JULY 2025 - SCIENCE BRIEF
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ASSESSING THE PERFORMANCE OF STRATEGIC PARTNERSHIP PROGRAMME FOR SMALLHOLDER IRRIGATION SCHEMES IN LIMPOPO PROVINCE AND OPPORTUNITIES FOR REVITALISATION OF AFFECTED SCHEMES

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The Government of South Africa has supported smallholder irrigation as a means to create jobs, alleviate poverty, and promote pro-poor sustainable agricultural and economic growth, while also ensuring water and food security. The Limpopo Department of Agriculture (LDA) supported this initiative by identifying potential farming areas to be developed into commercial irrigation schemes through the Revitalisation of Small Holder Irrigation Schemes Programme (RESIS). The RESIS programme supported smallholder irrigation schemes by improving agricultural productivity, improving rural development by improving rural livelihoods and enhancing food and water security. Over R150 million was spent on the RESIS programme for eleven smallholder irrigation schemes in Limpopo Province alone. However, after the revitalisation of the irrigation infrastructure, there were no significant farming activities taking place within the irrigation schemes due to farmers not having the necessary inputs and machinery, as well as skills such as marketing to operate on a commercial scale. It was for this reason that LDA adopted the strategic partnership model, which was envisaged to support the operationalisation of smallholder farms into farming commercial enterprises. However, this initiative has proven to be a nightmare for most farmers and concerned stakeholders. Although some irrigation schemes have shown significant results, others have not achieved the intended outcome and have performed poorly, while others have collapsed. During a Water Research Commission (WRC) study conducted in 2018 on the factors affecting the underperformance of small irrigation schemes, the issue of strategic partnership was encountered several times as the main cause of the failure of some of the irrigation schemes assessed. It is against this background that the need for a follow-up study was identified to determine and analyse the performance of the existing strategic partner concept of Limpopo Province.

Keywords: Irrigation schemes; strategic partnerships; food security; water policy; rural development

Introduction

The Government of South Africa supports smallholder irrigation as a means to create jobs, alleviate poverty and boost pro-poor sustainable agricultural and economic growth (DAFF, 2015). To this effect, the Limpopo Department of Agriculture (LDA) (now called Limpopo Department of Agriculture and Rural Development (LDARD)) identified potential farming areas to be developed into commercial irrigation schemes through the Revitalisation of Smallholder Irrigation Schemes (RESIS) programme (Mothapo ***et al.***, 2011). The RESIS programme was meant to address the problems of the smallholder irrigation schemes with the following specific objectives; (i) to improve agricultural productivity on the schemes; (ii) to enable the schemes to play a role in local economic development through improved incomes for beneficiaries and their households, and (iii) to improve food security and thus generally improve the livelihoods of the rural communities where the schemes are situated (Maepa, 2011). As a result, many smallholder irrigation schemes benefited from the programme through the installation of modern irrigation infrastructure such as floppy, centre pivots and drip irrigation systems in the Limpopo Province (Maepa, 2011).

Mothapo et al. (2011) noted that after the installation of the irrigation infrastructure, there were no farming activities taking place within the irrigation schemes due to farmers not having the necessary inputs and machinery, as well as skills such as marketing to operate on a commercial scale, let alone to operate the schemes. According to LDA (2005), a model that would require less support from the government was preferred as a more sustainable development alternative to operationalise the schemes. The LDA then introduced the strategic partnership programme to operationalise the smallholder irrigation schemes with the objective of commercialisation. This was to be achieved through providing smallholder farmers with assistance in farm production, skills development or empowerment, access to markets, and ensuring that quality, supply and certification requirements of markets are met, while simultaneously recognising the interests of agribusiness to secure and even expand their operations (Maepa, 2014).

The model further indicates that the incentives for the strategic partner appointed were to be in the form of profits from farming. At the same time, for the emerging farmers, it was a combination of factors. These factors included the strategic partner financing the inputs and machinery, providing farming skills, management and expertise, transferring skills and mentoring, providing access to markets and bearing all the risk.

Despite the significant opportunities and benefits that the strategic partnership programme was likely to bring, the experience on the ground showed a mixed picture. Some smallholder irrigation schemes have shown significant positive results, while others have not achieved the intended outcome and have performed poorly. For sustainable food security, poverty alleviation and livelihoods enhancement in general, it is critical that the factors causing the underperformance of the existing strategic partnership programme are systematically investigated/reviewed to propose possible targeted interventions and recommendations to remedy the situation. During a Water Research Commission (WRC) study (**Report no. TT 787/19**) conducted in 2018 on the factors affecting the underperformance of small irrigation schemes (Mathews, 2019), the issue of strategic partnership was cited several times as the leading cause of the failure of some of the smallholder irrigation schemes assessed. However, this warranted further investigation. It is against this background that another study was commissioned by the WRC to investigate the performance of the existing strategic partner programme.

