

**Submission to House of Representatives Standing Committee on
Agriculture, Fisheries and Forestry**
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INQUIRY INTO RURAL SKILLS TRAINING AND RESEARCH

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Secretary: *Boehman*

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Background to decline in Agricultural Extension and Research

Agricultural industries have a pivotal role in national well being. The early years of the twentyfirst century has two critical issues emerging with the global food supply presenting an immense problem to provide, within the next three decades, as much food as had been produced since the beginning of agriculture. This problem will be accentuated by the inevitable decline in global energy from oil and coal.

These problems are associated with the potential increase in world population from 3 billion in 1959 to 9 billion in less than fifty years from the turn of this century.

It is entirely appropriate that there should be in depth study to provide rural industries with the skills training and research to meet the food and fiber requirements.

It needs to be understood that there is inadequate understanding in the community and, particularly in the media, of the pivotal role of rural industries. So the need for training, research and development of skills in the industries is also pivotal.

In a policy statement from the N.S.W. Government and the Department of Agriculture (now Department of Primary Industry) in December 1998 it was claimed, "The current estimate of lost agriculture production due to degradation of natural resources is \$700 million a year. Agricultural industry stakeholders are committed to reducing that figure. Unfortunately, resource pricing and the market for agricultural products do not adequately reflect environmental costs." This reflects a major problem to halt degradation and to seek to restore the damage already done, or at best, contain it. This problem can be relatively well defined as "old cultivation", over-grazed country, fertility depleted and soil erosion.

For inexplicable reasons the Soil Conservation Service of N.S.W. was phased out of existence leaving six Soil Conservation Research Stations redundant in the state while the invaluable tragic loss of accumulated knowledge followed the dispersal or retirement of the research and extension people who had been employed.

Then again in the N.S.W. Department of Agriculture (Department of Primary Industry), the staff has been offered redundancy twice in the last couple of decades. This, once again, disrupted career structures and dispensed knowledge and experience invaluable for extension, research and for training future staff.

again, disrupted career structures and dispensed knowledge and experience invaluable for extension, research and for training future staff.

These two examples are quoted for N.S.W. at the same time a pivotal role in agricultural extension and research is far from being acknowledged or achieved elsewhere within Australia.

It is apparent that this attrition in research and extension must have the most serious and far-reaching effects on the viability of rural industries. Action of Governments has taken away totally essential props that were previously there in support.

There is abundant evidence that the elimination of the Soil Conservation Service has been an inconsiderable and disastrous decision. In 1946 the Standing Committee on Soil Conservation was formed. In 1971 the Committee published "A Study of, and Finance for Soil Conservation". The study revealed that in the non-arid regions of Australia about 230,000 square miles or 147,000,000 acres representing 30% of the area was affected by soil erosion to some degree. In the eastern and central division of N.S.W. 22 million acres were effected by major erosion.

The committee, realising that existing expenditure would mean that the problem would be overcome in one hundred years, hoped to reduce this to thirty years. This objective was never realised. In N.S.W., instead the Soil Conservation Service was phased out of existence. (Reference attached article "Soil Erosion still our Major Problem." M Woods, 2002). This has particular reference to items 1 and 2 of the Terms of Reference – there is no vocational training which meets the technical needs being experienced by rural industries in N.S.W. (and no doubt in Australia) to satisfy the need for expertise in controlling soil erosion.

In the past the then Department of Agriculture had a far more significant role than is now enjoyed. It maintained highly acknowledged rapport and acceptance, as did the Soil Conservation Service. The attrition, even closing down of experiment and research station in N.S.W. is ongoing. Even the range of activity by existing stations is being restricted. In the past many experimental and demonstration trials and plots were established on farms – this practice is in serious decline.

Education and Research

At the origin of this submission reference was made to public recognition and acceptance of the essential pivotal role of agriculture. The relatively poor understanding or indifference of Governments, administrators, policy makers and research funders impacts on the perceptions of those choosing rewarding careers in agriculture in the Public Service. Positions are offered readily for students outside the Public Service. Within the Departmental structure positions are offered with tenures usually ranging from one to three years with ongoing uncertainty of continuity of employment and career structure.

It is extremely unfortunate that young people attending primary and secondary teaching (including Agricultural High Schools) are not necessarily interested in careers in agriculture. (Personal reference from University staff and others) It is equally unfortunate that University students are becoming less interested in careers in agricultural science despite backgrounds in agriculture.

It needs to be acknowledged that the impact of the 20th century on land resources has been more widespread than ever before. Even in Australia, with a little over two centuries of increasing resource use and exploitation, a legacy now exists of widespread soil degradation due to many factors. Despite accumulated knowledge and experience soil degradation may have been slowed down but still continues while soil use is increasing and will continue to increase.

