



Soils For Life Synopsis

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We have major problems with land and water degradation.

We also have sustainable solutions with better returns socially and economically.

The Global Problem

It is becoming increasingly obvious that many areas of the agricultural world are facing substantial soil, water and food sustainability problems. This is particularly so in India, Pakistan, China, sub-Sahara Africa, the Middle East and even California. There are serious water and arable land availability issues in the countries mentioned, along with severe pollution of many major rivers, particularly in China.

At risk is the planet's capacity to support the availability of adequate food and water for a future global population of 10 billion by 2050, up from the present 7 billion.

The social implications of a lack of food and water globally will inevitably impact economic growth, with soil and water security increasingly underpinning global social stability and security. The status of the world's soil and water has such great impacts on social stability that some nations now include natural resource availability in their military threat assessment process.

The President of the World Bank, the UN Secretary General and various world leaders have drawn attention to this problem, stating that sustainable global food and water is a major

issue and that: "Fights over water and food are going to be the most significant direct impacts of climate change in the next five to ten years" (Jim Yong Kim, President of The World Bank).

National Soil and Water Issues

Whilst Australia has land and water degradation problems, we also have the solutions. It is my intention as both the National Soil Advocate and Chairman of Soils For Life (SFL) to demonstrate those solutions both for a national and global benefit. These solutions involve regenerating degraded landscapes, ensuring more resilience in the face of increasing climate variability, and the provision of clean, green food and fibre on a sustainable basis. This increases the 'natural capital' value of the landscape and assists landholders to gain better returns socially and economically.

Suggested Remedial Strategies

We are approaching the problem through a three-part strategy to:

- (a) define the global imperative and the national opportunity this creates;
- (b) fix the paddock; and
- (c) fix the policy.

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Global Imperative/National Opportunity

The first component of the strategy involves Future Directions International (FDI), a Perth-based, independent, not-for-profit strategic research institute with Deductible Gift Recipient status. I established it in 2001 to conduct comprehensive research of important medium- to long-term issues facing Australia. It is linked to Soils For Life (SFL) to determine the extent of a possible global food and water crisis and what Australia might do to reduce it. FDI is producing an annual report for the Prime Minister and other national leaders to keep them informed on this critical issue and as a conduit for Australia to lead the way in demonstrating proven agricultural landscape regeneration solutions.

Further information can be found on FDI's website: <http://www.futuredirections.org.au>

Fixing the Paddock

In 'fixing the paddock' we have established 26 SFL case studies of leading agricultural best practice across a range of agricultural enterprises and established a proven farmer-to-farmer mentoring program. After successful testing of this program, Soils For Life is now rolling out the next phase of 100 case studies over three years to embrace all agricultural types and geographic locations in Australia.

This SFL program is to become a long-term data/information/research base for leading practice soil/water/agricultural matters, using successful volunteer farmers as the test base. The primary areas of evaluation include soil carbon and nitrogen levels, water retention in the soil capacity, food and nutrition levels, innovation and triple bottom-line performance measurements (social, economic and environmental), as part of a new, comprehensive natural capital assessment.

Of particular importance will be finding the means to measure soil carbon levels as this is a vital component of, and a key indicator of, a healthy soil. Soil carbon helps support a healthy balance of nutrients, minerals and soil microbial and fungal ecologies, and enhances the ability of the soil to hold water. Across the Australian dry

land cropping and grazing sector, most actively farmed soils have a carbon content of 1.5% or less, yet to deliver its myriad of benefits, the soil carbon levels for quality agriculture should be around 3% to 5%.

SFL is an active partner and participant in the recently formed Cooperative Research Centre for High Performance Soils (CRC-HPS). The SFL case studies will provide quality research sites for the CRC's four program areas.

Further information on Soils For Life and the initial Case Study reports can be found on the website at: www.soilsforlife.org.au

Fixing the Policy

The third component of the strategy is to 'fix the policy'. This requires Federal/State/Territory political agreement to establish a national objective to "restore and maintain the health of the Australian agricultural landscape".

The key components to implementing the national objectives are:

1. To declare our soil, water and plants as *key national, natural strategic assets* to be managed as such and in an *integrated* way.
2. To reward our 85,000 farmer businesses adequately for both their product and as primary carers of 60% of the Australian landscape.
3. To reconnect urban Australia with its rural roots by establishing a school garden in every primary and junior high school in Australia, with a properly coordinated and mandated teaching program. By age 16, every Australian child will have a fundamental understanding and appreciation of the function of soil, water, plants and food production.
4. To do a stocktake of our soil/water science knowledge base, highlight key gaps, re-task our research accordingly, and improve our extension service delivery capacity nationwide.
5. To examine regulatory duplication and overburden.

Conclusion

I believe our three-pronged approach is a unique and comprehensive way to develop for the first time a national strategy – supported by proven farming techniques – to regenerate and maintain the health of the Australian agricultural landscape with positive national, regional and global benefits.

Author Profile

Major General The Honourable Michael Jeffery AC, AO(Mil), CVO, MC(R'td) hails from Wiluna, Western Australia. His distinguished military career includes operational service in Malaya, Borneo, Papua New Guinea and Vietnam, where he was awarded the Military Cross and the South Vietnamese Cross of Gallantry. He served as Governor of Western Australia from 1993 to 2000 and as Australia's Governor General between 2003 and 2008. In October 2013, he was appointed as Australia's National Advocate for Soil Health. In that role, Michael has been pivotal in alerting Australians to the generally poor quality of our soils. His vision – to encourage all Australians to focus on soil health and the urgent need to regenerate our urban and rural landscapes – underpins the work of Soils For Life. Currently, he is Chairman of Future Directions International.