The New Zealand Sustainability Dashboard

ARGOS

The New Zealand Sustainability Dashboard Online sustainability assessment and reporting tools to achieve quality water outcomes in a low regulation political environment

Charles Merfield, Marion Sautier, Katharine Legun

Authors

Charles Merfield	The BHU Future Farming Centre Lincoln Canterbury New Zealand.	charles.merfield@bhu.org.nz
Marion Sautier	Centre for Sustainability University of Otago Dunedin New Zealand	Marion.sautier@toulouse.inra.fr
Katharine Legun	Centre for Sustainability University of Otago Dunedin New Zealand	Katharine.legun@otago.ac.nz

NZ Sustainability Dashboard

- The New Zealand Sustainability Dashboard (NZSD) is a six year, NZ$11 million / €6.5m, Government funded project
- The primary aim is to develop a sustainability assessment and reporting tool for the primary industries
- This is in the form of an online ‘dashboard’ for both data collection and presentation

NZ Sustainability Dashboard

- Government funded project - 6 years
- Primary industries
- Aim: develop a sustainability assessment and reporting tool at the farm scale
- Targeted tool: online ‘dashboard’ for both data collection and presentation
- NZ$11 million / €6.5m

Home - Sustainability Dashboard - Pale Moon

File Edit View History Bookmarks Favorites Tools Help Back Forward FireFTP Reload Stop Home

http://www.farmsim.co.nz/SD/SustainabilityDashboardDemo/

Google Downloads LastPass Flash & Video

Highlight

The New Zealand Sustainability Dashboard

Demo site

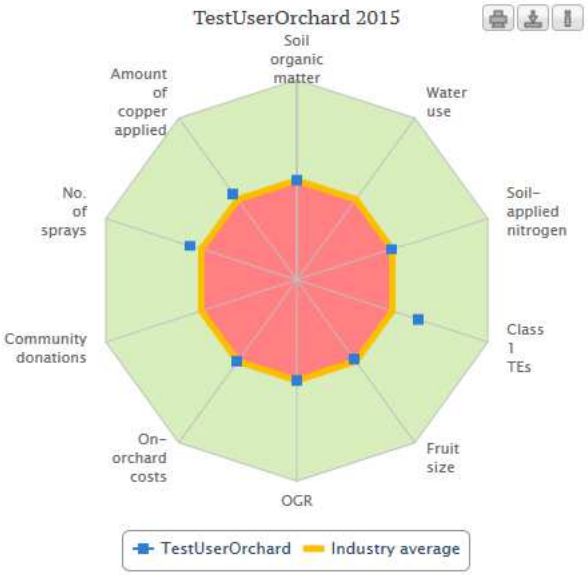
Home | Data Entry | Reports | TestUserOrchard | Logout

Welcome to the Kiwifruit Sustainability Dashboard

This tool will allow you to monitor, report and benchmark key performance indicators relating to sustainability.

It is being developed as part of the New Zealand Sustainability Dashboard project, funded by MBIE and supported by a number of kiwifruit partners (shown below).

Click here for notes on entering data in the data entry section.



Feedback

Zespri Kiwifruit | Trevelyan's pack and cool ltd | DMS Increasing Grower Profit | OPAC | PlusGroup | TE AWANUI