Under relentless pressure of market forces only high yielding crops and quality livestock production can be profitable – yet profitability may still only be achieved in real terms in 3 or 4 years in every 10 (Reference Inaugural Lecture Professor James Rowe, University of New England 1998).

There is a constant migration of soil nutrients into consumption – many soils now present real structural and fertility problems. These are in cultivated soils many with less than 50 years of use and now subjected to the market demand for cheap food. “Buy Low – Why Pay More”. There is no market place mechanism that builds into the cost of food the value of nutrients removed from the soil.

There is overwhelming evidence that extension and advisory services provided by Governments are totally inadequate in view of the burgeoning needs. There is an ever-growing need for trained people to service agriculture particularly in the science of maintaining quality soil to produce high quality plants and animals.

The role of the Australian Commonwealth Government.

A pivotal role for agricultural industries must be understood and nation wide awareness quickened to evaluate the critical role ahead for them – within the next two to three decades and obviously indefinitely.

To understand this role the obvious process ahead is the collection of information on the state of the production environment. This is a prerequisite for national policy decisions. In the past the national inventory on the effect of soil erosion was an invaluable document for determining the requirements to undertake control and rehabilitation.

It is apparent that the Congress of the United States of America has been aware of the need for resource monitoring for rational policies for the agricultural environment since 10 April, 1956. On that date the Secretary of Agriculture directed that every agency of the U.S. Department of Agriculture with major responsibility for land use and conservation should co-operate in making reasonable estimates of measures needed to maintain and improve the country's productive capacity for all the people. They were

required to estimate the magnitude and urgency of the various necessary conservation measures. It is obvious that the Congress had to act on the outcomes which were disclosed.

Every five years since 1977 the U.S. Natural Resource Conservation Service in the U.S. Department of Agriculture conducts a National Resources Inventory (NRI) which utilises 800,000 sample points and about 200 data elements to assess the status and condition of the nation's natural resources, primarily on private land. The University of Iowa undertakes the task of evaluating this huge stack of information.

The U.S. Soil and Water Conservation Society in a "Fact Sheet – State of Soil" claimed, "Each NRI provides a snapshot in time of how land is used and nationwide condition of inland water resources."

The importance the Americans attach to the conservation and management of natural resources can be judged by the numbers of those employed within the U.S. Department of Agriculture. Working within this component – the Natural Resources Conservation Service directly employs 10800 people with 8000 permanent conservation district employees. There are 2565 Field Officers. Many thousands of unpaid volunteers are involved.

The monitoring involves policies to be made and evolved for management of the natural resources of the nation. Having ongoing factual information means action can be implemented to change land and water use if degradation is detected and to take any appropriate action. These actions can be evaluated over time by the continuing monitoring – environmental, social and economic benefits can be achieved while ensuing durable resource outcomes. These are holistic from soil to water to air and all forms of life.

To achieve the objectives the U.S. Congress passed the Farm Bill (2002) allocating record funding for conservation management to the extent of \$38 billion. This accounting of the natural environment indicates the national value attached to resource preservation and management. Monitoring is integral to this process.

Monitoring in Australia

There are abundant technologies available for monitoring and for using existing knowledge. This knowledge, lacking adequate monitoring, is unassembled, uncoordinated, in disarray and lacking in outcomes. Certainly no national policies are based on adequate knowledge. For example the costs associated with the last major floods in North Western N.S.W. river systems entail translocation of enormous burdens of soil including the valuable topsoil. What were the replacement costs?

This form of monitoring is needed to indicate conservation requirements to reduce further losses. It is additional to the periodical monitoring necessary to determine the "state of

the environment" subjected to standard practices in use for the production of food and fibre.

Collating existing information and a rational programme for future monitoring

Initiatives need to be undertaken on a nation wide basis to establish a National/ Resource Inventory. There is need to understand and make provision for the ever increasing demand for food and fibre. A rational responsibility rests for all communities to ensure the long term viability of these resources. The major responsibility will always rest with the nation's food and fibre gatherers, but they will need objective national policies to assist them.

There is an urgent need for an adequate reporting on the state of the environment to the nation's parliaments and, in particular, the federal Government. As a first step towards such an inventory, existing information should be collected for evaluation and made readily available towards such an objective.

Summary

An in-depth evaluation of the converging problems so obviously associated with food and fibre production, and the critical period associated with costs and supply of energy resources, needs to be undertaken for future natural resource management. The monitoring of resources is an essential part of this evaluation. To this end, the training of experts in land and water management, the expansion of public service careers in that field, and the formation of collaborating groups such as CRCs is an immediate need.