Methodology

To achieve the objectives of this study, three (3) data collection tools were developed and employed, with each targeted to collect data from smallholder farmers, government officials and the strategic partner(s). A multidisciplinary project team visited all thirteen (13) smallholder irrigation schemes that were under the strategic partnership model to collect data from 3 to 24 May 2021. The smallholder irrigation schemes studied were located throughout the Limpopo Province as follows: Sekhukhune District (7), Capricorn District (2), Waterberg District (1), Mopani District (1) and Vhembe District (2). Semi-structured interviews were conducted with farmers or their representatives and government officers. Following the completion of the interview, a transect walk of the schemes was carried out, where selected features and components of the scheme were assessed and pictures taken. Such components included the soils, general crop appearance, irrigation infrastructure, pump station and power supply. For this project, the performance and success of the strategic partnership programme were measured by the number of smallholder irrigation schemes that were operational and the level of satisfaction of the farmers regarding the programme.

The strategic partnership model used in the Limpopo Province

The strategic partnership model was identified as a potential solution to the shortcomings of other models which were used for smallholder irrigation schemes that were revitalised under the RESIS programme in Limpopo Province. It involved identifying an experienced private sector partner/farmer who would enter into a joint venture with the smallholder irrigation farmers. The intention was to empower smallholder irrigation farmers through shareholding while the farming business ran successfully through the

experience and financial capability of the strategic partner (Nowata et al, 2014). The idea behind the model was that the strategic partner would bring all the elements that are lacking within the project such as capital, management skills, market access and agricultural machinery. The adoption of this model on RESIS projects, therefore, has been viewed as having the potential to halt the decline in productivity on many of the smallholder irrigation schemes (Bourblanc, 2017).

Legal structure of the strategic partnership model entity

The following principles explain the strategic partnership model as presented in Figure 1. The model was based on a tripartite alliance between the farmers on each scheme (or cluster of schemes) referred to as the '**producers'**, the LDA referred to as the '**facilitator'** and a strategic private sector partner the **'investor or strategic partner'** (Mothapo et al., 2012, Nowata, 2014).1.

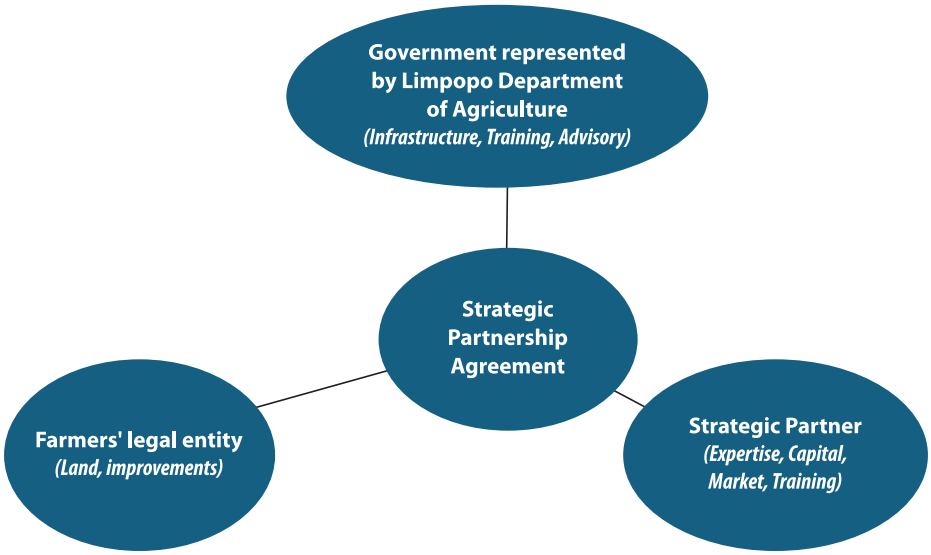

Figure 1. Strategic Partnership Model for smallholder irrigation schemes in Limpopo Province (Nowata, 2014).

