PROJECT SUMMARY

PROJECT IDENTIFIERS	
1. Project name: *Conservation of globally significant biodiversity in agricultural landscapes in South Africa through Conservation Farming*	2. GEF Implementing Agency: *World Bank*
3. Country or countries in which the project is being implemented: *South Africa*	4. Country eligibility: *South Africa has ratified the CBD and meets all other requirements*
5. GEF focal area(s): *Biodiversity*	6. Operational programs: *Arid and semi-arid ecosystems/ mountain ecosystems/ carbon sequestration*
7. Project linkage to national priorities, action plans, and programs: *Fits a key policy focus area of the White paper on Environmental Management; complements the objectives of the Department of Agriculture's Landcare program; focuses on four priority areas for conservation*	8. GEF national operational focal point and date of country endorsement: *Ministry of Environmental Affairs and Tourism* *DATE: 3 November 1998*

PROJECT OBJECTIVES AND ACTIVITIES	
9. Project rationale and objectives: *Conservation farming is defined as agricultural land use and management practices that provide sustainable economic benefits while promoting biodiversity and maintaining the structure and function of natural systems* *<u>Goal:</u> to evaluate conservation farming practices in four regions in South Africa that have globally significant levels of biodiversity so that these practices can be more widely applied as part of an overall conservation strategy* *<u>Objectives:</u>* *a) To identify and evaluate the economic and ecological costs and benefits (in terms of biodiversity, carbon sequestration, and ecosystem stability and resilience) of conservation farming practices compared with more widespread land use and management practices* *(b) To develop and compare ecological economic models for land use and management practices included in objective (a)* *(c) To synthesize information on conservation farming in South Africa and develop a database of information* *(d) To evaluate the role of conservation farming as part of national and regional strategies to conserve biological diversity in South Africa.* *(e) To transfer information to targeted user groups (farmers, agricultural departments, nature conservation agencies)*	Indicators: *(a) An objective appraisal of the impact of different farming strategies on biodiversity in areas of global importance* *(b) An objective appraisal of the economic costs and benefits to farmers of different farming strategies* *(c) An evaluation of the effects of land use on carbon sequestration* *(d) Increased awareness of the impact of farming practices on biodiversity and of alternative land use practices (conservation farming)*

10. Project outcomes:	Indicators:
(a) Regional and global benefits of conserving significant biodiversity within agricultural landscapes *(b) Database and knowledge management system on conservation farming* *(c) Ecological economic models for conservation farming based on productive farms* *(d) Database on carbon sequestration related to land use* *(e) Replicable examples (models) of farms where conservation farming has been successfully practiced* *(f) Extension services better equipped to support conservation farming*	*(a) Management and landuse practices that promote conservation on farmland in recognized centers of diversity are identified* *(b) At least one model conservation farm with accompanying ecological economic models from each of the four selected areas* *(c) An electronic database of all relevant ecological and economic information on conservation farming in the four selected areas* *(d) Informed extension officers with access to relevant information*
11. Project activities to achieve outcomes (cost in US$): *a) Study the impacts of land use on biodiversity across land use gradients in selected areas and develop a database US$ 400 000* *b) Analyze economic data from different forms of land use US$ 40 000* *c) Analyze the effects of land use on carbon sequestration and develop a database US$ 85 000* *d) Develop ecological economic models related to land use types US$ 30 000* *e) Analyze social factors influencing land use practices in selected areas US$ 40 000* *f) Spatial analysis of farming areas to identify priority areas for conservation farming US$ 100 000* *g) Produce information / publications for farmers US$30 000* *h) Run workshops and training sessions for farmers and extension officers US$ 20 000*	Indicators: *a) Land use and/ or management practices studied in each of the four selected areas and to include at least one conservation farming practice and two other common land use of management practices in the target areas.* *b) A comprehensive economic analysis of each of the farming practices included in the study* *c) Ecological economic models for each of the four areas based on the data from conservation farms and the other farming practices included in the study* *d) Set of media products (publications, notes, WWW site) to support information and training programs* *f) Run at least one workshop and training session in each area*

