

AGRICULTURAL DEVELOPMENT IN BOPHUTHATSWANA

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At the official opening of Bophuthatswana's first grain silo complex on 23 May 1980, His Excellency President L M Mangope said: "Agricultural development is and will remain, the corner-stone of economic development in this country. It provides a strategy through which economic development can be closely integrated with community development. It provides the means whereby the greatest portion of the population can enjoy meaningful participation in our economic growth."

This statement is symbolic of the dynamic approach towards agricultural development that has characterised Bophuthatswana's first years of independence. Whilst increasing populations and decreasing food production in many areas have led to the cry that "Africa is dying", this young country has set an example to the third world in many respects:

- At the present rate of expansion the country should be self-sufficient in maize production on a continual base within the next year or two. Total production has increased by 1000% over the past decade.
- There are several individual Tswana farmers producing more than 10 000 tons of grain annually.
- Several large co-operative production schemes involving hundreds of farmers have been launched in recent years. The fact that these schemes have been successful in spite of stringent economic norms applied in their establishment bodes well for the future.
- Grain storage capacity has increased from 30 000 tons to 186 000 tons over the past three years.
- Livestock farmers are marketing at least 10% of their total livestock numbers annually.

Agricultural potential of Bophuthatswana

Van Schoor (1977) made the following assessment of the physical potential of the country:

Area suitable for extensive livestock production:	1 804 110 ha
Area suitable for production of fodder crops and artificial pastures:	1 710 116 ha
Area suitable for dry land cash crop production:	471 299 ha
TOTAL:	3 985 525 ha

It should be noted that in this study the black Arcadia soils of the eastern districts have not been included as suitable for crop production. An estimated 100 000 ha of these soils, which are suitable for the production of summer wheat and sunflower, are available. If these soils are included, the total area available for crop production comes to about 570 000 ha. It has been calculated that between 400 000 and 450 000 ha of potential arable land can eventually be brought into production. Of this area about 80 000 ha has been under cultivation during 1978/79.

The Department of Agriculture (1979) estimates the average carrying capacity of the grazing areas at 7 ha per large stock unit. According to such a stocking rate approximately 550 000 large stock units can be accommodated. If small stock and ungulate numbers are converted to large stock units, the latest official figure amounts to 746 000 large stock units. This indicates a situation of severe overgrazing. Physical planning has been executed in only about 40% of the grazing areas. Where this has been done the stocking rates are more in line with the ideal.

Lying in the drier western areas of the subcontinent and having only a few perennial streams, the irrigation potential of the country is extremely limited and is at present estimated at not more than 6 000 ha. Of this area about 4 000 ha is concentrated in the Taung scheme.

Present production and consumption

The present levels of production and estimated levels of consumption of some of the major agricultural commodities are given in Table 1.

TABLE 1: Production and consumption of agricultural products in Bophuthatswana

Product	Estimated Production 1981 tons	Estimated Consumption 1981 tons	% Produced Locally
Maize	100 000	108 000	92,6
Wheat	12 000	54 000	22,2
Vegetables	Negligible	192 000	—
Red Meat	6 000	14 500	41,4
Poultry	Negligible	2 400	—
Fresh milk	1 100	5 400	20,1

University of South Africa: Bureau for Market Research, 1977 Department of Agriculture, 1979.

Limiting factors in agricultural development

The System of land tenure:

The communal system of land tenure within the tribal context has often been blamed as the main obstacle in the way of agricultural upliftment in African countries. In Bophuthatswana the communal system of land tenure *per se* has not been proven to be the major cause for agricultural failure. We have in our area many farms, in private ownership, and the agricultural performance on these lands has shown no marked improvement compared to the tribal areas. That this system incorporates a number of inherent weaknesses cannot be denied. The answer must not be sought in the abolishment of the system but rather in ways and means to direct the development of this system in such a manner as to provide for the demands of a modern agricultural approach. (Molathwa, 1974).