- **Registration of a legal entity:** The farmers at the smallholder irrigation scheme should form a legal entity (cooperative, private company, trust, etc.).
- **The government department:** LDA, in collaboration with other government departments, handles the policy and principles, operating rules, and provision of infrastructure (irrigation system, water, roads, electricity, etc.)
- **The legal entity entering into a partnership with a Strategic Partner:** The farmers' legal entity (cooperative, private company, trust, etc.) then forms a joint venture with a private entrepreneur (Strategic Partner) who can provide and attract operational capital and entrepreneurial expertise. The entrepreneur or the strategic partner invests working capital and provides farm management skills during the joint venture/partnership period (Nowata, 2014).

The roles of the tripartite relationship

The roles of each of the members of the tripartite agreement were as outlined below (Nowata, 2014).

The government represented by LDA

The role of government as represented by the LDA was as follows:

- Institutional structure building for the sustainable management of all aspects of the schemes (infrastructure, water management, crop production, marketing and services).
- Capacity building and training in the above responsibilities.
- Providing ongoing support services in the form of extension, training and research,
- Providing support infrastructure such as roads and electricity,
- The funding of scheme infrastructure rehabilitation as a once-off grant,
- Providing a well-structured and well-resourced aftercare programme,
- A framework within which private sector partners can operate (this includes appropriate policy and operating principles and guidelines),
- The provision of access and communication infrastructure.

The role of the strategic partner

The role of private sector strategic partners was as follows:

- Provide a secure market for a selected crop, or set of crops, at prices that make production viable for producers.
- Assist farmers in acquiring production loans and loans for in-field irrigation equipment from the Land Bank.
- Provide technical advice, training and mentorship.

The role of farmers as equal partners

The role of farmers, as equal partners, was as follows:

- Supply of quality crops for marketing or processing,
- Management of their farming operations,
- Scheme management (including water management),
- Management of service providers concerning input supplies, mechanisation services, production loans and markets.

The smallholder irrigation schemes involved in the strategic partnership programme

In 2002, the LDA decided to revitalise about 126 smallholder irrigation schemes in Limpopo Province. This formed part of the strategy of the department to boost agricultural production through investment into the new or existing smallholder irrigation schemes with a potential for sustainable economic production (Bourblanc, 2017; Magidi et al., 2021).

Before the RESIS intervention, most of the smallholder irrigation farmers were using flood irrigation with the field subdivided into plots. LDA negotiated with farmers as a result, the plots of individual farmers were consolidated into larger and more economic units and irrigation systems were installed (van Koppen et al., 2018). The strategic partnership model was implemented in all revitalised smallholder irrigation schemes. The model was chosen because of several challenges. These included the fact that farmers were not skilled to operate the system, they did not have farming implements, and they also did not have the capital to meet the production costs. Hence, the government needed a model that would require lower levels of support from them (Nowata, 2014).

Several smallholder irrigation schemes that were identified for revitalisation and modern irrigation systems, such as floppy irrigation, centre pivots and drip irrigation, were installed. The strategic partnership model was introduced to capacitate, train and mentor farmers towards the commercialisation of the schemes.

The objectives of the strategic partnership model in Limpopo Province

The objectives of the strategic partnership model implemented in the smallholder irrigation schemes are summarised as follows (Bourblanc, 2017; Mothapo et al., 2012; Nowata, 2012):

- To operate the irrigation schemes as part of the project of the LDA to its optimum potential capacity, on a profitable commercial basis,
- To train the farmers and transfer the required skills to empower them to be able to operate the irrigation scheme themselves, in the long term, which includes training in the areas of finance, quality control, marketing, management, operational, technical and business administration.
- To stimulate the production of potatoes and other cash crops.
- To create for farmers a carefully managed sales outlet for potatoes and other cash crops, thereby optimizing profits for both potatoes and cash crop sales and for processing and sales of value-added products.
- To utilise the experience and expertise of an established role player in the farming industry, to the benefit of farmers.
- To ensure that a profit-sharing formula arrangement is implemented among the two parties namely, the Strategic Partner and the Farmers during the three years under the agreement; and
- To comply with the implementation of the empowerment framework of LDA.

Further, the strategic partnership model stipulated that the incentives for the appointed strategic partner would be profit sharing, where 51% of the audited net profit or loss is due to the farmers and 49% of the audited net profit or loss is due to the strategic partner. The smallholder farmers benefited from a combination of other factors, which included the strategic partner financing the inputs and machinery, providing farming skills, management and expertise, transferring skills and mentoring, providing access to markets and bearing all the risks.