12. Estimated budget (in US$):

PDF:	5 000	Funded by National Botanical Institute (NBI) and Foundation for Research Development (FRD)
GEF:	750 000	
Co-financing:	660 000	Dept of Agriculture (Landcare program)
	120 000	National Botanical Institute
	110 000	University of Cape Town
	70 000	KwaZulu Natal Nature Conservation Services
TOTAL	**1 715 000**	

INFORMATION ON INSTITUTION SUBMITTING PROJECT BRIEF

13. Information on project proposer

National Botanical Institute, South Africa

14. Information on executing agency if different from above

As above

PROJECT DESCRIPTION

RATIONALE AND OBJECTIVES

South Africa contains a remarkable physiographic diversity and an accompanying richness of plant and animal species. Although the country comprises less than 0.8% of the total land area of the world, it contains ca. 8% of the worlds vascular flora, as well as between 2% and 7% of the world's amphibian, reptile, avian and mammalian species. There are indications that poorly known groups such as insects and other invertebrates are also extraordinarily rich in species.

Despite a reserve network that covers ca. 6% of the land area, a significant proportion of South Africa's biological diversity (especially plants and invertebrates) exists only outside reserves. Even with new reserve selection criteria and an increased protected area network, any sustainable conservation strategy will have to include a substantial area outside of reserves (matrix). Land use will be particularly crucial in buffer areas surrounding reserves, in areas of high biodiversity where reserves are inadequate, and in areas with exceptional biodiversity where climate change is likely to result in species migrations across transformed landscapes. Identifying and promoting farming practices that benefit biodiversity in these areas will provide regional and global benefits for biodiversity conservation. Farming practices that promote biodiversity could also provide additional global benefits by contributing to carbon sequestration, as well as local benefits associated with increased resilience and/or stability in agroecosystems and a broader resource base for rural economic development, e.g. ecotourism.

Farmers have argued that economic forces dictate how they use their land. Thus, the costs of environmentally sound farming practices (including those that are biodiversity-friendly) have outweighed the benefits. However, the recent rise of ecological economics where a value is placed on natural capital, the demise of farming subsidies, and the growing importance of ecotourism and game-farming as forms of land use, have changed the context for making decisions relating to land use. Against this background, there are some farming practices in use in areas of high biodiversity that apparently promote biological diversity and have a low impact on natural ecosystem processes. Farmers who have used these so-called "conservation farming" methods argue that they are more productive and sustainable because (a) they provide a buffer against the vagaries of the environment, (b) they generate income from alternative sources such as ecotourism, (c) they result in superior yields of animal products, and (d) they result in savings on capital costs and running expenses. These farms provide ideal test cases for evaluating the costs and benefits of conservation farming in areas with high biodiversity. It is essential that the experience of conservation farmers and their contribution to biodiversity conservation in South Africa is documented and placed in a dynamic economic-ecological framework so that successful models can be widely communicated and applied.

The proposed activity will focus on farms in four recognized areas of high biodiversity where the reserve network is inadequate (< 5% of the land area) and where at least one conservation farm exists and is producing tangible benefits, i.e.: the Bokkeveld Plateau (Nieuwoudtville) which forms part of the Succulent Karoo Centre of plant diversity and is extraordinarily rich in geophytes; part of the Thicket biome in the Eastern Cape which falls within the Albany Centre of diversity; the Drakensberg sourveld which forms part of the Eastern Mountain Centre of diversity; and the Nama Karoo which covers an extensive area in the center of South Africa.

The overall goal of the project is to evaluate conservation farming practices in the four selected regions so that biodiversity-friendly practices can be more widely applied as part of an overall strategy to conserve globally significant biodiversity. The project is consistent with the GEF operational programs "Biodiversity: Arid and semi-arid ecosystems; mountain ecosystems; and carbon sequestration". The project also strongly supports initiatives by the national Department of Environment Affairs and Tourism and provincial nature conservation departments to conserve biodiversity and promote sustainable development, as well as the efforts of the

national Department of Agriculture and provincial agricultural departments to promote a Landcare program as a basis for sustainable agriculture.