Communal responsibility:

The individual within the tribe is usually not held responsible for physical improvements, eg fences, watering points, etc, and furthermore, matters such as soil conservation and planning are also regarded as matters for which the tribal authority rather than the individual is held responsible.

Obviously, this state of affairs often leads to a shirking of responsibility by the individual on matters which must have a direct influence on his farming activities.

Absence of sense of value regarding land:

Traditionally, the Tswana regards the acquisition of the agricultural use of land as a right to which every married man is entitled. No form of payment for the use of land has ever been brought into this system and, subsequently land is seldom seen as an economic production factor which has to be used optimally in order to ensure success.

Non-differentiation between farmers and non farmers:

A very small portion of the economically active male population of Bophuthatswana makes a full-time living from agriculture. The reason for this situation can be found in the fact that land units are relatively small and in most cases the farmer has the option of selling his labour in nearby industrial or mining areas.

The man thus employed in other sectors does not, however, relinquish his farming rights in the rural areas. Because these rights are usually obtained free, it is common practise that although he is productively employed elsewhere for the major part of the year, he will keep a "part-time" farming enterprise going in the rural areas. This obviously leads to neglect and under-utilization of valuable agricultural resources.

Tribal tradition regarding agricultural practices:

Some old tribal traditions in the field of agriculture had a definite retarding influence on the acceptance of modern agricultural practices. There is, however, amongst the Tswana people a definite indication that in recent times the negative aspects of tribal tradition are becoming less important and in many instances even negligible. This must not so much be attributed to a process of detribalisation as to the fact that the tribal authorities are in many cases adopting an enlightened approach to modern agricultural practices.

A negative attitude towards agriculture:

Agriculture in the less-developed areas is today often associated with an image of poverty, hardship, subsistence economy, "dirty work", and of very little scope for real progress. This poor image has in many instances caused the status of agriculture and the status of those involved in it, to be extremely low — especially in the eyes of the younger generation.

There are indications that the successful ventures in agriculture during recent years, may change this negative attitude gradually.

Availability of production inputs

Farm requisites:

The physical availability of farm requisites such as fertilizer, seed, farm chemicals and supporting services has never been a serious problem in Bophuthatswana. Due to the scattered geographical situation of the country, most of the farming areas border on well developed farming areas in the RSA. Bophuthatswana is in the unique position of bordering on the operational areas of twelve RSA farming co-operatives. The facilities of these organisations have always been at the disposal of the Tswana farmer and for many years they

have rendered invaluable service to agriculture in Bophuthatswana.

In recent years 70 primary (production) co-operatives and 2 secondary co-operatives, which render more sophisticated services to their members, have been established throughout the country. As these co-operatives develop, the dependence on RSA sources of supply will gradually become less.

Capital

Until recently Bophuthatswana experienced a serious shortage of investment capital in the agricultural sector. Through a number of factors this situation has improved dramatically during the past year. These factors are:

- The Bophuthatswana Government has taken a policy decision that agriculture would be given the highest development priority. This is now reflected in the allocations from the government budget. For the 1980/81 financial year R14 million has been earmarked for agriculture.
- A Land Bank is to be established soon with an initial capital of R10 million.
- A sum of R7,5 million has been made available to the Agricultural Marketing Board for the purchase of agricultural products in 1980/81. An amount in the vicinity of R20 million will probably be needed for this purpose during 1981/82.
- Loan funds at reasonable rates of interest have become available through the RSA Department of Foreign Affairs' scheme of Project Aid. This type of loan will in all probability in future be channelled through the proposed Development Bank for Southern Africa.
- The Agricultural Development Corporation of Bophuthatswana (Agricor) negotiated loans totalling R12,5 million from the Corporation for Economic Development of the RSA during 1980/81.
- Probably as a result of the financial success of the various co-operative agricultural projects and the sound credit record established over the past few years, several financial institutions and also suppliers of farm requisites have offered credit facilities amounting to millions of rands for agricultural development through Agricor. The interest rate on this type of financing tends to be rather high for the pioneering type of development presently undertaken. If Government subsidies of the interest rate, which could bring it down to a realistic 5-6% effective rate for the farmer, can be obtained, this source of finance could have a meaningful impact.

