

EXECUTIVE SUMMARY

CHAPTER 1: INTRODUCTION

The objectives of the consultancy were:

- a. To develop a general strategy for optimising the efficient use of primary water and land resources for effective alleviation of rural poverty, with emphasis on irrigated and dryland agriculture for subsistence farming communities and emerging commercial farmers.
- b. To draft recommendations regarding approaches required during land restitution/redistribution to ensure efficient use of water and land resources and effective alleviation of rural poverty.
- c. To draft recommendations regarding future research needs to ensure efficient use of primary natural resources for effective alleviation of rural poverty and promotion of food security.

CHAPTER 2: STUDY PROCEDURES

The study procedures consisted of:

- Studies of a large number of publications, reports and draft reports done in South Africa.
- Studies of relevant publications from elsewhere in the world.
- Personal and/or telephonic interviews and/or e-mail interactions with several persons inside South Africa and elsewhere in the world.
- Reference to relevant personal experience accumulated over many years.

CHAPTER 3: OVERVIEW OF RELEVANT INFORMATION

General: Rural poverty is one of South Africa's biggest problems. The consultancy looked at strategies to promote alleviation of rural poverty through optimising of the efficiency with which the scarce resources water and land are used.

Inter-relationships between agriculture and other economic sectors: There are important inter-relationships between agriculture and other economic sectors. Thus one needs to look at the whole picture and not at agriculture in isolation. Efficient resource use and alleviation of rural poverty is not possible in over-crowded rural areas. Thus, creation of the maximum job opportunities in other economic sectors, to draw as many people as possible away from being dependent on the land for survival, is imperative. This is presently not happening in South Africa. In reality job opportunities are dwindling.

The nature of agriculture: The highly seasonal nature of agriculture distinguishes it from other economic activities. Some operations perforce have to be completed within very short time spans, requiring long working hours for short periods. Labour legislation, *inter alia*, should make provision for this.

Categories of farmers in South Africa: The following categories of farmers can be recognised in South Africa:

- Subsistence farmers.
- Foodplot and backyard garden systems.
- Emerging farmers.
- Commercial farmers, including White and Black farmers and large scale farming by big companies and corporations (e.g. mining companies/corporations)
- Land reform/restitution/redistribution farmers.

Realities regarding South Africa's physical agricultural resources: South Africa's physical agricultural resources are poor compared with those of the rich northern hemisphere countries. This is related to the fact that South Africa is much closer to the equator than those countries. This gives a much less favourable climate and much poorer quality soils. South Africa's rainfall is very low compared with world averages. It is also very unreliable and mainly in the form of inefficient thunderstorms. Potential evapotranspiration is very high, further reducing the efficiency of the rain. Soils are generally of a very poor quality.

Realities regarding the geographic distribution of South Africa's physical agricultural resources: Effective anti-apartheid propaganda created the impression that the former homelands had very poor agricultural resources compared with the White farming areas. This is incorrect. Only a few very small areas of former homelands receive less than 500 mm rain per annum, i.e. is too dry for crop production. In contrast all areas receiving less than 500 mm rain per annum (most of it below 400 and even below 200 mm per annum) were in the White farming areas. A 1995 Land and Agriculture Policy Centre report showed that over 80% of the high potential agricultural land of the present Eastern Cape Province was before the change of regime in 1994 already in the hands of Black small-scale farmers, while White farming in the province consisted mainly of extensive livestock farming in semi-desert areas receiving less than 400 mm rain per annum. Significant areas of former homelands have good quality soils. The former homeland areas thus have quite large unlocked agricultural potential.

Human resources: There are significant numbers of Black farmers with good potential to become successful commercial farmers, especially in the former homelands. They need large enough tracts of land *per farmer* and the necessary support services to fulfill this potential, however.

Non-agricultural factors determining the efficiency of agriculture and the selection of appropriate farming systems and technologies: A large number of non-agricultural factors determine the efficiency of agriculture and the farming systems and technologies that can be used effectively. The farmer has little or no control over these. Some of the most important of these non-agricultural factors include:

- Land tenure.
- Infrastructure.
- Poverty-related social problems.

Resource inventories, land suitability evaluation and land use planning:

Optimisation of the efficiency with which basic resources like water, soil or vegetation are used, is not possible without good land suitability evaluation and land use planning. Proper land suitability evaluation and land use planning are not possible without high quality relevant resource information, collected by means of resource surveys.