Objectives:

a) To identify and evaluate the economic and ecological costs and benefits (in terms of biodiversity, carbon sequestration, ecosystem stability and resilience, and response to climate change) of apparently biodiversity-friendly farming practices compared with more widely used practices in the same region that do not take biodiversity into consideration

(b) To develop and compare ecological economic models for land use and management practices included in objective (a)

(c) To synthesize information on conservation farming in South Africa and develop a database of information

d) To evaluate the role of conservation farming as part of national and regional strategies to conserve biological diversity in South Africa.

e) To transfer information to targeted user groups (farmers, agricultural departments, nature conservation agencies)

CURRENT SITUATION

The status of biodiversity outside reserves is poorly known. However assessments of gaps in the protected area network provide a crude inverse estimate of priorities for conservation in the matrix outside reserves. More than 90% of the country's mammal, bird, amphibian and reptile species occur in reserves. The proportion of invertebrates in reserves is unknown but is assumed to be similar to vascular plants where estimates of species in reserves vary between 34% and 74%. The reserve network is therefore hopelessly inadequate for plants and invertebrates and, in a few areas, is insufficient to conserve all vertebrates especially with the predictions of species movement in response to climate change. Analyses of South Africa's biomes show that species protection in reserves is extremely low in centers of diversity such as the Succulent Karoo (40% of plants and 75% of amphibians and reptiles) and in extensive areas such as the Nama Karoo (35% of plants) and that less than 5% of the land area is protected in four of the country's biomes, i.e. Nama Karoo (0.45%), Succulent Karoo (2.3%), Thicket (<5%), and Grassland (1.38%). The latter three biomes each incorporate a WWF-IUCN global center of plant diversity.

No comprehensive attempt has been made in South Africa to evaluate the costs and benefits (environmental and economic) of biodiversity-friendly land use practices in areas with globally significant biodiversity. This is, in part, because the responsibility for conserving biodiversity has been a function of conservation agencies who have concentrated mainly on reserves, or only on specific threatened taxa, whereas farming has been the concern of agricultural departments who have focussed on productivity. The effects of grazing on vegetation structure and composition has been a major research focus of agricultural research institutes but the emphasis has been on the dynamics of palatable species versus unpalatable ones and on output productivity. Farming with biodiversity *per se* has not received much attention. Increasing financial constraints and lack of capacity within these different departments has tended to compound the problem.

Conservation on private land has been boosted by a Natural Heritage Site program and the establishment of private reserves and conservancies. Conservation farming differs from these sites because it seeks to conserve biodiversity on productive farmland. Conservation farming has so far been developed and implemented by a few individual farmers. In some cases, the apparent benefits of these farming methods have influenced immediate neighbors.

Other initiatives underway include studies of the impacts of land use on biodiversity being undertaken by the National Botanical Institute, the University of Cape Town, the Cape

Technikon, Stellenbosch University, University of Port Elizabeth, and institutes of the Agricultural Research Council .

The Institute of Climate Soil and Water are undertaking broad scale spatial analyses of land use and conservation planning outside reserves with an initial focus on areas in Mpumalanga, Gauteng, KwaZulu-Natal and Northern Province. More detailed spatial analyses for conservation planning in the Succulent Karoo and Thicket biomes form part of proposed GEF-sponsored activities for a 'Sustainable Protected Area Development for Namaqualand' and 'Biodiversity Conservation, Global Change and Land Use in the Thicket Biome, Eastern Cape'. These spatial analyses will identify areas of global conservation significance where land use poses a significant threat and where the alternative of conservation farming will be especially valuable.

Integrated Catchment Management Systems have been established in some areas and the Department of Agriculture is committed to the development of a Landcare program in South Africa. These are important initiatives, which aim to integrate farming with natural ecosystem processes as a means of providing a sustainable system for agricultural productivity. They do not focus on promoting biodiversity with the associated global benefits. Nevertheless, these initiatives can provide a vital base for promoting conservation farming.

The Botanical Society of South Africa has set up a project looking at incentives for conservation on private land in the Western Cape. WWF-South Africa has been approached for sponsorship.

