure (m)	Discharge (m ³ /hour)
55	10
50	25
45	37
40	50
35	70
30	85
25	100
20	115

According to the pump attendant, the pump should only be operated during the night, typically from 19:00 until 07:00. He seems to believe that they need "to give the pump a rest." The volume pumped into the Erichson dam was measured overnight for a period of 12 hours. This yielded a quantity of 400 m³ of water. Apparently, four taps were left open all night, which is estimated as an additional discharge of 6 m³/hour, or 72 m³, confirming the expected yield of the pump. The farmers are experiencing serious water shortages at present and in April 1999 the pump was being operated during the daytime as well.

Water distribution to the fields. The scheme reportedly worked very well in its first season (1998) and photographs of the maize crop in the fields confirm this. However, in the 1999 season, the maize project experienced serious water problems for various reasons:

- First, due to a breakdown of the pump, farmers planted very late and the pressure on the water supply system has been too much. While the pump for the maize project was removed to clean out the silt from the no-fines sump in the riverbed, water was released from the Arabie Dam without any warning, resulting in flooding of the sump. It was several weeks before the water had subsided enough that the pump could be installed again. For this reason, farmers had to postpone planting their maize until well beyond the recommended planting date, resulting in serious crop losses.

- Second, after a good start to the rainy season in October, there was no rain from November until well into February, with severe heat in December and January. Even without pumping and distribution problems, the pumping capacity is not sufficient for intensive maize production without supplementation by rain. At a theoretical 100 percent operation of 24 hours per day, 7 days per week, the pump can supply about 5 mm/day (33 mm/week) of irrigation to the 20 hectares. More realistically and according to the SA Irrigation Institute planning norm of 22 hours/day, 6 days per week, the pump can supply about 4 mm/day (26mm per week). This would be sufficient if augmented by rain (supplementary irrigation), or at low planting density, e.g., 20, 000 maize plants per hectare. It could be that the 1998 success was partly due to a good rainy season.
- Third, because of the topography, there is a significant difference in height between the upper and lower taps resulting in greater flow from the lower taps than from the upper ones. Users in the upper portion are at the mercy of users in the lower portion, and this is clearly evident this season in the growth of the maize crop. The maize crop in the upper portion was looking very poor indeed, showing clear signs of water stress. A rotational system of irrigation is required to ensure equitable water distribution between users, and there was an initiative towards such an agreement during our visit.

It could be very useful to train the users in rudimentary measuring techniques (bucket and stopwatch), as a transparent basis for such an agreement.

Some minor changes to the system could also improve the distribution problem. The supply line from the river doubles as a water distribution line. By placing a cutoff valve near the middle of this pipeline, the bottom plots could be served directly by the pump during the daytime, while at the same time the upper plots could draw their water from the Erichson dam. The dam could be filled on a Sunday and augmented every weeknight, thus making maximum use of its capacity.

In-field irrigation. There is a fourth aspect that has an important impact on the water use, namely the layout of the small basins. Each user subdivides her plot into small basins. While these small basins vary greatly in shape and size, which is very positive evidence of the individuality and autonomy of plot holders, they are in stark contrast to the regular and uniform shapes typical of externally driven and externally managed projects. The women create these

small basins to confine the water around the plants—a rational response to the water shortages they currently experience.

However, the effect of these small basins could be significantly greater if they were oriented along the contour and leveled, instead of running downhill and haphazardly, as they do at present. Training in simple leveling techniques, such as with a rudimentary A-frame, could enable the women to lay out level small basins quite independently of regular technical assistance. Such level basins can be irrigated much more quickly and efficiently, resulting in better crops and less pressure on the water supply system.

The technical interventions to solve these major and smaller water losses and leakages in both the vegetable and maize projects are simple and the women themselves can master them quite easily.

The scheduling problems that members of the maize projects face because of water scarcity, will be a test to their organizational strength. Sister Lydia is clearly not getting involved in the disputes over water, giving them an opportunity to sort themselves out. They are expected to be able to deal with it, because of their sound organization. This could be helped through simple and short-term technical assistance and training of the members in basic water measurement, irrigation principles and techniques for small basin layout for even distribution of irrigation water and efficient water use.