Large amounts of valuable resource data and maps are available at the Agricultural Research Council Institute for Soil, Climate and Water (ARC-ISCW). Numerous resource surveys were also conducted in the former homelands during the apartheid era. The data from some of these, done at very high cost, have apparently already been lost. All efforts must be made to trace copies of these homeland survey reports before they are lost or destroyed. They should all go to the ARC-ISCW for safekeeping for future use and to be fed into the national resource data base. The ARC-ISCW, as national resource centre, should be tasked with collecting and collating all available resource data. The necessary legislation should be put in place to determine that copies of the data of all future surveys done in the country, irrespective of who commissioned or conducted them, must be submitted to the ARC-ISCW for inclusion in the country's resource database.

Good land suitability evaluation criteria and systems should be developed.

Appropriate technologies, best farming practices and related matters: An appropriate technology is one that is suited to the nature of the natural resources, the skills of the farmer and aspects like availability of production capital, infrastructure, etc. The best farming practice is the one that will give the best results within a specific context of a wide range of factors.

In *dryland* cropping it can broadly be said that in areas with relatively low rainfall water management becomes the over-riding factor, while in high rainfall areas soil fertility management becomes over-riding. The danger of generalization is emphasised in regard to practices like conservation tillage, fallow systems and water harvesting. South African data showing that these are in some situations not beneficial, and even negative, are discussed. Indications are given of situations where they may give positive results.

In *irrigated* agriculture there is *no* such thing as a “*state of the art*” technology that is the best. What is best varies in space and time. Three of the main factors determining the suitability of a specific technology for a specific situation are:

- Availability of the infrastructure required for that technology.
- Economic considerations.
- Matching of the technology with the basic natural resources (climate, soil, slope, water, etc.). *The report discusses this very important aspect in quite some detail for a wide range of irrigation technologies.*

Specific attention is given to two simple irrigation technologies that are widely used highly successfully in *small-scale farming* in other African countries and elsewhere, but not yet in South Africa, viz.:

- *Treadle pumps*, i.e. manually operated pumps that bring about **75% labour saving** compared with rope and bucket systems, thus enabling families to irrigate much larger areas and thus gain more income from irrigated cropping.
- *Subsurface clay pot irrigation*, with which **water savings of up to 70%** has been found in small-scale vegetable production systems.

Other special technologies and techniques, like gated pipes and short furrow irrigation are also discussed.

Agricultural and rural development: Agricultural and rural development is much more than just increasing production. Extensive discussion of this is given within the South African context. To illustrate the principles several examples from agricultural development projects in the former homelands are discussed. Just about all these schemes failed from a development viewpoint, despite many millions of rands being pumped into them, because they just simply became very expensive capital intensive production projects, operated at great losses, instead of development projects. Care must be taken that present revitalization of irrigation schemes do not end up in the same situation.

Examples of farming successes by small-scale Black farmers who rejected prescribed farming systems and developed their own systems are given. It is emphasised that the key to successful agricultural development is empowerment of farmers to individually take their own decisions on their own farms.

The importance of the development of rural industrial nodes in synergy with agricultural development is stressed.

Land reform: The central theme behind the discussion on land reform is:

The primary objective of land reform must be the enhancement of the quality of life of rural Black South Africans in particular and all South Africans in general. All land reform policies and strategies must be aimed at achieving this objective.

A brief *history* of the “musical chairs” in regard to land ownership in South Africa is given. As early as 1936 White farms were bought out in order to settle Black communities on them. During the 1960s-1980s this reached a peak when Black communities were removed, in many cases forcefully, from isolated “black spots” and large numbers of White commercial farms adjoining homelands were bought out, whether the owner wanted to sell or not, with a view to eventually settling displaced Black farmers on them, all as part of a policy of homeland “consolidation”.

The *target* with the land reform programme is that by 2015 30% of the agricultural land that was in the hands of White commercial farmers at the change of regime in 1994, must be in the hands of Black South Africans. There was initially uncertainty whether the target was 30% of all agricultural land or 30% of White-owned land, but this has been cleared up.

There are *two types of land reform*. The first is *land restitution*, where communities claim back land from which they were removed against their will. The second is *land redistribution*, where White commercial farms are bought out to make up the rest of the 30% target over and above the land restitution land.

There are essentially *two types of funding arrangements for land reform*, viz. the Settlement/Land Acquisition Grant (SLAG) programme and the Land Redistribution for Agricultural Development (LRAD) programme. The SLAG programme makes money available on a per family basis. The amount is fixed and very small. The LRAD programme makes money available on a per person basis. It works on a sliding scale according to what a person can contribute. The more you can contribute, the more you can get, i.e. the poorer you are, the less you get and the more you already have, the more you can get.

