

## **Keynote: Sustaining the Global Farm – A Farmer’s View**

*Michael Sutherland*

### **INTRODUCTION**

Thank you Mr. Chairman for that introduction. I would also like to thank the ISCO Organizing Committee for giving me this opportunity to participate in the ISCO '99 Conference. I feel it is a great privilege to be in the company of so many imminent scientists and natural resource managers.

You have already heard me speak on the great success that Landcare has become in Australia over the past decade. In this presentation, I would like to look at NRM at the micro-scale - those things that my wife and I do on our own farm, as we struggle to achieve sustainability.

I will outline what I understand sustainability to mean and give examples of some of the technologies we employ on the farm. I will then briefly mention some of the barriers to achieving sustainability and conclude with some thoughts on what I have seen at ISCO '99.

### **Sustainability-Requirements and Tools**

Sustainable NRM to me as a farmer means maintaining or improving the natural resources on our farm -soil, water and biodiversity while producing farm products from these resources - in our case sheep, wool, cereal grains and oil seeds. We hope to pass the farm to its next owners in a better condition that when we began running Genaren in 1984.

Our farming enterprise needs to be profitable in order to:

1. Provide an adequate standard of living for the family
2. Re-invest in on farm productive assets; silos, fences, water points, new technologies
3. Service debt
4. Invest in land care activity - longer-term benefits, repair and enhance ecosystems

Profitability is the key driver as we strive for sustainability.

Farmers are special people in that they need to be multi-skilled to make their living. There are five inter-related skills required by a successful farmer in most situations:

1. Production
2. Financial
3. Marketing
4. Personal and Staff Management
5. Natural Resource Management

Landcare extension in Australia is training farmers in these skills under a variety of programs.

### **Our own Farm Situation**

My wife Kylic and I farm 3,336 hectares of land in the sheep wheat zone in Central Western NSW, about 400 km north west of Sydney. We have a 525mm annual rainfall. We grow 550 hectares of canola, wheat, barley and oats and graze about 7,500 DSEs of merino sheep. Our farm income comes from selling around 2,000 surplus sheep, 800 tons of

grain and oilseeds and 25 tons of fine merino wool each year.

Like many other Australian farmers, we generate very little profit from all of this production as our costs of production continue to increase and commodity prices trend downwards.

Our family is like many others in our district where some members of the family work off-farm to generate more income. My wife Kylie actually does the physical work of running our farm while I work off-farm at a gold mine.

### **Different Approaches to Sustainable Agriculture in our Landcare Group**

What our land care group of 14 families is trying to demonstrate to the wider community is that biodiversity conservation can be incorporated into the agricultural systems. Like any group, we all have slightly different ways of trying to achieve better natural resource management.

We have a bio-dynamic farmer in our Landcare Group who is totally organic in his approach. He mixes potions and plants and carries out activities according to lunar cycles. We have yet another farmer who has sold all his sheep in the interests of improving soil structure on his cropping paddocks. He is exploring controlled traffic farming and has built his own zero till planters. Another farmer has been planting trees for 25 years now, to provide shelter for stock, wind breaks for cropping and habitat for birds.

We are all in agreement that agricultural production systems require surrounding healthy ecosystems to sustain them in the long term. The greater the biodiversity the more complex the ecosystems then it has been shown to be more robust and stable. On Genaren we have 86% of the vertebrate species known to exist on our 1: 100,000-map sheet, which is a measure of sustainability.

### **The Approach on Genaren**

On our own farm we have divided the paddocks up according to land use capability and biodiversity value. On our more robust cracking red clays/sandy clay loams we continuously crop in rotation using no-till technology. Our lighter duplex soils we will only crop occasionally and have successfully direct drilled cover crops and pastures into virgin native pastures. Last year we grew a 3t/ha oat crop in virgin country, established lucerne and clovers and yet retained the twenty or thirty native grass and forb species in the pasture. These are summer active and will allow a winter cereal to be produced during their dormant period. After the crop was harvested in November the oat stubble formed a mulch to shade pasture and retain moisture from summer storms. In all our cropping paddocks, we retain dead timber for habitat for birds, bats and mammals. Most farmers have traditionally liked to tidy up all dead trees by burning.