5.2.3 Production and benefits

The RWA initiated the maize project to improve food security by augmenting their staple requirements after satisfying their vegetable needs. The maize production was reportedly very good in the first season, but was hampered this (second) season by water supply problems, as discussed above.

The long-term sustainability of the maize project will also depend on their management of soil fertility. Salinization is not expected to be a problem, as the RWA tested the drainage over a period of 3 weeks before developing the maize project.

The output from a maize plot of 675 m² at Apél can at best be 600 kg, or 7.5 bags, which is equivalent to about 7 months' food for an average family of 6. This is equivalent to an expenditure on maize meal of about R750. The RWA member would have to spend R120 on

maintenance of the irrigation system, electricity and seed and fertilizer. Thus, through her maize production efforts she could replace R630 in expenditure on basic food.

However, production in the 1999 season is more likely at about one-third of the above, raising the question why the women don't expand their lucrative vegetable production onto the maize plots? The two main reasons are the lack of a secure market for increased vegetable production and the importance of food security through own staple production. In fact, very strict control had to be exercised initially to prevent women from growing maize in the vegetable garden, rather than the unfamiliar vegetables. The women "love to see maize growing" and exchange maize for maize meals at the local shops. Recently, the RWA purchased a grinding mill to enable the women to grind their own maize.

5.3 Costs and Financing of RWA Irrigation Projects

5.3.1 Cost calculation of vegetable and maize projects

Vegetable garden at Apél

Members' monthly contribution: R2 x 300 members = R600/month or R7,200/annum

Running cost:

Assuming pumping over a 12-month period, at an average of 90 percent of peak requirements, and servicing the monthly basic charge year-round, the running costs are as follows:

Basic charge² = R131/month x 12 months = R1,572/annum

Energy use = 90% (5kW x 14 hours x 24 days/month) = 1,680 kWh per month

Energy rate is 34.35 cents/kWh for the first 700 kWh, 19.86 cents/kWh for the balance

Energy cost = R5,220/annum

Total running cost is thus R6,792/annum, which is about R2/month over 12 months

Repair and replacement:

Replacement of the four pumps at R3,000 each every 5 years, needs approximately R200/month or about R1/month per participant.

²The basic charge is a fixed monthly charge for each point of delivery, which is payable irrespective of whether any electricity is consumed in a particular month.

Total cost compared to current contribution:

This totals to about R3/month per member, compared to the current contribution of R2/month.

Maize project at Apél

Members' monthly contribution: $R5 \times 300 \text{ members} = R1,500/\text{month}$ or $R18,000/\text{annum}$

Running cost:

Assuming pumping over a 6-month season, at an average of 70 percent of peak requirements, and servicing the monthly basic charge year-round, the running costs are as follows:

Basic charge = $R131/\text{month} \times 12 \text{ months} = R1,572/\text{annum}$

Energy use = 70% ($11\text{kW} \times 22 \text{ hours} \times 24 \text{ days/month}$) = 4,065 kWh per month

Energy rate is 34.35 cents/kWh for the first 700 kWh, 19.86 cents/kWh for the balance

Energy cost = $R5,453/\text{annum}$

Total running cost is thus $R7,027/\text{annum}$, which is $R2/\text{month}$ over 12 months, (or $R4/\text{month}$ over a 6-month growing season)

Repair and replacement:

Replacement of the pump of R16,000 every 5 years, needs approximately $R300/\text{month}$ or $R1/\text{month}$ per participant.

Salary: Pump operator/security guard:

A salary of $R600/\text{month}$ for the pump attendant needs $R2/\text{month}$ per member

Total cost compared to current contribution:

The costs and current contributions match at $R5/\text{month}$ per member, provided the contributions are kept up in the off-season. If members contribute only during the growing season, the amount should be correspondingly higher. However, if the system is used for production, in addition to the maize-growing season, the current contribution would have to be adapted to cover the additional energy costs.