The list of smallholder irrigation schemes involved in the strategic partnership in Limpopo Province

The list of smallholder irrigation schemes that were involved in the strategic partnership programme is provided in Appendix A. It shows that a total of thirteen (13) smallholder irrigation schemes were under the strategic partnership in Limpopo Province.

The status of the smallholder irrigation schemes is detailed in the sections below.

The statusof smallholder irrigation schemes involved in the strategic partnership in Limpopo Province

The list obtained from LDA (2018) shows that about 62% of

the smallholder irrigation schemes that were involved in the strategic partnership in Limpopo Province were no longer functional.

The following can be observed:

- The Mapela irrigation scheme is being used not by the smallholder farmers but by an investor appointed by Anglo-American. It is not under a strategic partnership programme.
- Tshiombo-Mbahela is reported as operational. However, the scheme is operational using the traditional furrow irrigation system, not the floppy irrigation system that was installed by LDA under the RESIS programme. Rather, the farmers have reverted to the old furrow irrigation method.
- Most of the smallholder irrigation schemes have collapsed, and some have been vandalised completely.
- A total of R170 million was spent on smallholder irrigation schemes which have not been successful.

This large-scale failure of the smallholder irrigation schemes under strategic partnership necessitates the review of the model and the whole programme. A detailed investigation and assessment of each smallholder irrigation scheme is required.

This study, therefore, attempts to find out the opinion of farmers as to why most of the revitalised irrigation schemes have failed and also document the best practices for the operationalisation of the smallholder irrigation scheme that was under the strategic partnership programme.
Despite the significant opportunities and benefits that strategic partnership programmes were likely to bring, however, evidence on the ground showed a mixed picture (Fig. 2). Some smallholder irrigation schemes showed significant positive results, while others had not achieved the intended outcome and had performed poorly. The previous WRC study (**Report no. TT 787/19**) noted that the issue of strategic partnership was cited several times as the leading cause of the failure of some of the smallholder irrigation schemes assessed. It is against this background that the follow-up study was commissioned to investigate, identify and analyse the performance of the existing strategic partner model.

AgriEng Consulting was thus appointed to carry out the study. The objectives of the study included (a) carrying out the physical assessment of the status and documenting key success factors on the performance of the strategic partnership approach of the existing smallholder irrigation scheme, (b) developing possible strategies for the revitalisation of the failed smallholder irrigation schemes, and (c) develop innovative approaches which will make the strategic partnership work to produce desired results.

Key Findings

Based on the findings of the study and the engagements with farmers and government officials through the stakeholder feedback workshop allowed for the identification of the most preferred methods that can be used in the revitalisation of the smallholder irrigation schemes that were under the strategic partnership in Limpopo Province. The preferred methods as crystallised by the stakeholders are as follows.

Figure 2. State of irrigation canals in most irrigation schemes

The preferred methods proposed by the stakeholders are as follows.

- Sub-division of the smallholder irrigation schemes into individual plots within the schemes managed by a family unit or an individual.
- Using an irrigation system (drip or sprinkler irrigation systems) that is collectively owned and managed by the farmers enables the irrigation of individual plots within the scheme. Each farmer in the scheme will irrigate as and when they want to do so.
- Leasing the farm to a private entity where smallholder farmers are not involved in the farming operations and collect rent for the use of the land.
- Farmers manage the scheme under the assistance and guidance of the agricultural advisors from LDA linked to the AgriPark Concept.
- Farmers employ a Farm Manager to manage and operationalize the scheme linked to the AgriPark Concept.
- Strategic partnership that is closely managed by LDA.

The sections to follow deal in detail with each of the above-proposed methods as models that can be used in the revitalization of the smallholder irrigation schemes that were under the strategic partnership in Limpopo.

Model 1: Sub-division of farms into plots

Smallholder farming and plot sizes: worldwide review

Agricultural economists and other development specialists generally agree that investing in agriculture is an effective strategy for reducing poverty, inequality and hunger, especially in countries where the sector employs a large share of the population (Lowder et al., 2016). There is considerable debate regarding what type or scale of agriculture should be promoted in order to most effectively achieve these goals (Ortmann, 2007). Many advocates emphasise the importance of 'smallholder farming' or 'family farming', with claims often made that smallholder or family farms are responsible for a large share of the world's food production or that a large share of the food consumed in Africa and Asia is produced by smallholders in those regions (Nhamo et al., 2019). The terms smallholder and family farm are often used interchangeably or in combination without clear definitions. Lack of clarity regarding terminology, as well as the basic composition and diversity of the agricultural sector, is a serious barrier to effective policy dialogue.