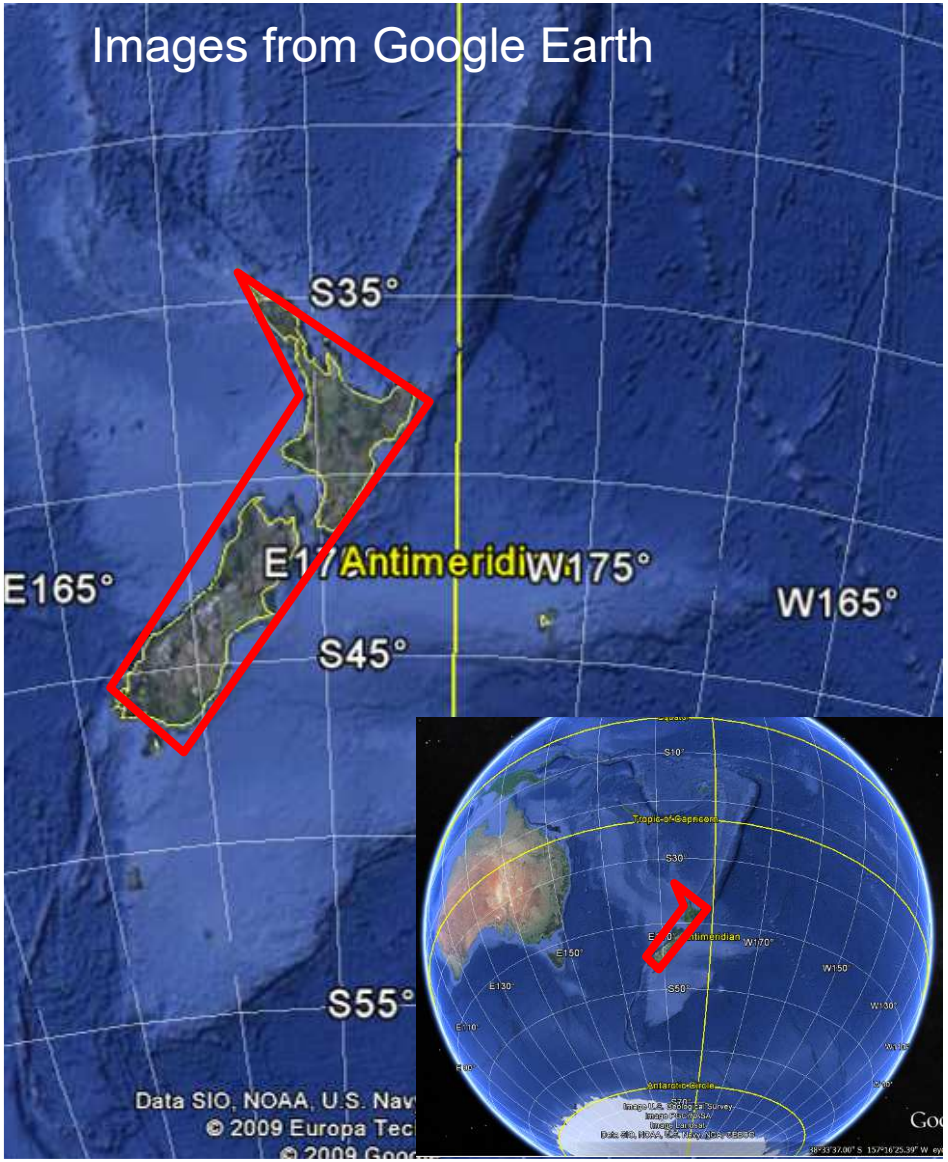
Adblock Latitude Done

Pale Moon status bar No Downloads 100% Flash & Video

The Dashboard and Land & Water

- The Dashboard's function is to help producers and processors measure their sustainability footprint
- This can then help them reduce their environmental impacts, such as on land & water
- There are VERY few alternatives to achieve this in New Zealand

New Zealand - geography + climate



New Zealand - Agriculture

- 4.6 million people, 17 people / km^2
- UK = 267, Netherlands = 500, Austria = 104
- NZ produces enough food for 30 million people
- Agriculture is ~6% of GDP
- Agriculture is ~55% of exports
- Nearly **ZERO** subsidies