5.3.2 Financial aspects and sustainability of irrigation projects

Investments costs. Members partly bear the costs of the initial investments in the vegetable and maize projects at Apél, and also in other irrigation projects. As explained above, any new irrigation group is required to collect R2,000 from its prospective members before it is accepted into the RWA. In a typical group of 50 members, this implies an average personal "joining fee" of about R40 per member. This amount is significant (8%) in relation to the current old-age pension of R500/month (received by the older members of a family), which is often the only source of income for an extended family.

The RWA, from its accumulated donor contributions, pays the balance of the amount required to establish a garden for a new group. This implies a subsidy of between about R10,000 and R50,000, depending on the infrastructure requirements of the specific project. Fencing is by far the most expensive aspect of garden establishment, and is essential to protect crops against roaming livestock.

The cost of drilling and equipping a borehole is on average R15,000, while the cost of fencing varies significantly with the size of the garden, because of the perimeter:area ratio. For instance, fencing for 0.25 hectare (50m x 50m) could be R4/m², compared to R0.50/m² for 10 hectares (400m x 250m). Fencing and a single equipped borehole for an average size garden of 2 hectares could be typically between R30,000 and R60,000.

An example of investment costs: The RWA gardening group in Mashabela pumps its water from the river. In this case, the cost of the infrastructure to get the water from the river to the food plot was quoted by the women as being R16,000. Thus, RWA has subsidized this garden with R14,000 or 87.5 percent of the infrastructure costs. However, the members' contribution of R2,000 is not a small amount for rural women, and is significant in affirming the women's sense of true ownership of the project.

Operation, maintenance and replacement costs. Member contributions vary among the different groups of the RWA and are designed to cover the operational costs, as well as a small additional amount for repair or replacement of that particular group's equipment.

In most instances, members of gardening groups pay R2 per month. This should be adequate to cover operation and maintenance costs, but appears to be inadequate to cover major repairs and replacement.

The monthly contribution on the Apél maize project is currently R5, which should cover operation, maintenance and replacement costs if the pump does not need to be replaced more often than once in 5 years.

Some groups pay more towards operational costs. In Mashabela, for instance, the running costs are greater because the pump is driven by diesel, and the women give an additional contribution every 3 to 4 months to cover the costs of the fuel.

The RWA does not pay any running costs, as this would become a constant drain on its resources and seriously jeopardize the sustainability of the groups. However, it has become evident that the amount set aside for repair and replacement is insufficient, and group members who are able to do so, as well as the RWA (from donor funds) have been topping up the groups' savings when major repairs have had to be done. There has been discussion about increasing the monthly contribution at the Apél vegetable project to R5, but this has not yet been widely accepted and implemented. According to our calculations, an increase to R3 may be an adequate adjustment, provided the pumps do not need replacement more often than once in 5 years.

The RWA also assists the groups with major repairs, while the groups pay for routine repairs from their own accounts. In the case of the Apél vegetable project, the replacement of a borehole pump may require expenditure of R2,300 and about R3,000 for a motor, depending on its size and type. Cumulatively, the RWA has contributed R14,000 (about R46/member) of donor funds to equipment repairs at the Apél vegetable project, and R16,000 (about R54/member) to the maize project.

Financial sustainability. Donors' contributions were vital, particularly in the early, catalytic stages of the RWA irrigation projects. The foregoing analysis of the development costs of a typical vegetable garden clearly shows that without an injection of resources in the beginning, the women would not have been able to start the project. The initial capital costs are too great for impoverished people to generate. Equally important is the RWA's adherence to the principle that once the initial costs are covered, the participants must be able, within their own resource capabilities, to cover the day-to-day operational and repair costs.

Major repairs and replacements again need capital injection. In this study, it was not possible to calculate whether, theoretically, replacement costs could have been financed out of the profits of irrigated production. If profits are sufficient, groups themselves can finance more easily and sustain even without donors' intervention. Anyhow, donors' support for replacement

costs, as the RWA provides now, allows the members and their families to continue to benefit from the projects.