We have also set aside 12% of our property area for nature conservation. By removing the introduced predators, foxes and cats, we have been able to reintroduce two locally

extinct species of marsupial. This tall fence has also made it easier to control kangaroo numbers.

With our sheep grazing, we have been trained to assess pasture production by calculating dry matter production and this allows us to budget for sheep feed demand months in advance. We also ultrasound our ewes to enable us to give special attention to the 30-40% of merino ewes who have twin lambs. We benchmark our sheep against other farmers to measure the profitability of our sheep. Our grazing systems are designed to maximize pasture production whilst maintaining ground cover.

You may have noticed the contour banks and waterways on the earlier slide of the farm. They were designed and built by the Soil Conservation Service in 1984 when I commenced growing crops with conventional technology. I no longer bother with these expensive capital works because my no till system does not threaten my soils.

All these examples are examples of best practice and this is an area where extension in the future needs to concentrate. Farmers are looking for the most profitable and sustainable technologies.

### **Indicators of Sustainability**

In 1995, the Standing Committee on Agriculture and Resource Management in Australia established a project to provide key indicators for sustainable agriculture.

There are five indicators of Sustainable Agricultural Systems:

1. Long-term real net farm income
2. Natural resource condition
3. Off-site environmental impacts
4. Managerial skills
5. Socio-economic impacts

These indicators have various attributes that need to be addressed by farmers when preparing a farm plan. The key indicators to assess farm and catchment health by which resource management can be monitored and benchmarked include; soil pH, organic carbon, ground water levels, soil fertility and structure, effective root depth and water use efficiency.

### **Barriers to Sustainable Agriculture**

It is probably easier to look at what is required by farmers to achieve sustainable agricultural production and then suggest that if any one of the key requirements is not fulfilled then the goal is not attainable.

1. *Farmer Skills - production*, financial, marketing, self and staff management and NRM planning skills
2. *Best Practice - outcomes* based research and extension focused on profitable and sustainable farming systems

3. *Infrastructure - access* to schools, hospitals, markets, telecommunications
4. *Fair Commodity Prices - reflecting* cost of production (including ecological cost) without trade distortions.

Probably the weakest link in my own production system is bottom line profit. In 1999 we are being offered just US\$71/tonne for wheat and US\$55/tonne for barley. Wool prices are at an all time historic low. Australia makes up less than 1% of world trade yet our socio-economic condition is dependent on our exports. Australia exports 75% of its agricultural production (98% of it's wool).

Any distortion in trade by tariffs or price supports severely affects Australian farmers' ability to make a profit. Despite being relatively wealthy in terms of farm assets, many Australian farmers are not generating profit to fit the sustainability equation.

The US lamb producers are presently lobbying the US Government to place huge tariffs on fairly traded Australian lamb. This US market is vitally important to the lamb industry in Australia. A tariff, if introduced, will see Australian farmers leave the lamb industry and pile into another industry causing problems in that sector. Unprofitable farmers are likely to be unsustainable farmers and push their natural resources harder.

In Australia, Landcare and it's related activities are pointing farmers in the right direction. More profit from farming systems will help us achieve this goal.

#### **Outcomes of the I SCO '99 Conference**

I am pleasantly surprised to see so much importance placed on community knowledge and expertise and see the cooperative direction that research/extension is taking.

I have personally met dozens of stimulating and inspiring people at this conference. I will take back ideas from the National Soil Erosion Laboratory at Purdue and from the people I have met and I will be following up the numerous inquiries about Landcare in Australia. I hope to facilitate getting some of the ISCO '99 delegates down under in March 2000.

#### **Questions Posed by M.D. Sutherland to:**

*Bill Northey.* (Iowa, USA) Do American farmers have a genuine conservation ethic? i.e. Do they feel they have a civic responsibility to conserve biodiversity on their farm or do they believe the taxpayer should pay farmers to conserve flora and fauna?

*Sibanyoni.* (Mpuluzi, South Africa) Having been dispossessed of tribal lands by an Act of Parliament in 1913, do indigenous Africans today have a mechanism whereby they can become landowners again in their own right?