Advantages for water quality in NZ

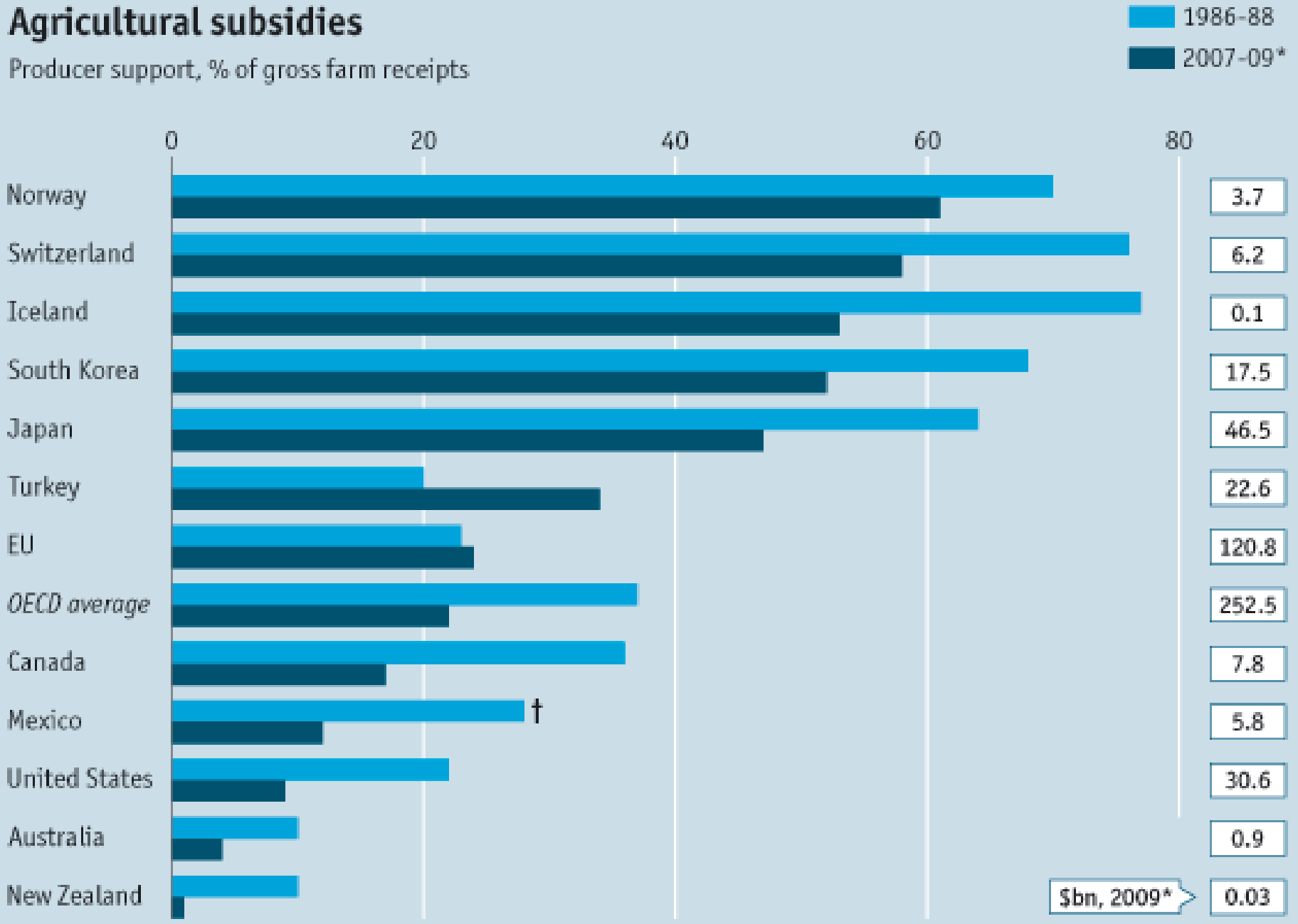
- Low population density means there is a low overall impact on surface and ground water
- NZ is geologically young, with a wide range of soil types from strong clays to ‘innert’ pumice
- Where farming is possible it dominates the landscape
- There are therefore water bodies with significant eutrophication

Challenges for water quality in NZ

- Farm systems vary from low intensity, hill, dry stock to intensive lowland dairying e.g. ave 2.5 upto 4 cows/ha
- 95% of livestock diet is from grazed pasture - greater potential for N&P loss to water
- Nearly **ZERO** regulations - outside of std business law
- Nearly **ZERO** subsidies