These activities all address important elements of conservation outside reserves, but they are not sufficient to conserve globally significant diversity in agricultural landscapes. Additional (incremental) activities are required to identify and evaluate the environmental, economic and social aspects of biodiversity-friendly farming practices. Only then will it be possible to convince farmers and policy makers of the value of conservation farming.

EXPECTED PROJECT OUTCOMES, WITH UNDERLYING ASSUMPTIONS AND CONTEXT

The main outcome of the project will be an objective assessment of conservation farming and the global benefits associated with conserving unique elements of biodiversity within agricultural landscapes. In terms of the stated objectives, a further outcome will be a database and knowledge management system on the impacts of selected forms of land use on biodiversity and the ecological costs and benefits of conservation farming. One of the main assumptions is that sufficient data can be obtained over a 3 yr period to support credible interpretations. Given that there is a range of land use in the focus areas, including land use that has been consistent over several decades, this assumption can be met by using retrospective data and by comparing existing land use practices.

A third outcome will be ecological economic models for different land use and management practices in each of the four areas. This outcome depends on the assumption that farmers can and will provide economic data for analysis. Farmers have indicated that they can provide data on inputs and products but they may be reluctant to divulge overall profits.

A fourth outcome will be a database on carbon sequestration related to various forms of land use. This will be subject to the same assumptions as above.

The fifth outcome will be at least one model farm in each region based on the economic and ecological profiles of these working farms. These farms can then be used for the further promotion and development of conservation farming.

The sixth outcome will be a greater capacity among agricultural extension officers and nature conservators to support conservation farming. This will be achieved through training existing staff and providing access to printed information and electronic databases. The program is not meant to create new work for extension services but rather to enable them to cope with conservation farming as part of their routine activities.

Finally, the fourth objective will result in an overall assessment of the value of conservation farming as part of an integrated strategy to conserve biodiversity in South Africa. This outcome will be especially important in areas where conservation farming can produce global environmental benefits but at an economic cost so that it becomes necessary to create the political will to provide incentives for farmers

PROJECT ACTIVITIES AND FINANCIAL INPUTS NEEDED TO ENABLE CHANGES

There are sufficient funds for ongoing small scale research projects on the impacts of land use on biodiversity. However, these projects are dispersed across different physiographic areas and focus on too many different elements of biodiversity to provide a suitable knowledge base for conservation farming in areas of high biodiversity. To develop an appropriate knowledge base, research on conservation farming practices must take place in areas that represent major physiographic zones (that will be subject to different environmental influences), and include comparable elements of biodiversity. Incremental GEF funding will enable research to take place in four physiographic regions and to incorporate an array of biodiversity elements. Studies of biodiversity will include plants, insect taxa (e.g. ants, carabid beetles, pollinators and parasitoids), birds, soil invertebrates, and functional response types. Results will be incorporated into a centralised database and information system. The incremental cost of funding field work and research on biodiversity in the four regions over a three year period will be US$400 000 (i.e. an average of US$ 100 000 for each area)

There are currently no comparitive studies of the economic costs and benefits of different land use practices in South Africa. These studies need to be undertaken in the four areas identified for this study and must evaluate the inputs (e.g. water, fertilizers, pesticides, labour) and products across a spectrum of land use types. The incremental cost of funding these studies is US$40 000.

The impact of land use on carbon sequestration needs to be assessed and will require analysis of soil and biomass samples across different land use types. These results will be incorporated into a centralised database. The incremental cost for obtaining samples from the field and paying for laboratory analyses will be US$85 000.

Ecological economic models for each of the areas under consideration need to be developed as essential tools for integrating the environmental and economic costs and benefits of conservation farming. The incremental cost for developing these models is US$30 000

An important obstacle for the implementation of conservation farming will be prevailing attitudes towards biodiversity among farmers, as well as a lack of awareness among farmers, policy makers and rural communities about the impacts of land use on biodiversity and the environmental and economic benefits of biodiversity-friendly farming practices. A social study is needed to identify prevailing attitudes and the extent of awareness among farmers and communities in the areas in which conservation farming needs to be implemented. The results of the study will be used to develop appropriate strategies to sell the concept of conservation farming to affected communities. The incremental cost of the social study is US$40 000.