Lowder et al. (2016) showed that there are more than 570 million farms worldwide, most of which are small and family-operated. It shows that small farms (less than 2 ha) operate about 12% and family farms about 75% of the world's agricultural land. Rapsomanikis (2015) indicated that in China, nearly 98% of farmers cultivate farms smaller than 2 ha – the country alone accounts for almost half the world's small farms. In India, about 80% of farmers are small. In Ethiopia and Egypt, farms smaller than 2 ha constitute nearly 90% of the total number of farms. In Mexico, 50% of the farms are small; in Brazil, smallholders make up 20% of the total number of farmers. In Tanzania, a country where agriculture contributes to 28% of the GDP and 73% of the population lives in the rural areas, there are about 3.7 million smallholdings (those smaller than the middle-size farm threshold of 2.2 hectares), which make up for 80% of total farms (Figure 1.2). Furthermore, Rapsomanikis (2015), smallholder families live on farms which in many countries are significantly smaller than 2 ha. The average size of a smallholder farm in Bangladesh and Vietnam is 0.24 and 0.32 hectares, respectively. In Africa, smallholder farms can be relatively larger, but only marginally. Kenyan smallholders farm 0.47 hectares, and in Ethiopia, the average small farm size is 0.9 hectares. In Latin American countries, smallholder farms often tend to be over 2 hectares, as in Nicaragua, where the average small farm size is 5 hectares. But this is not always the case. In the Plurinational State of Bolivia, small farmers cultivate on average 0.89 hectares.

The average farm sizes hide significant productivity differences across countries. These differences arise due to soil quality, technologies used at the time, type of farming enterprise (livestock farming, maize or wheat farming, vegetable farming, etc.), and productive assets, such as irrigation.

Subdivision of farms into family-managed plots

South African agriculture has the appearance of being sophisticated and highly successful. A closer look at the present structure and performance of South Africa's agricultural sector, however, reveals that despite the appearance of efficiency, the sector has followed a pattern of growth that is far from normal. Although agriculture is generally characterized by constant returns to scale and an inverse relation between farm size and productivity, the sector is dominated by relatively large farms that are owned and operated by a comparatively small number of individuals. International evidence indicates that a large-scale mechanized farm sector is generally inefficient, especially when compared to small-scale family-type farm models. Although there may exist very real economies of scale, they are mostly 'false' because they are usually the result of policies that favour larger farms over small farms.

Obi and Ayodeji (2020) concluded that while farm size was a key determinant of economic efficiency in maize production, its effect on technical efficiency was still contested. Their findings suggested that farmer support should be prioritized, and the government's efforts to make farmers more productive should emphasise gender equity and optimal use of land.

Importance of skilled and experienced agricultural extension workers

Since time immemorial, agriculture has been and continues to be the mainstay of rural economies in sub-Saharan Africa and throughout the developing world. Agriculture in South Africa is one of the priority sectors and is considered a key engine for economic growth, sustainable development and self-sufficiency (DAFF, 2015). It aims to increase food security and reduce poverty by supporting the efforts of smallholder farmers at the household level in rural areas where the economy is largely agro-based. Smallholder farmers are important drivers of the agriculture sector in these areas as they grow most of the food. These farmers, who are endowed with limited resources, have become the mainstay of food supply for millions of people in South Africa, and this situation is likely to persist for several years. The long-term goals of the agricultural sector in South Africa are to improve food security and reduce poverty by supporting the efforts of smallholders to increase agricultural productivity. Despite all the government's efforts and well-intended policies, there is ample evidence that there has been very little progress and productivity of subsistence farmers in South Africa.

According to Abdu-Raheem and Worth (2011), one avenue towards realising this is through smallholder agriculture, which can be fostered through appropriate agricultural extension, education and training (Raidimi and Kabiti, 2019). The findings of the study carried out by Raidimi and Kabiti (2019) revealed that agricultural extension can contribute to sustainable food security through knowledge dissemination to farmers for informed decision-making. However, for the extension personnel to be better equipped for knowledge dissemination and to realise the goal of sustainable food security, sustained agricultural extension human resource development through investment in education is a prerequisite.

In a study carried out in Ghana, Danso-Abbeam et al. (2018), reaffirmed the critical role of extension programmes in enhancing farm productivity and household income. It is, therefore, recommended that agricultural extension service delivery should be boosted through timely recruitment, periodic training of agents and provision of adequate logistics.

