## Soil Expert Systems need On Ground Extension Experience Lessons from the NSW Soil Knowledge Network

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The New South Wales (NSW) Soil Knowledge Network (SKN) is a small group of retired and semi-retired soil conservationists, scientists, soil surveyors and soil extension officers. The broad aims of SKN are to improve soil management and reduce or eliminate land degradation. We work as an independent partner with government and industry, largely on a voluntary basis.

Among our other activities we provide:



- 1. Soil training and workshops
- 2. Produce soil videos
- 3. Help formulate soil policy
- 4. Support the use of legacy soil data and historical soil information.

SKN activities have identified many obstacles that impede the use of essential soil information in NSW.





Feedback from participants in our soil training groups and landholder workshops strongly suggests that increased on-ground extension would overcome many of these obstacles.

Obstacle	Consequences
Lack of awareness of soil as a factor in land	Developments fail, or do not reach potential by not
use decision making and potential to avoid	considering soil conditions e.g. struggling vineyards
externalities e.g. water quality	and unharvested pine plantations and urban growth
	and mining alienating agricultural land.
Information is not available on a single	Soil map coverage across most of NSW is incomplete
coherent map with sufficient contextual	or not publically released at useful scales.
data to relate to user relevant locations i.e.	Revert to use of outdated (1960s) national maps or
Does the information show an area of	guesswork on soil information
interest at a useful scale or has it been	
mapped.	
Prospective users are not aware of the	Soil management (agricultural potential, soil carbon
potential of soil information to reduce	optimisation and water and vegetation management)
uncertainties in decision making	is rarely tailored to soil type for optimal land use or
	management.
Data is not discoverable or able to be found	Duplication of effort re-providing information
particularly if not digital.	Public investment in soil information is not realised
Data is not available in interpreted formats	Emphasis has been on data collection and provision
	of technical data rather than use of data.
	Decisions are made without using available data
Spatial information layers cannot be geo-	Users cannot relate map data to field features or
located or used due to spatial or format	their holdings
issues	
Is the information trustworthy or reliable	Lack of promotion by institutions which produce or
	hold soil information
Departments do not have the knowledge,	Loss of institutional soil capacity
resources or tools to build and maintain	
systems	







## **References –** soon to appear in Soil Use and Management

Citizen science making a difference: Sharing soil knowledge and evaluating success in the NSW Soil Knowledge Network

S. K. McInnes-Clarke, B. R. Jenkins, B. W. Murphy and A. Rawson.

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