

CONSERVATION OF NATURAL RESOURCES ACT (1983) ON THE NATAL NORTH COAST: IMPLEMENTATION STRATEGY

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Abstract

Cane growers needed to be made aware of the Act (1983) and to change farming practices where necessary to comply with the provisions of it. A strategy to introduce conservation regulations was devised by the Lower Tugela Soil Conservation Committee. The techniques used by the members of the Committee to promote awareness among the growers and to obtain their co-operation were carefully planned and implemented over a four year period. The success of the first stage of the programme is described and the reaction of growers implementing the necessary changes, is discussed.

Introduction

In 1986 the Lower Tugela Conservation Committee (LTCC) was the only conservation body on the North Coast and had the objective of promoting the improved conservation of sugarcane land through better farming practices. The LTCC is a government-appointed body consisting of government officials, miller-cum-planters and growers appointed by grower associations. The territorial boundaries of the LTCC run from the Umgeni to the Tugela rivers and from the coast inland to the KwaZulu boundary. There are 180 White growers and three major miller-cum-planter estates (MCP). The LTCC also has jurisdiction over the Indian Community, which has 1400 growers of which 50 produce half the crop.

SASA extension officers (EOs) are available to provide technical advice to conservation committees, helping them to achieve their objectives. In July 1986 the LTCC started a project: to persuade cane growers to implement the provisions of the Conservation of Natural Resources Act (1983).

Method

Full participation by members of the LTCC was obtained by splitting the committee into subcommittees on at least two occasions while a strategy for the project was being developed. A number of principles were recognised as important for a successful strategy.

The growers needed to be informed of the Act quickly which could best be done by a mass media approach. Any appeal would have to be precise and worded or illustrated dramatically. It was recognised that the changing of attitudes, after growers had been informed of the Act's existence, would take time, and a campaign would need to run over several years. Also, as a behavioural change would be required by many farmers, an individual or at least a small-group approach would be needed at some stage. Finally, any campaign would have a much greater chance of success if the support of the leaders of the community was gained.

All the above principles were incorporated into an action programme in which there were three distinct elements. Firstly, cane growers should know of the Act (1983) and of its objectives. Secondly, each grower would need to evaluate whether his particular farming practices complied with the

Act. And thirdly, any changes required would have to be actively and positively encouraged.

The following main events occurred:

August/September 1986 – three newsletters were sent out

October/November 1986 – three field days demonstrating the simulator were held at La Mercy, Shakaskraal and Darnall

January 1987 – first presentation by SASA EOs to the committee of technical information for growers

June, July 1987 – presentation to farmer association committee members and senior staff at MCP companies to obtain community leader support

September 1987 to present date – presentation to small groups of farmers (4 to 13 people) and to field staff of MCP companies

January 1990 to present date – individual farm visits to growers.

For attitudes to be changed, an understanding for the need to change must be communicated, and clear and achievable goals set in order for changed attitudes to be translated into action. Considerable thought was given to achieving this in a one hour presentation.

In the presentation the difference between the old and the new Act was explained so that growers understood that erosion did not have to take place before prosecution was possible. Incorrect farming practices, that could result in excessive erosion, could lead to prosecution. Excessive erosion was defined as more than 20 tons of soil loss per ha per annum under rainfed conditions that do not exceed a twenty year return period. Consensus was reached that soil loss greater than 20 ton/ha/annum would mean that soil loss in excess of the geological erosion rate, was taking place.

The next question was how a grower would know whether a particular farming practice conformed with the Act. The Experiment Station provided a brief explanation of research projects that were used to calibrate an adapted Universal Soil Loss Equation (USLE) (Platford¹). Examples of soil loss due to different farming practices using the USLE were demonstrated.

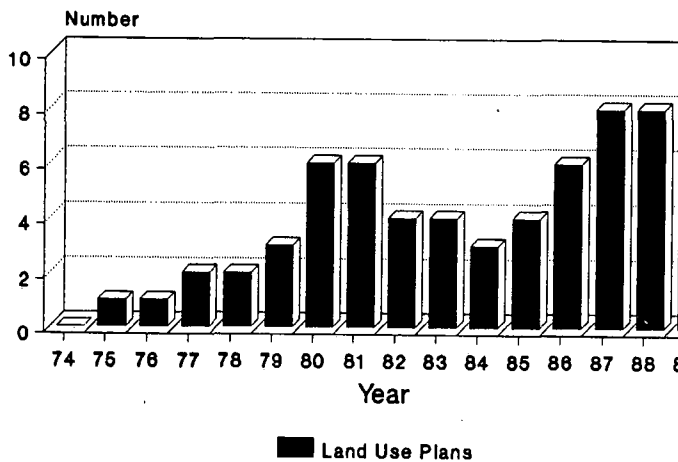
Having made clear the reasons for changes and where they were relevant, the presentation then focused the attention of those attending the small group meetings on the need for farming practices to conform with the Act (1983). The Experiment Station was asked to do Farm Assessments for any grower who requested one, and he would decide whether to make the assessment available to the LTSC Committee. A Farm Assessment is an unbiased appraisal of the extent to which conditions on a farm met the requirements of the Act, and gives an indication of any steps required, to achieve for the correct conservation standards. Finally, as an indication of the commitment to change, growers were invited to give a written undertaking to use minimum tillage where circumstances required it.