Agricultural extension (also known as agricultural advisory services) plays a crucial role, which may include some of the following (Zwane, 2012):

- Boosting agricultural productivity, particularly for smallholder farmers,
- Increasing food security,
- Improving rural livelihoods, and
- Promoting agriculture as an engine of pro-poor economic growth.
- Promote and facilitate innovation and adoption of best farming practices
- Strengthen the business and technical skills of smallholder farmers to increase the quality and quantity of their farm products,
- Facilitates the adoption and use of best technologies in agriculture,
- Increase farmers' and agro-dealers' awareness of market opportunities, helping to link them to existing market channels

Extension provides a critical support service for rural producers meeting the new challenges confronting agriculture: transformation in the global food and agricultural system, including the rise of supermarkets and the growing importance of standards, labels, and food safety; growth in nonfarm rural employment and agribusiness; constraints imposed by HIV/AIDS and other health challenges that affect rural livelihoods; and the deterioration of the natural resource base and climate change.

It therefore shows that with adequate help from the Agricultural Advisory Services, smallholder irrigation farmers can improve their productivity.

Schemes managed by farmers using individual plots

The model requires the scheme to be divided into individual plots within the scheme, owned and managed by individual farmers or families. The individual farmer or family will decide on the crops to grow, marketing, and other farming operations in their plots without disturbing the farming operations of other farmers in the scheme. To ensure the organisation of the farmers in the scheme, the farmers will form and register a cooperative or an entity. A representative management committee consisting of farmers will be formed to run the affairs of the scheme with clear terms. The management committee will run the farm or other business on the land on behalf of all the farmers and deal with conflicts between farmers in the scheme. The committee will also consist of the agricultural advisor, who will advise on various activities of the scheme. The agricultural advisor will be allowed to advise individual plot farmers based on the invitation of the committee and schedule. The roles of the management committee, farmer and agricultural advisor are outlined below.

The role of the management committee:

- The elected management committee should at least have knowledge or experience with project management.
- The management committee elected will manage issues that are of common interest, such as irrigation scheduling, payment of electricity bills and other services.
- The management committee can also facilitate common marketing and transportation of production inputs and farm produce. This will take advantage of the economies of scale.
- The management committee will keep a record of all

meetings and farm records
- The management committee will resolve all disagreements between members.

The role of the farmers
- The farmers farm and operate their plots independently.
- The individual farmers will be responsible for the risk management of his/her plot, not excluding the whole irrigation scheme.
- The farmers will make their own decisions in terms of the crop to grow.
- The farmers will be responsible for the marketing of their crops and transporting the produce.
- The farmers will be responsible for managing the irrigation infrastructure in their plots.
- The farmers will make contributions for the payment of the water and electricity bills.

The role of LDA
- The LDA, through its district officials, will play an oversight role in the formation and registration of the cooperative, the creation of the specific project constitution and supervise the implementation
- The LDA will support to revitalisation of the schemes once more, where the infrastructure will be revived.
- The LDA will advise on the selection of the preferred irrigation system to be used by farmers to cater for the individual plots
- The LDA will provide experienced Agricultural Advisory Officers who will be assigned to each scheme to offer immediate assistance and guidance.
- LDA will be available to assist with marketing and transporting
- LDA will offer regular courses in marketing, farm and financial management

Model 2: The use of a general farm manager

The irrigation scheme will establish an operating entity that will be wholly owned by farmers. The farmers will be responsible for all operational and capital expenditure on the farm. The general farm manager or mentor will be responsible for all the management and operations of the farm. Furthermore, the general farm manager will earn a percentage of the farm profits as a commission. The general farm manager will sign a management/mentorship contract with the operating company, which will serve as a service-level agreement. The contract should outline the service that the general farm manager is supposed to render to the operating company.

In all cases, skills transfer to the farmers should be a priority to prepare the landowners to take over operations at an appropriate time. This is the reason why there should be a mentee or shadow manager during the term of the general farm manager. The farmers are encouraged to embrace corporate governance principles in managing their farm business. The operating entity will then establish a Board of Directors. The general farm manager will report to the board regularly. The general farm manager, with the approval of the board, will appoint sectional managers, supervisors/ foremen and general workers. To ensure proper governance and accountability, the board may establish sub-committees such as HR, audit and remuneration committees. Whilst the employment of a general farm manager can overcome the challenges of joint decision-making and address the lack of experience found in collectives, they also do not guarantee success owing to insufficient capital to operate, maintain and expand the business; the inability of the general farm manager to raise the funds needed for investment and operating capital. Without the required capital, farmers become disappointed owing to the absence of results and suspicious of the management agent/general manager/ mentor.