Chapter 6

Success to Date and Beyond 2000

6.1 Success up to 1999

The members of the RWA consider their organization to be successful, both in terms of growth of the RWA to 1,500 members in just 6 years, and in terms of achieving its objectives. The primary goal was to produce food and the RWA is certainly doing this; the production of the first vegetable garden is excellent. As outsiders, the research team perceived an air of hope and a feeling of activity. The sense is that the success is only beginning, and as the women continue to use their skills productively, the changes will be exponential in the area.

What are key factors explaining the apparent success of the RWA to date? A number of success factors, strengths and weaknesses of the RWA and problems encountered emerged from the interviews with Sister Lydia, members of the CCB, ordinary members of the RWA, and other respondents mentioned during the interviews, and from observations made by the research team.

Basically, these aspects underpinning the success of the RWA can be compared to the legs of a typical African cooking pot, standing steady on its three legs, even on rough and uneven surfaces. The three legs are as follows:

- the rural women and their organizational strength (6.2)
- Sister Lydia's initiative and discipline (6.3)
- donor funding (6.4)

Finally, in section 6.5, the likely sustainability of this success is discussed, especially in the light of the departure of Sister Lydia and the RWA's preparations for that.

6.2 The Rural Women and Their Organizational Strength

The following four aspects of the philosophy and the organizational strength of the RWA strongly contributed to the success of the RWA.

Own contribution and project ownership. There are no free projects in the RWA. Their motto is:

ZERO + ZERO = NOTHING, which means you do not contribute something you will not get help.

The approach is that everyone has something to contribute and poverty is no excuse for helplessness. The contribution is both financial and in terms of sweat equity (a contribution of time and effort). Members pay a substantial amount (in their terms) towards the initial capital costs and they pay all the operation and maintenance costs. Thus, every project initiated by women of the RWA is owned and managed by the women.

The RWA stimulates members to be creative and productive and to take their own decisions. They create the success themselves and own it. The women of the RWA organize, manage, and run their organization. There is no one individual who contributes significantly more than any other. This is a key factor in the long-term sustainability of any project.

Respect for the Chiefs. The chiefs control land allocation in communal areas such as Apél. Additionally, they traditionally play an important role in the handling of conflicts and maintaining discipline in their communities; the women can approach their chief to get such help in relation to their projects as well. In our conversations with the women, they were saying, "bless our chief" almost as a stop-phrase at the end of every other sentence.

The chief fully supported an all-women initiative and helped liberate the project from men by calling several women-only meetings to enable discussion, planning, implementation, and selection of women-only project-executives.

In this case study, it was found that the role of the chief stands in contrast to a general belief in rural development circles that traditional leaders tend to be retrogressive and an obstacle to development efforts.

All-women's group. The RWA project sought only to assist women and at no point were these efforts diluted in other directions or hijacked by more powerful groups. If men were included it would have become a power struggle. Women would lose control over income. This would have jeopardized women's focus on their need to provide their families with food.

Many members of the group expressed this and there were some anecdotes to support this. For instance, the funds provided for the resource center in Apél were a source of antagonism for the men in Apél. The women feared that the money could be hijacked for other purposes. However, the chief and the women, who ensured that the funders were very clear that they supported only the RWA and its agendas, averted this.

Low administration and operational costs. The RWA spends most of the donor funds on project implementation and not on administration and operational costs. The RWA has the benefit of a fully paid project administrator or coordinator in Sister Lydia, in her capacity as a Catholic missionary. The RWA executive committee has accepted very small honoraria for their part in administering the organization. The groups have never had any funds for administration and carry out all of these activities on their own. This results in a minuscule administrative budget and expenses, resulting in more funds being available for project activities. However, this is at the same time a weakness, since the RWA is vulnerable to losing its trained officials to higher-paying jobs elsewhere.