There is also considerable ignorance among policy makers and civil servants about the strategic value of conserving biodiversity in agricultural landscapes. It is important, especially at the national level, to show that conservation farming needs to be an integral part of policies relating to biodiversity conservation and sustainable land use. To achieve this, it will be necessary to extend existing spatial analyses of land use, agricultural productivity, and biodiversity (undertaken by the ICSW) to show the overall value of conservation in agricultural landscapes and to identify likely conflict areas. This will complement detailed analyses undertaken as part of other GEF projects in Namaqualand and the Thicket biome which are being funded separately. The incremental cost of this study is US$100 000.

Finally, the capacity of agricultural and conservation departments to support farmers in the development of conservation farming is constrained by a lack of information and appropriate

training, as well as limited human resources. Institutional capacity and training will be developed as part of the South African government's Landcare program to be funded by the Department of Agriculture (US$660 000). GEF funding is needed to provide specific information and training materials for conservation farming. The incremental cost for producing suitable publications and media products derived from the research project will be US$ 30 000 and the cost for training and workshops will be US$20 000.

In summary the project activities and their incremental costs are the following.

- Studies of the impacts of land use on biodiversity across land use gradients in four physiographically different areas and development of a database. US$400 000
- Analysis of economic data from different land use types. US$40 000
- Analysis of the effects of land use on carbon sequestration and development of a database. US$85 000
- Development of ecological economic models related to land use. US$30 000
- Social assessment of attitudes and awareness in the farming community. US$40 000
- Analysis of strategic value of conservation farming as part of an integrated conservation plan. US$100 000
- Produce information/ publications as part of information transfer US$ 30 000
- Workshops and training for farmers and extension officers US$ 20 000

SUSTAINABILITY ANALYSIS AND RISK ASSESSMENT

Once the initial documentation and evaluation phase is completed, the sustainability of the project outcomes will depend ultimately on the willingness and ability of farmers to practice conservation farming. The risk that farmers will not change their land use practices will be influenced primarily by four factors: a) the actual benefits for farmers; b) the credibility of the results; c) the socio-economic context influencing decisions on land use; and d) the support farmers get from extension services and conservation agencies. The first risk would appear to be quite low since there are already farmers who are practicing conservation farming as a result of the economic benefits. The identification and evaluation of these and other benefits should further reduce this risk. The risk that evaluations will lack credibility needs to be accommodated in two ways. Firstly, scientific and economic evaluations must be done using rigorous and accepted methods and these phases of the project need to be carefully peer reviewed. Secondly, the implementation phase needs to emphasize that technology has been developed and tested by farmers so that technology transfer on conservation farming is from farmer to farmer and not from scientist to farmer. The risk associated with implementation within different social systems will need to be determined as part of the project. Finally, the lack of infrastructure and capacity within extension services and nature conservation agencies will need to addressed. The project will provide the necessary information for the support of conservation farming and will provide training and materials for extension officers. However, this assumes that the relevant departments have staff who can make use of these opportunities. The planned strategy for implementing conservation farming has been included specifically to address this need and to create the political will necessary to support staffing requirements and resource allocations.

STAKEHOLDER INVOLVEMENT AND SOCIAL ASSESSMENT

A range of stakeholders involved with land use, farming, and conservation, were identified during the development of this proposal. This includes farmers, farmers associations, government departments of agriculture and nature conservation, non-government organisations, professional and environmental societies, universities and research institutes.

Representatives of these groups were invited to a workshop on Conservation Farming where they participated in a logframe process to develop this proposal. Part of the process was to identify additional stakeholders (see public participation plan).

A social assessment will form part of the project to determine the root cause of prevailing attitudes among farmers and to ensure that positive results from this study take hold in the farming community. The assessment will also need to consider the influence of different land tenure systems on farmers attitudes towards implementing conservation farming practices.

