

Soil policy development in Australia

Noel Schoknecht^A

^ADepartment of Agriculture and Food, Western Australia, Australia, National Committee on Soil and Terrain,
Email noel.schoknecht@agric.wa.gov.au

Abstract

In recent years, National and State investment in understanding and managing the Australian soil resource has declined despite the importance of soils in addressing key issues of our time, such as food security and climate change, and their crucial role as a key natural resource asset underpinning sustainable development.

The Australian Government, in partnership with the states and territories, is embarking on a process to bring soil-related issues into the public arena, to encourage debate, and to develop a long-term strategic national approach to the role of good soils management in addressing environmental and other issues. The time is ripe for a coherent, genuinely national focus on improving soil management to deliver benefits for consumers, for farmers, for rural communities and for the environment.

As a result of a public comment on a policy discussion paper on managing Australia's soils, several key areas that require national action have been identified, including:

- a national strategic approach to manage future threats to the soil resource;
- increasing research and development on soil health;
- improving national soil related skills and knowledge;
- improving soil information and data management;
- improving education and extension capacities to support practice change; and
- improving public awareness of critical soil management issues.

Work is currently underway to align national actions with these needs. The presentation examines progress towards addressing these issues, and the influence that the soil science community can have on national soil policy and ultimately better environmental, economic and social outcomes that derive from more sustainable soil management and improved land stewardship.

Key Words

Soil policy, soil management.

Introduction

In all the debates around climate change and water scarcity, one of the most important elements has been missing from the discussion — the soil. Soil management is fundamental for food security, for water security and for storing carbon and reducing global greenhouse gas emissions, yet it has been largely ignored in the policy debate to date. Food, water and energy are finally being recognised as the most important national and international security issues, with the potential to affect far more people than terrorism.

Benign neglect would be a reasonable summary of the status quo in terms of the lack of any coherent national focus on soil management in Australia. Soil conservation extension services have been run down, the teaching of soils at tertiary levels has declined, soils monitoring programs are patchy and fragmented, like the overall soils information base, and we lack user-friendly tools for people to measure many soil parameters. We are unable to determine in a nationally consistent manner with any authority, whether the condition of our soils is improving or deteriorating. We accept without question the need for good economic data to inform economic policy decisions, yet we continue to under-invest in fundamental national data about natural resources like soil. While there is a strong demand for soils information, in most regions it is difficult to find people with the know-how to access and interpret existing information. Soils research is similarly fragmented and under-resourced and lacks the capacity to be generating the knowledge we will need to improve the management of Australian soils in even more challenging climatic conditions.

For the current generation, our challenge is to develop more sustainable ways of:
managing our soils in the face of environmental change and increasing demands upon soil resources;
restoring the productive capacity of degraded soils; and
putting in place robust and resilient systems of land use and management that prevent the further degradation
of Australian soils and landscapes.

The Australian Government, in partnership with the states and territories through the National Committee on Soil and Terrain, is embarking on a process to air these issues in the public arena, to encourage debate, and to develop a long-term strategic national approach to the role of good soil management in addressing current the environmental issues. The time is ripe for a coherent, genuinely national focus on improving soil management, delivering benefits for consumers, for farmers, for rural communities and for the environment.

Internationally the importance of the land in supporting our future survival and prosperity is being increasingly realised, including the need for a soil management strategy to provide a clear purpose and direction for policy development and a framework to coordinate activities.

The need for a coordinated policy agenda to underpin the sustainable use of soils was clearly outlined in agenda 6 (Providing guidance to develop and implement national soil policies) of an International Union of Soil Sciences (IUSS) publication *A World Soils Agenda. Discussing International Actions for the Sustainable Use of Soils* (Hurni and Meyer 2002). International interest in policy frameworks continues. The Commission of the European Communities published a *Thematic Strategy for Soil Protection* in 2006 (2006a), with an associated impact assessment (Commission of the European Communities 2006b) and a proposal for the establishing of a framework for the protection of soil (Commission of the European Communities 2006c). Unfortunately this framework has yet to be implemented due to the complexities of gaining approval from the numerous member states. The importance of soil and improved soil management in mitigating climate change is increasingly realised, such as the *Review of existing information on the interrelations between soil and climate change* (Commission of the European Communities 2008).

Some jurisdictions within the Australian Federation have already begun working towards a “State Soil Policy”. NSW, lead by the Department of Lands, has made considerable progress in this area with the publication of a draft soils framework titled *Looking forward, Acting now* (NSW State Soil Policy Working Group 2008).

This paper examines progress towards achieving an Australian national soil policy, and the expected benefits from this process.

Methods

As a first step a soil policy discussion paper was published in 2008 (available for download at www.clw.csiro.au/aclep/publications/reports.htm). Andrew Campbell of Triple Helix, a leading thinker in sustainable agriculture, was commissioned to prepare the report for the National Committee on Soil and Terrain (NCST). The discussion paper set the scene for the development of a national soil policy. It was partly based on the international work that preceded it, and on the NCST’s and Andrew Campbell’s vision of sustainable soil management in Australia.