Careful consideration of *criteria for measuring the success* of land restitution and land redistribution is required. Presently it seems that every time a land claim has been settled and the land handed over to the claimants, it is described as another land claim that has been settled successfully. This is surely not a criterion for measuring success. In the present report it is considered that *a land reform case can be considered as being a success only if the people receiving the land have succeeded in making fruitful use of the land and that in the process poverty has been alleviated and/or food security improved*.

The status of land reform in South Africa: The overall picture that one gets, is that the land reform programme has failed miserably. The most serious crippling problems were totally predictable and could and should have been anticipated and avoided.

The first problem is that the farms were bought out and handed over to people with little or no production capital with which to farm. The consequence is that in several cases former productive grain farms have been lying “dormant” now for several years. In the case of perennial crop (orchard, vineyard, plantation) farms the orchards, vineyards or plantations have become totally destroyed and it would require many millions of rands to get them back into production again.

Secondly, the small amounts of money made available per family under the SLAG programme or to the poorest individuals under LRAD, meant that very large numbers of families or individuals had to pool their money to be able to buy a farm. In several cases it meant that a non-homogeneous group had to be rounded up together to get enough funds. One of the consequences was so little land per family that they cannot make a living from farming. Furthermore, it was found that serious internal conflict and strife is a general problem throughout group projects. Aggravating factors of the latter appear to be:

- The larger the group, the bigger the conflict potential.
- The more diverse the group, the bigger the conflict potential. This was strangely enough unexpectedly even found in land restitution cases, where one would not expect it.
- Any frustration, e.g. delays in meeting expectations or realization that the available land cannot provide a reasonable livelihood, can raise the level of conflict to “debilitating levels”, to use a term of Moloï *et al.* (1997).

Apart from the lack of production capital and the inadequate size of the land the new farmers mostly do not have the skills or experience required for successful intensive commercial farming.

Positive and negative aspects of LRAD:

Positive aspects of LRAD include:

- The flexibility of the system.
- It makes family farm type projects possible (as opposed to collective group farms).
- Well-off Black entrepreneurs can become commercial farmers.

Negative aspects of LRAD include:

- The family-farm projects redress the racial imbalance of land ownership, but the number of beneficiaries is small and the cost for government is high relative to the number of beneficiaries.
- Well-off entrepreneurs are often not interested in full-time farming and absentee farming arises.
- In some cases the applicant's objective is more related to the prestige associated with owning land than with economic needs.

“External” managers: One way to overcome the lack of management skills and experience of the new farmers is by appointing experienced farm managers (usually White). This not without flaws since it often leads to conflict within groups or conflict between the group and management.

Mentorships: Another way of mitigating the problem of lack of farming experience amongst the new farmers, is by means of mentorships. This is where a specific experienced farmer acts as guardian for a new farmer or group of farmers. Grain-SA has a special mentorship programme. The most important finding about mentorships is that a mentorship succeeds only if it involves only giving advice, guidance and skills training. The mentor must never do things for his protégé. The latter is the surest road to failure. The mentor must just guide the protégé towards self-development and independence.

Joint ventures/Strategic partnerships: Due to the destructive experiences at especially high value intensive perennial crop farms, the Department of Land Affairs has apparently decided that in future settlement of land restitution claims will be made only on condition that external experienced consultants are involved as strategic partners.

Comments by Raath of Agri-SA: The two most important comments by Raath of Agri-SA are:

- At top policy level (Pres. Mbeki, Minister of Agriculture Didiza, etc.) there is ample understanding of what is required to make a success of South Africa's agriculture and land reform.
- The ability of the management of the Departments of Agriculture and Land Affairs, as well as the ARC and Land Bank, to develop and implement these policies and programmes coordinated and harmoniously, in cooperation with the private sector (especially organised agriculture), falls far short.

The Russian route: The Russian land reform programme, aimed at settling new individual small-scale farmers, instead of the former collective state farms, failed because the new farmers lacked production capital and management skills. Influenced by strong lobbying from rich, big companies, the Russian government decided to abandon the programme and to sell the agricultural land to big companies (not farmers). Makeev (2003) fears that this will lead to the local rural people being exploited by these companies (having to work for meagre wages) or that they will be replaced by cheap foreign labour and end up unemployed.