Advantages of this model
- Farmers own 100% of the company and all the dividends accrue to the farmers.
- Farmers, through representation on the board, will influence the affairs of the company.
- The general farm manager will bring and transfer technical/production management skills into the farm operations.
- The general farm manager brings and transfers financial management skills into the farm operations.
- The general farm manager brings and transfers personnel management skills into the farm operations.
- The general farm manager brings and transfers marketing and marketing management skills into the farm operations.
- The opportunity to obtain third-party financing due to well-managed farming operations.
- The fact that the manager earns a percentage of the farm turnover as commission will be an incentive for the manager, knowing that if there is no farm income, then his total package will be affected.
- The general farm manager may use his asset base to secure third-party finance (loans/overdrafts) on behalf of the operating company. The loans/overdrafts will be repaid by the operating company. An incentive of this risk-sharing regime is that the manager/management agent/mentor will work hard for the farm to make a profit in order for the loan to be repaid, because his/her name is at stake with the financier.

Disadvantages
- Farmers tend to depend on government funding programmes for their farm business operations. Government funding may not be available as and when required
- Farmers may not have a sufficient asset base to attract external funding/overdraft
- The temptations by farmers to interfere with the good plans of the farm manager/management agent/mentor

The role of the general farm manager

- The day-to-day running of the farm operations
- The preparation of detailed annual budgets and draft five-year business plans for approval by the Board for the first financial year, as well as before the start of the second financial year
- Submission of quarterly progress reports for Board meetings
- Submission of monthly management reports
- The supervision and maintenance of adequate records and books of account by the company.
- The provision to the shareholders of the audited annual financial statements for the company.
- The reconciliation of the company's debtors and creditors.
- The administration of personnel includes, but is not limited to, appointments, promotions and training.
- The arranging of meetings of office bearers and committees of the company and the keeping of minutes at such meetings.
- The mediation and resolution of labour disputes.
- The training of employees and particularly the training and education of beneficiaries of the CPA so that the said beneficiaries will be able to take a role in the management of the company in the future.
- Development of strategic plans for submission to the Board, including new expansions.
- Implementation of strategic plans as approved by the Board.
- Negotiations of contracts with major clients.
- Negotiation and establishment of marketing opportunities.
- The development of new marketing materials, forms and stationery.
- Detailed planning and implementation of the Project.
- Advice and assistance in implementing the best practices in the agricultural industry.

Model 3: Leasing out the farm

This is where the farmers engage a private entity, where the farm is leased out. The farmers will have given up trying to run the farm or the business on their own and see the farm degrade. The lease agreement is an attempt to stop the non-operation and degradation of the farms, retain jobs and get an income. This option is, therefore, applicable when farmers decide to rent out land to get rental income when they have been unable to produce other forms of income from the land. Other reasons may be that farmers are still sorting themselves out financially as well as setting up appropriate management structures for the farm business operation.

This option entitles farmers to benefit from their land only through lease and, in some cases, through employment, where the lease contract should specify this condition. Straight lease options can be negotiated to include issues such as skills transfer and a percentage of turnover/profit that should accrue to farmers. But normally, straight lease is just as its name says. The lessee leases the farm from the private entity for a specified period under agreed terms and conditions, during which the owner vacates the land and the lessee farms for his/her account.

Although lease agreements present important opportunities for smallholder irrigation farmers in Limpopo Province, the following challenges should be managed:

- Leasing the farm does not, on its own, produce new investment required to develop land belonging to farmers.
- It will be difficult for farmers to determine whether the lease fee is too low or the lease period is too long. As a result, farmers may become suspicious as to whether a fair arrangement has been struck.
- A simple lessor/lessee arrangement does not improve the capacity of farmers to manage their property over time.
- If the business does not prosper, the lessee may struggle to pay the rent owed to farmers (alternatively, if the business does prosper, farmers may feel that they are not getting a fair share of the benefits.

There may be cases where farmers would want to lease part of their farms and utilise the other part for their purposes. The purpose of this arrangement is for farmers to get rental income on part of the leased land and use the money so obtained to fund activities on their operations. The lease arrangement may, for instance, stipulate that 70% of the land is leased and 30% is used by farmers. In this case, the condition in the lease may reflect that the lessee on 70% of the land should play a mentorship role to farmers to prepare them for a gradual takeover of the other land leased. The following can be used as an example:

Suggested lease arrangement for smallholder irrigation scheme farmers in Limpopo Province.