6.3 Sister Lydia's Initiative and Discipline

Sister Lydia has played a crucial and catalytic role in the RWA in several ways. It is likely that she was in the position to provide such substantial and appropriate support, only because she lived within the community herself.

Sister Lydia's insight and commitment to encouraging the women to undertake action have been a cornerstone to the success of this project. She is at times hard on the women, expecting them to solve their own problems, rather than expecting her to think and do things on their behalf. She emphasizes that one of the most difficult barriers that poor rural people have to overcome before they take action to improve their lot, is the hope and expectation of employment. Sociologists have found the same tendency among retrenched mine workers in Lesotho. As long as people hope that they may get a job, they are less likely to start projects.

Sister Lydia, through her own admission and through those of the women in the RWA, has played an important mediation and facilitating role within the RWA. This was made possible, in

all likelihood, because of her neutral role in the community. Being an outsider makes her relatively immune to many of the social forces of the community. As mentioned throughout the report, the women in South African rural environments are disadvantaged, not only through poverty and lack of skills, but through the social organization, which traditionally expects women to be compliant and subservient. Sister Lydia, although a woman herself, could transcend these barriers as she was not a local. In this role, she was able to mediate with the chiefs in issues of importance, prevent more powerful sources from accessing the donor funding of the RWA, and mediate between the women in the group. This role was vital and essential in the apparent success of the RWA.

The administrative support provided almost exclusively by Sister Lydia until quite recently, has been an important contribution to the success of the RWA. In many cases, administrative support can erode financial contributions either by the people themselves or from donor-funding sources. Sister Lydia provided this support free of charge.

Taking this argument of free administrative support further, donor funders are unlikely to support projects financially unless they are convinced that there are administrative and financial management systems that can cope with the donor-funding support. In this case, Sister Lydia was able to demonstrate that this support, through her own contribution, was available. This was a major contribution towards the actual allocation of funds to the RWA.

So far, Sister Lydia has managed most of the donor-funding. It is true that the groups manage their own funds generated through yearly and monthly contributions, but these groups have little input into the larger donor funding grants.

Sister Lydia has not played a very public role in the development of the RWA. It is significant that many of the outsiders, who know about the RWA and its activities, hardly know about Sister Lydia.

6.4 Donor Funding

The third leg of the pot is the contribution by funding agencies. As outlined in section 5.3 this contribution is vital to start new irrigation projects and to facilitate major repairs and replacement of infrastructure. Normal running expenses, on the other hand, are covered by monthly member contributions, not by external funding, thus improving the sustainability of day-to-day operations.

The RWA has been extremely careful about the source of donor funding that it would accept. Sister Lydia has focused her attention on getting funding that is not tied in any way.

Much of this has come from Catholic organizations and even from her own parish. In some cases, offers of donor-funding were refused because they appeared to come with hidden agendas. In other words, untied funding was the objective and, thus far, the RWA has succeeded in reaching this goal.

This achievement strongly contributed to the success of the RWA. Donor funding that insists on the agenda of the donor-funding agency is likely to have a negative impact on the group. This was seen, for example, by the failed Operation Hunger project in Thusanang.³ As the RWA becomes more public, which is bound to happen in the case of good success, more donor funds will be offered. Without vigilance, the women may accept assistance that could move the organization into a direction different to their intentions and this may ultimately result in its failure.

6.5 The RWA beyond 2000

The current success of the RWA is unquestionable. However, there are considerations relating to the long- term sustainability of the RWA beyond 2000. In accordance with her church's policies, Sister Lydia will be leaving Apél for a new assignment in a year or so. Both Sister Lydia herself and the RWA have anticipated her departure for a long time.

Sister Lydia's departure means that two of the legs of the pot will proverbially be "chopped off." The future of the RWA will depend on their success in replacing those legs that Sister Lydia previously took responsibility for.