Research, extension and training: Appropriate and relevant research, extension and training are key requirements for optimising the efficiency with which natural agricultural resources are used, effective alleviation of rural poverty, enhancing food security, ensuring sustainable resource utilization and remaining competitive in international markets. The emphasis is on appropriate and relevant.

Agricultural research in South Africa: South Africa used to have a history of high quality agricultural research that was internationally recognised. *True* agricultural research (by people trained in *agricultural sciences*) in South Africa is for various reasons under great pressure at present. There has been a gradual fragmentation of agricultural research over the last thirty years. Government funding of agricultural research has dwindled. Problems in the ARC, especially in regard to research funding and staff management, has negative impacts on this body which should be the flagship of agricultural research in South Africa. ***It is absolutely essential that South Africa must have a vibrant and dynamic agricultural research setup of the highest quality.***

Extension: Research is meaningless and a waste of funds, manpower and time if its findings cannot be effectively transferred to farmers and are not adopted by them. Farmers cannot adopt research findings that are not realistic, appropriate and relevant to their specific situations, however.

In order for research data to be available, it must be published. In this regard the following is stressed:

- *Researchers must be encouraged to publish their research findings in South African scientific journals.* If necessary, incentives must be created to promote this. Only in this way will it be widely available and freely accessible for other South African scientists, extension officers, etc. who need it. *After all, South African research funding should be used to the best benefit of South Africa.*
- *Researchers must be encouraged to publish their research findings also in South African popular and semi-popular scientific papers, so as to make it available for extension officers and well-qualified farmers.* If necessary new journals of this type must be started.
- *A special unit should be established within the ARC for the publication of simple instruction pamphlets. In this regard it is imperative to publish it in appropriate languages, and furthermore in appropriate dialects, jargon or slang.*

The importance of posts for a special category of “subject matter specialist” is stressed. These are scientists who fit in as links between researchers and extension officers.

A dynamic corps of extension officers is essential, especially to cater for the big needs of the new emerging commercial farmers, in order to ensure efficient dissemination of information and advice. The present situation with regard to agricultural extension in South Africa is totally unclear.

Aspects such as farmer-to-farmer extension, farmer field schools and the international trend towards having facilitators rather than advisers are discussed.

Education and training: Appropriate, high quality education and training of different types and at different levels are absolutely essential for successful agriculture. ***It is imperative that the training must be done in South Africa, because our conditions differ so vastly from North America and Europe.***

Degree education and training in agriculture at ***universities*** should include adequate components of both high level basic sciences on the one hand and hands-on practical training on the other hand. Top grade ***agricultural specialists*** (e.g. in agronomy, horticultural science, livestock science, soil science, plant pathology, etc.) should be produced. Although they should receive top grade training in their fields of specialisation, their “heads must also be turned the right way”. I.e. they must understand that when they start working, e.g. as researchers, they have to fit into a bigger, more holistic, picture that they must understand. They should also realise the importance of working in partnership with farmers and extension officers and not think that they know everything and the others must listen to them. They must also learn to listen to farmers.

Specialised BAgri and BInstAgrar degrees are important for accommodating ***good*** candidates who, due to school education deficiencies or other reasons cannot get entrance into the BScAgri stream. In addition to matric results other criteria, like performance at agricultural colleges, should also be used for screening candidates for admission. These aspects are discussed in detail.

It is the responsibility of the Department of Agriculture, probably via the ARC, to make undergraduate bursaries available for studies towards degrees in agriculture, with the emphasis on ***agriculture***. Although preference can be given to candidates from certain groups to redress past inequalities, the bursaries should never be confined to just one racial group or certain groups. The latter would not be in the best interest of agriculture in South Africa.

Post-graduate training in agriculture has lately suffered because of ARC policies. The newly announced post-graduate bursaries for agriculture by the National Research Foundation (NRF) could greatly help to alleviate problem, ***provided that:***

- The bursaries are awarded to obtain degrees in ***agriculture*** and ***not*** for degrees remotely related to agriculture.
- Students are not restricted in their choice of university.
- Although bursaries may preferentially be awarded to a specific racial group, they may ***never*** be confined to just that group.

These aspects are also discussed in detail.