Table 1. Suggested lease agreements for smallholder irrigation schemes

Period	Portion of the farm leased out	
	Farmers	Lessor
Year 1	30%	70%
Year 2	40%	60%
Year 3	50%	50%
Year 4	70%	30%
Year 5	100%	0%

The lease contract should stipulate that throughout the gradual takeover by the farmers, the lessee should continue to provide mentorship to farmers on additional land shifted to the farmers. There might, however, be a point during the takeover, where the lessee may be compensated for management provided, depending on the number of efforts put into the business of farmers, say, when a 50%-50% point

has been reached.

Advantages

- Farmers are certain of a monthly income in the form of rent (risk-free or low-risk income stream)
- Farmers are not 100% exposed to the risks associated with farming.
- Farmers will have an opportunity to acquire the necessary equipment and machinery that they will require once the farm comes back to them.
- No external support from the government will be required.
- If carried out correctly, there will be enough skills transferred to enable the farmers to successfully run the farm after a takeover.

Disadvantages

- Farmers may not fully enjoy the benefit of receiving financial returns associated with farming turnover. However, this may be addressed by a percentage of turnover that should be incorporated in the lease agreement.
- Farmers may not be involved in the day-to-day management of farming operations on the farm and thereby delaying the process of skills acquisition. This may be addressed by an element of skills transfer that should be incorporated in the lease agreement.

Opportunities for the revitalisation of affected smallholder irrigation schemes

After the engagement with relevant stakeholders in the Stakeholders Feedback workshop where the outcomes of the study were presented, the following three (3) possible interventions or models and opportunities for the revitalisation of the smallholder irrigation schemes have been crystalised as presented in the table below.

Table 2. Proposed models for the revitalisation of the smallholder irrigation schemes.

Proposed model	Model description	Plan
Model 1	Farmer-managed schemes using individual plots and assisted by Extension Officers	Divide the schemes into individual plots, at least 2 ha in size Revitalisation of the irrigation infrastructure using either drip or sprinkler irrigation (quick coupling), installing individual control valves and a flow meter for each plot Formation of a cooperative or an entity Formation of the management committee Assign experienced and dedicated Agricultural Advisors to each scheme to offer day-to-day assistance on crop production, scheme governance, marketing, sourcing of production inputs, and conservation measures. LDA district office to play an overall supervision and administrative role
Model 2	Lease Agreement	Revitalisation of the irrigation infrastructure using a suitable irrigation method for the selected crop Formation of a cooperative or an entity Formation of the management committee Identification and appointment of the lessor in collaboration with the benefitting farmers The LDA is to develop a lease agreement in consultation with the farmers The lease agreement must not be more than five (5) years and must provide clear terms of skills transfer with a percentage cessation programme from the lessor to the farmers
Model 3	Farmer-managed schemes with the assistance of a Farm Manager	Revitalisation of the irrigation infrastructure using a suitable irrigation method for the selected crop Formation of a cooperative or entity, or an operating company Formation of the management committee Appointment of a general farm manager or mentor The general farm manager will sign a contract with the operating company, which will serve as a service-level agreement. The general farm manager or mentor will be responsible for all the management and operations of the farm for a salary. Furthermore, the General Farm Manager will earn a percentage of the farm profits. The contract should outline the service that the general farm manager is supposed to render to the operating company.

Conclusions

The following conclusions were made from this study:

- The Strategic Partnership programme for smallholder irrigation schemes in Limpopo Province was unsuccessful,
- All the smallholder irrigation schemes that were involved in the Strategic Partnership programme are not functional.
- The Limpopo Provincial government invested a lot of funds into these projects, and there is a need for a new strategy to be developed that will make the irrigation schemes operational.
- The cooperative approach, where all farmers must work together on the farm, is not ideal; the plot per family approach must be utilised.
- The floppy or centre pivot irrigation system is not suitable for smallholder irrigation farmers of Limpopo Province.
- The smallholder irrigation schemes that were involved in the strategic partnership programme have failed and can be revitalised.
- Three (3) models were identified which can be used for the revitalisation of the smallholder irrigation schemes, namely the subdivision of schemes into smaller units, lease agreements, and mentor
- The cooperative approach, where all farmers must work together on the farm, is not ideal; the plot per family approach is the most preferred by farmers.
- The floppy or centre pivot irrigation system is not suitable for smallholder irrigation farmers in Limpopo Province.

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