The discussion paper, as well as raising key issues, puts forward a vision for the future and sets some core guiding principles that underpin the long-term sustainable management of the soil resource.

Managing the land so that we meet our current needs as well as proudly passing it on to future generations requires a significant and long-term commitment. The vision put forward in *Managing Australia’s Soils: a policy discussion paper* sees Australian landscapes in which soil is conserved for its ecological values and the ecosystem services it provides, and soil health is enhanced for sustainable production. In this vision soil is just one component of an integrated and complementary natural resource system.

Underpinning this vision are ten guiding principles.

1. Soil is a crucial natural asset, and sustainable management and protection of the soil resource is fundamental to our future prosperity.
2. Degradation of our soil resource is an ongoing issue resulting in partial or total loss of productivity and

biodiversity (reducing capacity to provide ecosystem services from the land) and creating significant off-site impacts.

3. Prevention of soil degradation is nearly always substantially cheaper than the cost of restoration, and in most cases is a much better investment.
4. It is the responsibility of individuals, communities, industries and governments to not knowingly degrade soil and/or water resources.
5. Soil management and policy decisions at all levels should be based on the best available knowledge, and be evidence- and science-based.
6. Sustainable soil management is most likely to be achieved through integrated approaches to sustainable agriculture and natural resource management (NRM) where long term condition of the resource is built in as a core consideration.
7. Governments have a responsibility to provide an institutional framework that encourages and supports sustainable management and discourages unsustainable management of soil resources.
8. Industries that depend on the land have a responsibility to inform themselves about their impact on soil condition, and to promote and support sustainable soil management practices within their industry.
9. With the right to own, manage and use land and soil, landholders accept a duty of care to prevent soil degradation that affects others, and to implement management practices that maintain or improve soil condition and productive capacity.
10. Sustainable management of soil resources across the country requires coordination, cooperation and collaboration among all levels of government in partnership with industry, land managers and the community, regardless of land tenure.

Perhaps the most fundamental principle is the ninth – “*With the right to own, manage and use land and soil, landholders accept a duty of care to prevent soil degradation and to implement management practices that maintain or improve soil condition and productive capacity*”. As we all own land, either directly or indirectly, this duty of care role for the current generation to deliver to future generations the soil resource in as good or better condition than it is at present, should be a driving force behind our activities.

The discussion paper sets the framework for a way forward. It recommended actions in three core areas:

Rebuilding commitment

Rebuilding the knowledge base

Rebuilding capacity

The discussion paper was circulated for public comment, and 101 formal submissions were received. A summary of the submissions has been published (National Committee on Soil and Terrain 2009). The principal response from submissions demonstrated strong support for a strategic approach to soil management in Australia. The suggested mechanisms to achieve this approach were variable, with suggestions for a national soils policy and a national soil framework. There was a clear message that any approach should be integrated with other natural resource management issues such as water and vegetation management. The need for improved consideration of soil in wider debates on climate, biodiversity and future food security was identified.

Specific issues identified included:

- There was broad agreement on the need to build a case for strategic reinvestment in soils. Stakeholders saw a need for more research, particularly in the areas of soil biota, soil carbon, sustainability in soil management, and practice change.
- Stakeholders consistently identified the need for improved soils information including monitoring, collection, storage and access to data. The Australian Soil Resource Information System (ASRIS) was identified as a core national resource in need of on-going investment with recommendations that state based information should be linked to the website.
- The low level of community awareness and understanding of threats to soil resources and the long-term consequences of this was recognised.
- There is strong awareness of the growing lack of soils professionals with sufficient skills to interpret and apply soil information. Stakeholders stressed the need for specialist and local soils knowledge in the areas of soil classification and interpretation to support improved management practices leading to more sustainable use of soils.

- The lack of adequate people on the ground was frequently attributed to the ageing and retiring of soils specialists and the problems of universities being unable to maintain critical mass in soils courses. The lack of skilled soils people was also seen as a future threat to properly informed soils and land management policy development.
- Respondents identified a strong need to promote soils literacy through the NRM regional bodies. This would provide the opportunity to promote on-ground, local outcomes and to improve collaboration between landholders, NRM bodies and state / federal agencies.
 - The issue of training, extension and communication as a key element in developing management practice change towards more sustainable soil management was strongly supported.

Key suggestions for a way forward from the submissions included:

- a national strategic approach to manage future threats to the national soil resource;
- increasing research and development on soil health;
- improving national soils skills and knowledge bases;
- improving soil information and data management;
- improving education and extension capacities to support practice change; and
- improving public awareness of critical soil management issues.

These issues have since been raised at a national governmental level, and actions are now in place to address them. An update of progress towards a national soils policy and related activities will be presented at the conference.

Conclusion

The need for improved management of our soil resource has been widely recognised. The challenge is to convert that need into public policy which improves soils management for the future benefit of all Australians. The paper charts our progress on that path.

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