INCREMENTAL COST ASSESSMENT

The project activities are complementary in that they add to the baseline (some farms with biodiversity-friendly land use practices and a Landcare system for sustainable agriculture) without changing it. The matrix which follows shows that the incremental costs are associated with additional activities that are necessary to achieve global environmental benefits. The activities are required to provide an objective assessment of conservation farming practices and their global benefits.

INCREMENTAL COST MATRIX

	BASELINE	ADDITIONAL	INCREMENT
Global environmental benefits	Land use practices, research, and extension aimed at sustainable agricultural productivity and conservation of agricultural resources (soil, water, palatable species, crops)	1. Application of land use practices that sustain agricultural productivity (baseline) but also conserve globally significant biodiversity. 2. Knowledge base on land use and carbon sequestration	1. Economic and ecological assessments and models, information, knowledge base and training to identify and promote land use practices that conserve globally significant biodiversity 2. Analysis of impacts of land use on carbon sequestration 3. Assessment of land use impacts on species migrations in response to climate change
Domestic benefits	As above with focus on ensuring food security of the country.	1. Greater value of agricultural landscapes in terms of: fulfilling government commitments to biodiversity policies and conventions; ecotourism opportunities; and potential for trade in carbon deficits 2. Data on role of biodiversity in contributing to resilience/ stability of agroecosystems	Assessments and models of sustainable land use that incorporate ecotourism, carbon sequestration and the role of biodiversity in ecosystem processes.
Costs	**US$**	**US$**	**US$**
Impacts of land use on biodiversity	295 000	740 000	400 00
Economic	-	40 000	40 000

analyses			
Social assessments	-	40 000	40 000
Carbon sequestration	-	85 000	85 000
Ecological economic models	10 000	40 000	30 000
Strategic analysis		100 000	100 000
Information, training, institutional support	660 000	710 000	50 000
TOTAL	965 000	1 715 000	750 000

PROJECT BUDGET

Component	GEF	Other sources	Project total
PDF:	0	5 000	5 000
Personnel:	160 000	205 000	365 000
Subcontracts:	350 000	20 000	370 000
Training and institutional support:	50 000	660 000	710 000
Equipment:	50 000	20 000	70 000
Travel:	40 000	20 000	60 000
Evaluation mission(s):	20 000	0	20 000
Miscellaneous:	50 000	35 000	85 000
Project total (PDF+project costs):	750 000	965 000	1 715 000

PROJECT IMPLEMENTATION PLAN

The project is designed to reach completion after three years

DURATION OF PROJECT (IN MONTHS): 36 MONTHS						
ACTIVITIES	PROJECT-MONTHS					
Completion of project activities	6	12	18	24	30	36
Impacts of land use on biodiversity	X	X	X	X	X	X
Economic analysis	X	X	X	X		
Social assessments	X	X	X	X	X	
Carbon sequestration	X	X	X	X		
Ecological economic models					X	X
Strategic analysis	X	X	X	X	X	
Information transfer						X
Workshops and training						X

PUBLIC PARTICIPATION PLAN

Stakeholder identification

Key stakeholders were identified during a logframe process to develop this proposal. They include the affected farming communities near Nieuwoudtville, Beaufort West, the Drakensberg and Eastern Cape, the provincial departments of agriculture and nature conservation (Eastern Cape, Northern Cape, KwaZulu-Natal, Western Cape), the Holistic farmers network, Veldstock, farmers unions and conservation committees, the national Department of Environment Affairs and Tourism and Department of Agriculture, the National Botanical Institute, NGOs (Botanical Society of South Africa, LANDCARE South Africa), Museums, Universities and Technikons involved in biodiversity assessments (SA Museum, UCT (Institute for Plant Conservation, Percy Fitzpatrick Institute, UPE (Terrestrial Ecology Research Unit), UNP, Stellenbosch University, Cape Technikon) and ecological economics (Percy Fitzpatrick Institute and Dept of Economics, UCT), the Agricultural Research Council, and institutes involved in social evaluations.

Information dissemination and stakeholder participation

Stakeholders can be divided into three main groups with different needs and interests and their participation will accommodated accordingly.