Results

Field work continues, but the following results have been obtained:

- Approximately 110 people attended rainfall simulator field days and saw the benefit of ground cover in preventing soil erosion
- Support for the project has been obtained from the formal leaders of four grower associations
- Support for the project has been obtained from the senior MCP field management staff at Mt Edgecombe, Maidstone, Gledhow and Darnall
- The LTSCC has met 125 growers at 24 small group meetings, 123 growers have requested farm assessments, and 120 growers signed pledges to use minimum tillage
- Eighty farm assessments have been completed. About 10% of the farms were found to comply fully with the requirements of the Act (1983)
- Follow-up farm visits by committee members have been made.

The evaluation of an objective such as "promoting the improved conservation of sugarcane land" is difficult and often only circumstantial evidence can be found. The LTSCC project could only have had any impact since 1986. The number of Land Use Plans requested in the Durban North Coast Extension area is some indication that the need for change has been recognised and acted upon. A Land Use Plan is a comprehensive plan prepared by the Farm Planning Department of the Experiment Station, providing for the systematic implementation of correct conservation measures over a period that generally lasts about ten years. The demand for such plans in recent years is all the more commendable since direct payment for them was introduced in April 1986.



Durban North Coast Extension Area

FIGURE 1 Number of Land Use P requested per annum.

Discussion

The success of the project so far is due to a number of factors:

- The committee recognised that a permanent change in attitude and behaviour would take time to establish. It therefore sustained a programme which commenced its final phase only in the fourth year. This called for good programming and setting of objectives.
- By taking a positive and explanatory approach the committee gained the support of the grower community. The written undertaking to use minimum tillage is evidence of such support. The committee recognised that the perception of what is good conservation must vary from one grower to another, and that errors in the practical implementation of conservation measures could be expected for some time. The committee was able to separate the project from a regulatory function, which called for the intervention of the Department of Environment Affairs on a number of occasions.
- The final phase of follow-up visits will encourage the practical implementation and help minimise errors. These visits would not be effective without the provision of Farm Assessments. An example of a Farm Assessment is given in Appendix I.
- The results achieved would not have been possible without the dedicated contributions of all members of the committee and particularly the leadership of the present and past chairmen, Mr C Garnett and Mr T Wise respectively. Grower committee members devote about one and a half days of their own time per month to committee work, and their efforts to improve conservation in the sugar industry over the years deserve recognition.

Acknowledgements

The author wishes to acknowledge the efforts of the Lower Tugela Conservation Committee whose present members are : Messrs C Garnett (Chairman), H Thiel, J Pringle, D Statham, B Strode, P Thomas, C Goble P Eb, and P Ilsley and Mrs B Garrod (Department of Agriculture), and past members who played an active role include the late Messrs T Wise (past Chairman), and D Webb-Smith; and Messrs N Slevin, F van der Riet and P Singh. The Committee receives technical support from Messrs R Stranack, A Stead and E Hulbert, SASA Extension Officers for the Durban North Coast.

REFERENCES

1. Platford, GG (1987). A new approach to designing the widths of panels in sugarcane fields. *Proc S Afr Sug Technol Ass* 61: 150-155.

APPENDIX I

EXPERIMENT STATION



SPECIALIST ADVISORY SERVICE

30 November 1988

EXTENSION OFFICER: EO Hulbert

GROWER: AN Other

RESPONSIBLE SPECIALIST: H Durkan

PROBLEM (summary of the question/request from EO)

An assessment of the layout and management systems on this farm is requested to see if they fulfil the requirements of the Conservation of Agricultural Resources Act of 1983.

ASSESSMENT

The farm was visited on 24/11/88 by H Durkan and the following assessment was made:

Cane area	: 189,9 ha
Total area	: 236,0 ha
Elevation	: 72 metres above sea level
General topography	: Average. Average slopes 15-20%
Annual rainfall	: 1 015 - 1 145 mm

The predominant soil parent material is Red Recent Sand covering approximately 80% of the total farm area. Alluvium occurs in the valley bottom areas and the remainder of the farm consists of Grey Recent Sands and a small outcrop of Dolerite. The Recent Sands give rise to soils with a moderate erosion hazard rating.

A Land Use Plan exists for the farm and has been used as a guideline only for implementing structures and field layout. Panel widths have not been implemented at the recommended vertical intervals shown on the plan. However in general, panel widths do not exceed spacings recommended on the nomograph for these soils and slopes, and when old fields are re-established additional structures are implemented where necessary.

Strip cropping is practised and is implemented on 80% of the farm. A substantial portion of the farm is being planted to gums and A pool quota transferred to a second farm at Compensation. Where gums are being introduced the strip planting continues with alternative panels of cane and gums. One cane panel width represents one field.

Minimum tillage is practised on approximately 20% of the farm. Crop eradication on the remainder of the farm is by conventional methods; ploughing occurs in winter and replant occurs in September. Cane is mainly burnt at harvest (80%). Tops are scattered after burning.

The farm layout consists of spillover roads which fall into grassed waterways. Not all waterways shown on the plan have been implemented and some waterways require upgrading in order to meet the requirements of the Act.

A feature of the farm is the well conserved riverine vegetation, although in some areas cane is planted into the riverine area.

In order to meet the requirements of the Act all slopes greater than 15% must be minimum tilled. In addition, where panel widths exceed the recommendations of the LUP, additional structures should be incorporated into the strip planting layout. Waterway dimensions require upgrading and the prescribed 10 metre verge adjoining watercourses must not be planted with cane. The farm will then comply with the requirements of the Act.