University training in agriculture at South African universities has major problems. The basic problem is that there are too many universities offering degrees in

agriculture, with the result of non-viable small faculties and departments. Universities have responded by lumping departments together as conglomerates of a number of different fields. Furthermore, agricultural faculties were merged with other faculties – usually natural sciences. The latter is an untenable marriage because the basic differences in mindset *required* between agriculture and pure natural sciences are just simply too big. Both the lumping together of departments and the merging of agriculture with other faculties *are having very negative implications for the efficiency and relevance of agricultural education and training at universities. The only solution will be to create separate faculties of agriculture again and, where necessary, to “unbundle” departments again. This must be accompanied by reducing the number of faculties of agriculture urgently by means of a sensible rationalisation programme between universities.*

Traditionally there are *two different types of diploma training at agricultural colleges*, and both of these are still required, viz.

- Training of farmers.
- Training of extension officers.

Training of farmers should address both farming technologies and practices and farm management. Training of extension officers should give them adequate knowledge of the enterprises with which they are going to work and practical hands-on training in farming practices so that they can understand farming and the farmers that they work with better.

The inclusion of *agriculture as a subject at rural schools* could play a very useful role, but then it must be done properly and sensibly.

Extensive discussions are given on the all-important topic of *farmer training*. There is a move towards talking more about “facilitators” rather than “trainers”. Political support, appropriate policies and assured sources of funding to train facilitators/trainers are essential. It is suggested that the Department of Agriculture, via the ARC, should provide this. Training of trainers is essential because it has been observed that the traing given to small-scale farmers by some individuals/bodies in South Africa is “hair raising”. It is emphasised that *the trainers of trainers must be South Africans*, who:

- Know the local resources, conditions and people.
- Have studied the latest approaches thoroughly.
- Have extensive field experience in developing areas and communities in South Africa.
- Have proven success track records.

In addition to training in technical skills new farmers must also receive training in marketing and labour management.

Extensive discussions are given on the important *lessons that can be learned from California*.

CHAPTER 4: PROPOSED GENERAL STRATEGY FOR OPTIMISING THE EFFICIENT USE OF PRIMARY WATER AND LAND RESOURCES FOR EFFECTIVE ALLEVIATION OF RURAL POVERTY, WITH SPECIAL REFERENCE TO IRRIGATED AND RAINFED CROPPING FOR SUBSISTENCE FARMING COMMUNITIES AND EMERGING COMMERCIAL FARMERS

Introduction: The objective of this chapter is to propose a general strategy and not to discuss or describe detailed practices, etc. to implement.

Holistic approach required: Optimising the efficiency with which primary resources are used, requires a holistic approach. This must be the overall principle guiding the strategy. Although correct understanding of scientific principles and implementation of appropriate technologies are critically important, these alone will not give success. Social, cultural, socio-economic, political and various other factors must also be considered. Non-agricultural factors are often more decisive than farming practices.

Ensure political commitment: Ensuring the required political commitment is the most critical step in any strategy aimed at agricultural development. Without such commitment it is extremely difficult, if not impossible, to bring about the development that is needed for optimising resource use and alleviating rural poverty. Political commitment is required not only from government, but also from opposition politicians and extra-parliamentary bodies.

Ensure that politicians, opinion-formers, pressure groups, the media and the public know and accept the realities regarding South Africa's land and water resources and their geographic distribution: The biggest potential for drastically improving the efficiency of the use of water and land is in the former homeland areas with moderate to high potential for dryland and irrigated cropping. Some of these areas can become the food baskets of the country. A key facet in a strategy to bring about optimum resource use, alleviate rural poverty and promote food security must be to urgently find a way to break the "brain blockage" of the people who believe that the former homelands have no or little agricultural potential. Unless politicians, opinion-formers and pressure groups convince themselves of the potential of these areas, no meaningful urgent steps to develop them will be taken or supported.

Strive towards reducing the number of subsistence farmers to the absolute minimum achievable and towards optimising resource use efficiency in the remaining subsistence farming sector: Resource use efficiency under subsistence farming is poor and it also leads to serious land degradation. Most importantly, it does not offer a proper standard of living to subsistence farming families or the opportunity to improve their livelihood. In order to reduce the number of subsistence farmers, there must be a strategy to draw them away from the land. This can only be done by creating employment opportunities elsewhere. Drawing them to towns and cities without equipping them with the skills required for jobs that are available will be futile, however.

Promote and stimulate integrated rural development: Integrated rural development, including all sectors, like agriculture, industries, tourism, etc. must be

promoted, especially in areas well-suited for it. Such areas would, for example include the former Transkei and Ciskei, where water is abundant and an export harbour is close by – and there is a lot of rural poverty that must be relieved.