1) The farming communities whose land use practices will be analysed during the research project.

Farming communities have been indentified in the four areas. In the case of three areas, farmers have been involved in a workshop process to develop the research project. It has been agreed that implementation of the research projects will be accompanied by ongoing facilitation by social geographers to ensure that farmers needs and concerns are addressed during the research phase. Farming communities involved in the research phase will also receive a biannual newsletter giving updates from the research projects and will be invited to attend workshops where research results are discussed. Finally, the farming community will be asked to elect a representative to serve on the steering committee.

2) The researchers who will be involved in various phases of the project.

Researchers receiving funding for any aspect of the project will be expected to participate in an initial workshop to discuss research protocols and in an annual workshop to discuss research results. Researchers will also need to participate in interactions with the farming communities as requested and facilitated by the social geographers. This is to ensure that research work is coordinated and does not lead to a breakdown in cooperation between researchers and the farming community. Researchers will be kept up to date about developments and findings through the newsletter and via other scientific exchanges, e.g. article reviews.

3) The groups who will be expected to benefit from the results of the research and who will be responsible for implementing conservation farming practices. This includes farming communities, Landcare groups, agricultural extension services, nature conservation departments, policy makers and planners. The government department that will be most crucial for this group is the Department of Agricultute: Resource Conservation.

Representatives from these stakeholders have already been involved in workshops leading to this proposal. They will be represented on the steering committee and all parties will be kept informed of project developments and progress via a newsletter. The involvement of this group will need to increase as the project develops. As research identifies appropriate land use practices and economic benefits, the Department of Agriculture (DOA) will assimilate this information into its planning and extension services. The DOA will also use the network of Landcare and conservation groups to disseminate information on conservation farming and organise farm visits. At this stage the involvement of the media also becomes crucial to make sure that definitive research findings are passed on to policy makers and land managers.

Social and participation issues

The involvement of farmers in the project will require special attention. In the early stages of the project, this will apply to farmers in the select areas who are willing to participate in research aspects of the project. In the later information transfer phases of the project, careful consideration must be given to the involvement of a broad range of farmers from different socio-economic and land tenure systems. Although most known conservation farms are on white commercial land, the aim of the project also applies to communal systems and other forms of tenure and management. It is essential that members of all farming communities are drawn into the project and social geographers will be employed to facilitate participation by a wide range of farmers. Sociologists and social geographers will also be contracted to determine the prevailing attitudes among farmers and to identify the best methods to relay information on appropriate land use practices to farmers and to get them to act upon such information.

MONITORING AND EVALUATION PLAN

A key role in monitoring and evaluation will be the reponsibility of the project Steering Committee comprising the Project Manager, a representative from NBI research management, the Department of Environment Affairs and Tourism, and the Department of Agriculture, and four elected members to represent other stakeholders.

The research and modelling components (ecological and economic) will be reviewed by the Steering Committee on an annual basis to ensure that scientific standards are maintained and to monitor adherence to project deadlines. The information and training components will be evaluated in the final year of the project. Participants in the project will be required to supply written reports to the Steering Committee as part of the review process and the project manager will be responsible for collecting and reporting on performance indicators for the project. An independent reviewer will be contracted to provide an assessment of the scientific component of the project.

Part of the budget has been allocated to annual Steering Committee meetings and to the costs of an independent reviewer. Adherence to project deadlines and quality of results will be used as criteria for continued funding for participants in the various phases of the project.

ADMINISTRATIVE ISSUES

The project will be administered by the National Botanical Institute of South Africa. The administrative and financial procedures governing procurements, contracts, financial records, and audits will fall under the directorate of Personnel and Finance of the NBI.

PROJECT CHECKLIST

PROJECT ACTIVITY CATEGORIES

BIODIVERSITY		TECHNICAL CATEGORIES
Buffer zone development		Capacity building
Inventory/monitoring		Policy advice
Ecotourism		Targeted research
Agro-biodiversity		Technical/management advice
Combating desertification		Technology transfer
		Awareness/information/training