In view of the foregoing facts, it may be realistically expected that an annual investment of R20 to R25 million in productive development projects can be realised for the present and near future. At this rate a reasonable utilisation of the agricultural potential may be expected to be achieved in about 20 years.

Development policy and projects

The stated policy of the Bophuthatswana Government is that the full agricultural potential of the country be developed as soon as possible with the maximum involvement of the local communities. The Department of Agriculture has the tremendous task of protecting the natural agricultural resources of the country through its

efforts in the field of basic physical planning. Furthermore, through its extension service, the Department reaches the farming community — the aims being the dissemination of modern knowledge and techniques as well as stimulating community development projects with an agricultural basis.

Agricor, on the other hand concentrates on the more commercially orientated projects. Although the emphasis remains on the assistance and upliftment of the individual farmer, the general policy is to structure these developments within a co-operative framework. (Beuster, 1980) Examples of recent development projects are:

Corporation Projects

Mass grain handling facilities

In view of the rapidly expanding grain production schemes in Ditsobotla, it became a matter of urgency to provide sufficient storage facilities. During 1979 an 50 000 ton silo complex for the storage of maize was completed and brought into operation at Vryhof on the Mafikeng-Vryburg railway line at a cost of R2,25 million. A 70 000 ton facility is at present under construction at Kraaipan approximately 40 km south of Vryhof.

Taung commercial irrigation project

This 230 ha irrigation project was originally developed by the CED and subsequently transferred to Agricor. Cotton, wheat, groundnuts and maize are produced under sprinkler irrigation. Plans are in hand to sub-divide this project into 10 ha units which will be allocated to selected Tswana farmers in the near future.

Cattle marketing projects

Two cattle marketing projects initiated by the CED are in operation in the western and eastern districts of the country. Buyers attend all cattle auctions in Bophuthatswana and provide supporting prices based on present market prices in the RSA. Cattle thus bought are taken to holding grounds and marketed in an orderly manner.

Rooigrond Piggery

A modern 200 sow commercial pig production unit is in operation at Rooigrond in the Molopo district.

Kumiso ya Maswi Dairy Project

This project was developed with the aim of providing fresh milk to the urban areas of Ga-Rankuwa and Mabopane. The central unit has modern facilities and is run as a commercial project.

Mankwe-Madikwe Summer Wheat Project

A 2 400 ha commercial project for the production of summer wheat has been developed on the black Arcadia soils in the districts of Mankwe and Madikwe. Every year an area of 600 ha is handed over to individual Tswana farmers in units of 100 ha each and a new area of similar size is cleared of bush and developed for the central project.

Joint Commercial Ventures

As part of the development of the cattle industry, Agricor joined forces with private enterprise in the formation of two meat wholesale and processing operations on a 50:50 basis.

The one company, situated in Mmabatho, operates a

modern abattoir and processing plant. It supplies meat to the Mmabatho/Mafikeng area as well as specially matured meat and processed meat to the rapidly expanding hotel and tourism industry at Pilanesberg.

The other company supplies the big platinum mines in Bafokeng and the surrounding RSA areas with meat and related products. A wholesale and cold storage operation in Ga-Rankuwa is presently under construction to cater for the needs of the densely populated eastern districts.

Co-operative Production Projects

Co-operative farming projects form the major component in the development actions undertaken by Agricor. The Moshav system, as practised in Israel, had a considerable influence on the type of co-operative model which was devised for Bophuthatswana. It would be wrong to state that the co-operative projects are based purely on the Moshav system. Many aspects of the Moshav, with the necessary local adaptation, were however, used.