Ensure that all unused or underutilised agricultural land with dryland cropping or irrigation potential in the former homelands and state land elsewhere is brought into productive use: Areas with moderate to high cropping or irrigation potential are lying idle in the former homelands. Consequently their present resource use efficiency is low as is their contribution towards alleviating rural poverty. This land would be ideal for the development of emerging farmers.

Ensure that proper land use planning is done, based upon appropriate high quality resource surveys and land suitability evaluation: Optimisation of resource use is not possible without proper land use planning based upon high quality soil surveys and land suitability evaluation. It is overall important, but especially for emerging farmers, because they cannot afford to suffer losses due to cultivating non-arable land or implementing inappropriate technologies. The ARC-ISCW should be tasked with the responsibility to ensure quality control in regard to resource surveys and land suitability evaluations.

Ensure that appropriate technologies and farming practices are recommended, adopted and applied correctly: A major problem is the failure to realise the importance of site-specific requirements and thus there is a tendency to generalise and use “recipes”. Furthermore, scientists often look at the technical side only, forgetting the importance of non-technical factors. Another problem is that people may believe that a specific technology should work best under a specific set of circumstances and recommend it, despite the fact that research might have proven that it does not work.

Promote/employ appropriate land tenure systems: Land tenure system has a very big influence on resource use efficiency and on the potential to alleviate rural poverty. Therefore any strategy to improve these should have a strong component focusing on land tenure.

Strive for the institution of labour laws that are fair to labourers, but flexible and realistic enough to cater for the special circumstances of agriculture: The present labour laws are agriculture unfriendly, since they do not cater for the special circumstances of agriculture. Aspects of concern are, *inter alia*, minimum wages, maximum working hours and the role of children. In many cases big commercial farmers can mitigate the effects of the labour laws by intensive mechanisation. This creates a larger number of unemployed rural people, some of whom may then try to scratch out a living as subsistence farmers in already over-crowded rural areas.

Small-scale resource-poor emerging farmers are in the worst situation because they do not have the capital for intensive mechanisation, nor are their farming systems big enough to make it a viable option. They are thus much more dependent on labour than larger scale operations. They are consequently very vulnerable to the effects of restrictive labour laws. In small-scale family farming the contributions of children to the labour force is critically important, especially during peak labour demand periods.

Promote and maintain a dynamic agricultural research and extension infrastructure and ensure that both research and extension are appropriate and of a high standard: Because the resources, conditions and circumstances in South Africa are so radically different from those of the rich northern countries, we cannot simply “import” research findings from them and it is imperative that we must do our own research. Small-scale farming has special research needs and requires special research approaches. The ICTA approach developed in Guatemala is proposed as a strategy for use in small-scale farming research. Research is meaningless if it is not transferred effectively to farmers via a dynamic extension service.

Promote agricultural publications and create mechanisms for their publication: It is very important that South African research data must be published in South Africa to achieve maximum impact from it. Publications should include scientific journals as well as semi-popular and popular journals and practical bulletins and pamphlets.

Provide structures and systems for farmer training and development: Farmers need to be in a continuous learning process to be able to cope with the changing demands on them due to changing technologies, changes in markets, changes in labour laws, agricultural politics, etc. Training of emerging commercial farmers is particularly critical to enable them to become fully fledged commercial farmers. It does not help if farmers have land, capital, etc. if they do not have the necessary practical farming and/or management skills.

It is the responsibility of government to provide the required infrastructure for farmer training.

University and college education and training of researchers, subject matter specialists and extension officers: A key part of any strategy to promote optimum resource use efficiency and alleviation of rural poverty should be to ensure high quality appropriate university and college education and training for producing the required researchers, subject matter specialists and extension officers. One of the important strategies to optimise this training must be to reduce the present excessive number of universities offering degrees in agriculture and to create a smaller number of viable faculties.

CHAPTER 5: APPROACHES REQUIRED DURING LAND RESTITUTION/ REDISTRIBUTION

Introduction: The general picture emerging regarding the the land reform programme is one of agriculture grinding to a complete standstill on formerly productive annual crop farms and horrendous destruction of former highly productive perennial orchard or plantation farms after being handed over. Suggestions are made under the following headings in order to try to to put a brake on these destructive outcomes.

Define and describe the objectives and the processes of the land reform programmes very clearly and communicate them transparently: It is essential that the objectives of the land reform programmes must be defined very clearly. This should help the Department of Land Affairs to guide the process better towards achieving the objectives. Presently the impression is created that the DLA only has a

target of transferring 30% of previously White-owned farmland to Black hands by 2015 and have no other objectives with the land reform programmes. Aspects like alleviation of rural poverty or improving food security are never mentioned. It is imperative that DLA must clearly define the objectives of the land reform programmes. In order to avoid confusion and make people less restless the objectives must be communicated clearly and transparently to the nation.