The members of the vegetable and maize projects at Apél were asked what they expected would happen after Sister Lydia had left. They were concerned about the following aspects:

- continued discipline of members in paying their monthly contributions
- continued access to donor-funding for major repairs

Sister Lydia and the executive committee are highly aware of the second concern, and the executive committee is currently undergoing intensive training to prepare it to take over all

³At Thusanang, Operation Hunger gave aid to a group of women who wanted to grow vegetables. However, no consideration was given to the need for ownership by the women of the project, as they did not contribute financially towards the cost of the project at all. This meant that much of the equipment purchased through the project was stolen, the vegetable garden failed, and once donor-funding was exhausted the project collapsed. This was quoted by the RWA as being the type of project the women wanted to avoid.

current roles of Sister Lydia. Sister Lydia has been gradually pulling herself out of decision-making roles.

The RWA recently held a week-long workshop, facilitated by Akanani, an NGO from Elim, north of Pietersburg, to look at its organizational structure. The report from the workshop is not yet available, but the important items that came out of the workshop are as follows:

- There must be a continued emphasis on self-reliance.
- The organizational structure should provide financial controls without each group losing autonomy.
- There should be an emphasis on accountability.
- The organizational structure must provide mechanisms to protect the assets of the RWA.
- Each group will have its own constitution, which will differ from one another, based on the activities of that group.

The RWA is also considering an alternative leadership and management structure for the organization. Without changing the essential structure of the RWA much from the current one (see chapter 4), this new structure should especially guarantee financial control that is sustainable by the local women and continued access to donor funds on terms and conditions set by the RWA itself.

Women's control over funds. There are strong concerns within the organization on the financial issues. Considering the important role of mediator that Sister Lydia has played within the RWA, it becomes apparent that serious disagreements could arise on allocation of funds to the various RWA activities. In the past, Sister Lydia's authority in taking these decisions was undisputed.

In discussions with Sister Lydia, she is concerned indeed for the individuals left to manage the finances of the RWA. There will be peer pressure to use the funds for other purposes than those outlined in the RWA documents. There may be attempts yet again by the men in the area to hijack the RWA finances. This would create an extremely difficult situation for the executive committee, as they are not in a position to oppose the chiefs or powerful men in the area. For these reasons, members of the executive committee have been specially trained to ready them for the responsibility of managing the funds once Sister Lydia departs. Daisy Mahlatjie,

the financial person on the executive, has undergone training in financial matters and is currently handling the majority of the RWA financial matters.

Moreover, a structure to protect the current executive committee is being considered. It is currently proposed that the CCB should form a new board, composed primarily of outsiders, from different organizations. This handpicked outside group of people would act as a new board of the organization, so as to remove the power of decision over major expenditure from the current executive committee and so protect them from pressure from within the RWA and from powerful groups within their broader community. the new board would rely heavily on advice and recommendations from the management team (the current executive committee, which will deal with everyday management issues) in making their decisions. The proposal is that this new board should have a qualified financial person, and various other disciplines from other organizations such as NGOs.

The RWA believes that an independent board, composed mainly of outsiders, will find it easier to make decisions as they are not bound in any way to the RWA members or the community. It is also believed that it protects the RWA management team, comprising all local residents, from coercion and other influences.

In addition to the board, there will be an area representative forum. It is currently proposed that this is composed of 12 people, 3 representatives from each of the 4 areas controlled by the main chiefs.

Capacity to access donors. Sister Lydia played a major and perhaps exclusive role in accessing donor-funding. As indicated above, the future sustainability of most current irrigation groups will depend on continued donor-funding in case the infrastructure breaks down and the group fails to set aside sufficient funds for replacement, or is unable to mobilize funds otherwise. For future growth of new groups and activities by the RWA, even more external funds are needed for the initial capital investments.

However, most local people have limited education and project proposal development is not a skill acquired easily. In the past, this has meant that funds donated have been relatively small amounts, in all likelihood reflecting the need for more technical and administrative input into the project proposals. Hence, the future sustainability of the third leg of the RWA pot critically depends on the extent to which the new (proposed) board can play a role in accessing donor-funding, and to which members acquire skills of proposal writing and negotiations on donor-support on their own terms.