The main guidelines applicable to such schemes are the following:-

- Proper physical planning, including detailed soil surveys, are undertaken.
- A production plan, aimed at optimal use of the natural resources, is drawn up.
- Farmers who had land rights before the introduction of the scheme also receive rights under the new scheme — where possible larger, more viable allocations are made. (Except - the Bakwena ba Mogopa Scheme)
- Each farmer operates his own piece of land for his own profit.
- All farmers agreeing to follow the new concept become members of a primary (production) co-operative.
- A Management Committee is elected from the members of the Co-op. This committee decides on all matters affecting the co-op, eg type of production, loans to members, services to be rendered to members, etc.
- Loans for production requirements, eg seed, fertiliser, etc, are provided to individual farmers in the form of a "package deal" covering all requirements. The farmer, as part of the loan transaction, agrees to follow a prescribed production programme. This programme is approved by the management committee and it is also their responsibility to see that the programme is strictly adhered to.
- In cases where land allocations are too small to justify each farmer having his own tractor and implements, a system of contractors is used. Selected members of the co-op are given loans to purchase a full range of implements. It is a condition of this loan that they provide mechanical services to their neighbours who do not own implements themselves. These services are rendered at previously agreed upon tariffs.
- Certain services, eg spraying, mechanical harvesting, can be rendered by the Co-op to its members.
- The services of a production manager who can co-ordinate all the activities of the Co-op is essential to ensure success. At the moment use is being made of outside agents to undertake this task. Training of local production managers has been started and it is hoped that in the near future each co-operative will

be in a position to employ its own manager.

- The marketing of all products through the Co-operative is essential. In fact, under the Co-operative Act it is illegal for a member to market his products in any way but through the Co-op. In this way the Co-op is in a position to recover its loans to the member before paying out the balance which represents the profits of the farmer.

In the implementation of these schemes, Agricor undertakes to do the physical planning (including intensive soil surveys), the production planning, the financing of the scheme, the provision of management — both technical and administrative — for an agreed upon period.

Examples of such schemes which are already in operation are:-

- *The Shiela/Verdwaal Maize Production Project.*
This project, in the Ditsobotla district, was started in 1976 and was initially financed by the Noordwestelike Co-operative of Lichtenburg, who still act as managing agents on behalf of Agricor on the project. Initial problems with the fertility of the soil have since been overcome and bumper crops were harvested during the past two seasons. After four years practically all loans made in respect of tractors and implements have been repaid. Plans are now in hand to diversify production by incorporating the animal factor into the scheme.
Table 2 reflects the progress made on the Shiela/Verdwaal Project since its inception in 1976:- Noordwestelike Co-operative is presently also managing the adjacent *Akanyang Scheme* which involves 129 farmers on 1366 hectares.
- *The Mooifontein Maize Production Project*
This project, planned along the same lines as the Shiela/Verdwaal project, expanded from 1790 ha involving 79 farmers in 1977/78 to 13 290 ha involving 696 farmers in 1979/80. Currently the project is being enlarged by a further 5 000 ha. At Mooifontein Agricor

has appointed the CED as management agents. They also render administrative services in respect of the management of the Ditsobotla Secondary Co-operative which is situated at Mooifontein.

- *The Bakwena-ba-Mogopa Project*
This project is unique in the sense that it is the first and so far the only project development on tribally-owned land. Another outstanding feature of the project is the fact that this tribe struggled with the traditional problem of communal land tenure for many years and has now come forward with a solution which must be unique in Africa. They were confronted with the situation of sub-economic land allocations having been made to virtually every family in the tribe and, probably as a result of the very sub-economic size of the plots, most of the land was unused and neglected. A tribal resolution was passed whereby all traditional rights to cultivated lands were withdrawn as from a certain date. Applications were invited from tribal members who were willing to undertake farming as a full-time occupation and after careful selection 24 farmers were each allocated an economic unit of 100 ha. These farmers will pay an annual rental to the tribe and the income thus generated will be used for community projects.
Summer wheat and sunflower are planned as the main crops for this project. The tribe is at present considering the possibility also of changing the traditional cattle farming to a co-operative production scheme where a uniform breeding, management and marketing programme will be followed.
- *The Taung Irrigation Scheme*
The Taung scheme is the only major irrigation scheme in Bophuthatswana and comprises about 3500 ha. It was started in the early 1940's and subsequently the physical condition of the scheme — especially concerning drainage and salination of the soils — has deteriorated to such an extent that some portions had to be abandoned.
Agricor was initially involved only in the re-development of an area of 330 ha under a sophisticated (centre pivot) overhead irrigation