Economic units, land tenure and management models and support systems: If the objective of land reform is to enable each household that receives land (individually or as part of a group) to make a decent living from farming the land, then it means that the size of the land allocated per household must be adequate to constitute an *economically viable unit*. Presently the amount of money for purchasing land made available by government per household or poor individual is just simply far too little to achieve this. The amount per household or poor individual will have to be increased drastically if success is to be achieved with land reform. This will, of course mean that fewer people will receive land, but under the present system almost nobody seems to achieve a proper livelihood in any case.

A lengthy discussion is given on land *tenure and management models*. The most important is that for each case a definite legal arrangement must be put in place *before* the land is handed over, so as to avoid untenable situations such as “free riding” or a few young turks claiming exorbitant “salaries” for themselves and the rest getting more-or-less nothing.

Land reform cannot succeed if the new emerging farmers are not backed up by the necessary *support services*. It must be kept in mind that one is dealing here with people with very little or no experience or knowledge of commercial farming, especially no farm management skills, and little or no production capital. It is government’s responsibility to put the required support services in place and to maintain and fund them.

High-income perennial orchard and plantation crops: Special approaches are required for the situations where farms on which high income perennial orchard or plantation crops are grown, are handed over to communities under land reform programmes. High income perennial or orchard crops cannot just simply be left dormant for some time with the hope of using them again later. Without uninterrupted proper high level management and adequate inputs the orchards and plantations will just simply die and the whole farm destroyed, as has happened in so many cases. This means a destruction of assets worth many millions of rands and further many millions of rands needed to bring them into production again by establishing new orchards and putting in new irrigation and other infrastructure. In addition it takes some years after the establishment of a new orchard before it is productive and bears profits again.

Where such a farm has been handed over in the past and the orchards and infrastructure already destroyed, one of at least the following four options can be used:

- The farm can be left as it is and the community can revert to purely subsistence farming, with each household planting some rainfed maize and a patch of vegetables on the small area of land available to them.

- A start can be made by growing high-income annual crops (special industrial crops or vegetables) to generate quick income that can be used to start with the stepwise establishment of orchards again. During this period the community will need a knowledgeable partner(s) with enough capital to get the production off the ground and provide management expertise. This initial period should also be used for the training of community members to become successful farmers or potential future farm managers.
- It could be decided to start directly with the re-establishment of orchards/plantations. In such case it can only be done as a joint venture including a partner with enough capital to pump in and who would provide management. Since it would take some time for profits to start to accrue there will be a number of years without income from the farm for the community, except for wages that they could earn by working as labourers on the farm.
- It can be decided to rather sell the farm to some rich company and for the community to start all over again somewhere else. Since we are talking about farms that have essentially been destroyed and will require enormous inputs to revitalise them, it must be realised that they cannot be sold for nearly the same amount for which they were bought out when they were in a productive developed state.

In the case of farms of this type that have not yet been handed over, it would be unthinkable to in future hand them over unless one of the following two conditions are met:

- They must right from the start employ a capable manager *or*
- They must right from the start make it a joint venture undertaking.

Communicate openly about successes and failures: An important approach that the Department of Land Affairs should follow to improve resource use efficiency and alleviation of rural poverty is to communicate very openly and clearly about the successes and failures under the land reform programme and the reasons for the successes or failures. Criteria for measuring success should be:

- Whether productive use of the land was maintained after the farm was bought out *and*
- Whether the families who received the land are maintaining a decent standard of living.

Open communication would ensure that successes dispell the scepticisms of those that believe that the programmes are invariably doomed to failure. A condition for this is that the media and sceptics should be taken on visits to success cases. Conversely open communication about failures will hopefully warn activists about the tragedies caused to communities by injudicious handing over or grabbing of land.

Attend to areas vacated by communities who have moved to commercial farms under land reform programmes as well as to other unused areas in former homelands: Where a community under a land restitution claim now move back to the original land from which they were removed, their former resettled land in the homeland obviously must now become vacant and unused. They can not be allowed to keep one foot on this land. The vacated land should be made available to other people who desparately need land.