TABLE 2: Statistics of the Shiela/Verdwaal project

	YEAR			
	1976/7	1977/8	1978/9	1979/80
Area (ha)	3 426	3 621	3 635	3 726
No of farmers	197	197	197	197
Total production (t)	5 823	6 573	9 366	12 109,5
Yield (t/ha)	1,68	1,82	2,63	3,25
Gross income (R)	431 291	510 768	963 600	1 550 259
Production costs (R)	265 825	402 725	558 400	757 262
Other costs (R)	98 293	108 688	133 667	138 684
Total costs (R)	364 118	511 413	692 067	895 946
Gross margin (R)	165 466	108 043	405 200	792 997
Total Net Income (R)	67 173	(645)	271 533	654 313
Net Income (R/ha)	19,61	(0,18)	74,70	175,61
Average Net Income per farmer (R)	R341	(R3)	R1 378	R3 321

system on which 21 farmers were settled. Subsequently a decision was taken that Agricor would, in future, be responsible for the re-development and the management of the whole scheme. A measure of the success of the first development, is the fact that during the first summer season, the 21 farmers under the centre pivot scheme obtained an average net income of R7 640.

Management Training

It will be appreciated that the development programmes described above create a great demand for management at all levels.

Experienced local project managers, co-operative managers, accountants, etc, are virtually non-existent. For this reason Agricor has embarked on an intensive management training programme. A one-year management course given in conjunction with the University of Bophuthatswana is at present in operation.

Suitable candidates with an agricultural diploma and showing management potential have been selected to attend this course during 1980. They have been placed on projects as trainee managers as from the beginning of 1981.

Groups of 15 to 20 management trainees will in future attend this course. In order to provide for future needs in co-operative management, planning and administration Agricor is also offering up to 35 University bursaries per annum.

Possible assistance by outside instances

Apart from possible facilities previously referred to, meaningful assistance by outside bodies could possibly be incorporated in the development programmes, especially in the following areas:

(i) Technical Support

Bophuthatswana suffers from the typical Third World ailment of having sufficient unskilled labour, a fair number of highly skilled expatriate experts and a notorious shortage of technicians. As a back-up service to the enthusiastic sales efforts conducted in Bophuthatswana, commercial firms should seriously consider the provision of technical staff to assist the local authorities in development efforts. Soil survey technicians, agricultural mechanics, irrigation technicians, surveying technicians are among the most desperately needed. Such services need not be grants-in-aid. Any realistic costs involved in rendering such services could be carried by the various projects.

(ii) Training

Properly programmed training schemes aimed at

making the most effective use of the machinery or farming requisites sold to the farming community, are essential. Commercial firms could also consider granting bursaries for the formal training of agriculturalists, technicians, administrators and managers.

(iii) Management

Of the four production factors, land labour, capital and management, the shortage of management skills remains the weak link in the chain. Noordwestlike Koöperasie of Lichtenburg and the CED have proved beyond doubt that outside management aimed at training local talent can bring about dramatic, even revolutionary changes in agricultural standards. The same challenge awaits the private sector. It would be a red letter day for Bophuthatswana when one of the fertiliser or tractor companies adds to their sales contract the offer of providing the management of an agricultural project for an agreed period.

Conclusion

An exciting start has been made with the development of agriculture in Bophuthatswana. The task ahead remains immense and only a concerted effort by Government, the Corporations and the Private Sector will ensure eventual success being achieved. An example to the rest of Africa has already been set. The real challenge would be to prove that the progress made can be sustained on a continued basis.

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