Understand the fears and trauma of the White commercial farmers: It would help to drive the land reform programme more smoothly if an honest attempt is made to understand the fears and trauma of the farmers whose farms are under land restitution claims or whose farms are targeted for land redistribution, if they are handled with empathy. The following are, inter alia, relevant:

- A farmer who has seen the destruction of farms that have been bought out (orchards destroyed, infrastructure pulled out and sold for scrap, houses demolished) must be horrified at the prospect that the farm which he (and often also his ancestors) has built up, will suffer the same fate after it is bought out and handed over. The phrase “*I will not sell my farm for land reform over my dead body*” then gets a different connotation.
- For some farmers it is the second time in 30 or so years that they are bought out. These are the farmers that were bought out for homeland consolidation and then bought land in “black” spots from which Black communities were removed and are now bought out again under land claims.
- In land redistribution cases farms may be bought out which have been in families for many generations. The land has also to them become “the land of our fathers” and sometimes the graves of ancestors rest in family graveyards on the farm.
- The “willing buyer, willing seller” should be applied appropriately in land *redistribution* cases. The proper route would be to buy all farms that are for sale in the market, then those of farmers that want to sell and only after that should negotiations start for farms that are still needed to fill up the 30% quota.
- It would enhance goodwill of private individual farmers if it would be made categorically clear that the vast areas of company/corporation owned farmland will be part and parcel of the pool from which land will be purchased for land redistribution.
- It would enhance goodwill if all out steps are taken to settle Black farmers on land that is lying vacant in former homelands, e.g. farms bought out for homeland consolidation. This will prove that government is busy with a programme of Black farmer development and not with a vendetta against White farmers.

Will the farms that have collapsed after handing over perforce lead to the Russian route?: If the buying out and collapse of especially expensive farms producing high value perennial crops continues, a point may be reached where it will cost so much to redevelop them that only big rich companies/corporations will have the capital to do this. This may mean ending up in the Russian route. South African labour legislation will prevent the companies from using people from the communities as cheap labour. The companies will be financially strong enough to mechanise to the ultimate, however, vastly increase the number of rural unemployed in some regions.

It is suggested that the situation could possibly be mitigated by trying to find an acceptable and viable variation of the “Nucleus Estate Smallholder” (NES) model.

CHAPTER 6: RECOMMENDATIONS REGARDING FUTURE RESEARCH NEEDS TO ENSURE EFFICIENT USE OF PRIMARY NATURAL RESOURCES FOR EFFECTIVE ALLEVIATION OF RURAL POVERTY AND PROMOTION OF FOOD SECURITY

General introduction: Just about all reports and theses on research done in South Africa over several decades on topics related to the fields of this report have ended with recommendations for follow-up research that was required and/or new research needs identified during the specific project. Unfortunately some important recommendations have not been followed up and important information is still lacking as a result. It is strongly recommended that someone be urgently tasked to go through the relevant reports, theses and other publications and compile a list of the important recommendations for further research made over the last 25 to 30 years that have not been followed up and should require urgent attention.

Recommendations for specific research/studies to be undertaken urgently: For each of the following recommendations a motivation is given in the report.

Non-technical research

- Research towards finding an effective strategy for convincing politicians, activists, officials of relevant government departments, opinion-formers, the general public, the media, etc. of the realities regarding the nature, qualities and geographic distribution of South Africa's primary natural agricultural resources.
- Research towards finding an effective strategy for convincing politicians, activists, officials of relevant government departments, opinion-formers, the general public, the media, and prospective farmers of the realities regarding the capital and management requirements for successful commercial farming – especially for intensive, high value cropping systems.
- Studies on the impact of agricultural unfriendly labour legislation – with special reference to the effects of minimum wages, inflexible working hours and other inflexibilities and to the importance of the roles of children in small-scale family farming.

Research in regard to irrigation technologies

- Studies on simple, easy to manage water and/or labour saving irrigation technologies for small-scale farming (clay pot subsurface irrigation, treadle pumps, gated pipes).
- Studies on the selection of appropriate irrigation technologies for different soil and climatic conditions.
- Development of instruction manuals for the planning, implementation and management of all types of irrigation systems, from micro-sprinklers through furrows to clay pots.

Studies on irrigation scheduling

- Collation, analysis and synthesis of South African research data on irrigation scheduling.
- Studies on high frequency deficit irrigation.

Studies on optimising rain water efficiencies under dryland cropping conditions

- Studies on water harvesting.
- Studies on conservation tillage techniques.

Studies on farming systems and indigenous farming techniques/practices

Studies on the wheat production potential of the former Ciskei and southern and central parts of the former Transkei