Agricultural subsidies

Producer support, % of gross farm receipts



Source: OECD

*Provisional estimates †1991-93

NZ political landscape

- Highly deregulated economy since the mid 80s

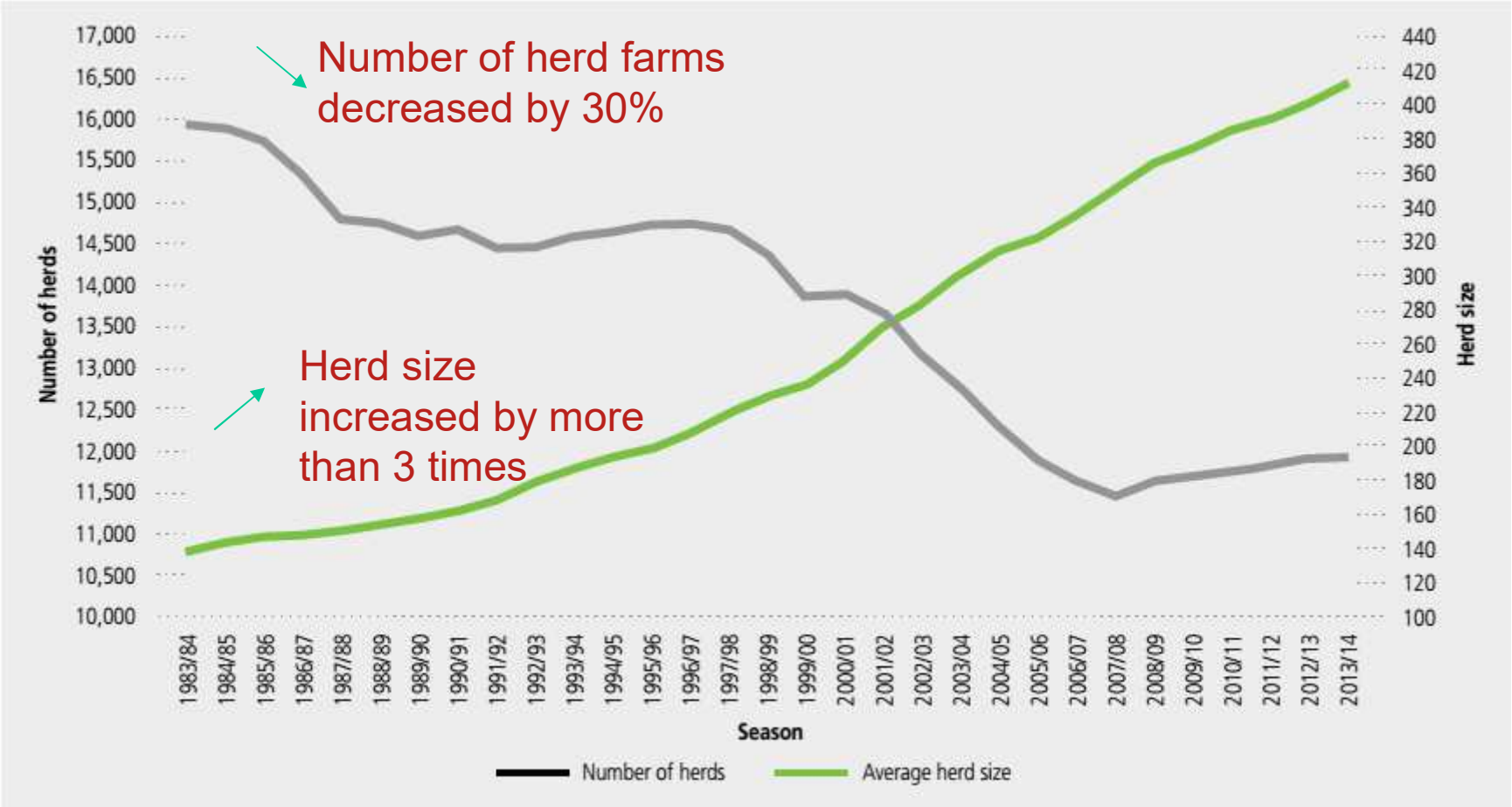
→ Govt. has practically no role in controlling farming beyond general business law

→ No specific environmental control of farming activities - until last three years

→ NZ cannot afford to subsidise its own exports

- Economically difficult to subsidise environmental protection - subsidizes exports

Effects of deregulation



- Average herd size is 413, 28% of herds > 500 cows, 600 herds > 1,000 cows

Impacts on land and water

Novel environmental regulation

- Nutrient pollution of waterways - become an issue in last 10 years
- NZ now has the problem the EU addressed in the 1980s
- In the last few years 'Regional' councils are starting to implement controls on farming
- NZ is taking a bottom up, decentralised approach compared with the EU's top down, centralised approach

EU <> NZ

- EU = top down regulation
  - Set by the EU
  - Nitrates directive - stipulated max N applications
  - One size fits no one?
- NZ = bottom up regulation
  - Regional regulation
  - Community based water quality standards
  - Nutrient models determine farm-by-farm nutrient management within a catchment

EU <> NZ

- Community regulations with specific arrangement at national and regional levels
  - Set by the EU
  - Rigid standards for EU territory:

Nitrates directive: stipulated max N applications (170 kgN/ha/yr)

  - Locally tuned directives:

Water Framework Directive: **River Basin Management Plans** developed for each catchment area through consultations with organisations and individuals.

→ Reluctance from impacted stakeholders

→ Process stimulated by EU supports and pressures

- Deregulated national basis with some regional regulation initiatives
  - Set by the volontary district (is district right?)
  - Water quality standards defined by local stakeholders (is it what you mean by community based?)
  - Individual nutrient farm management determined with nutrient cycle models

➔ Uncertainty of the process (will an agreement be reached?)

➔ High pace of change expected from spontaneous participation

In both case: Increased relevance of water quality policies

Bottom up NZ regulation

- Land managers have to complete a ‘Farm Environmental Plan’ - lots of details
- Use ‘OVERSEER’® www.overseer.org.nz to create field-by-field nutrient budget
- Result? Optimum farming & desired water quality
- Only 2 out of 15 councils have legislated so far
- Alternative - the NZ Sustainability Dashboard

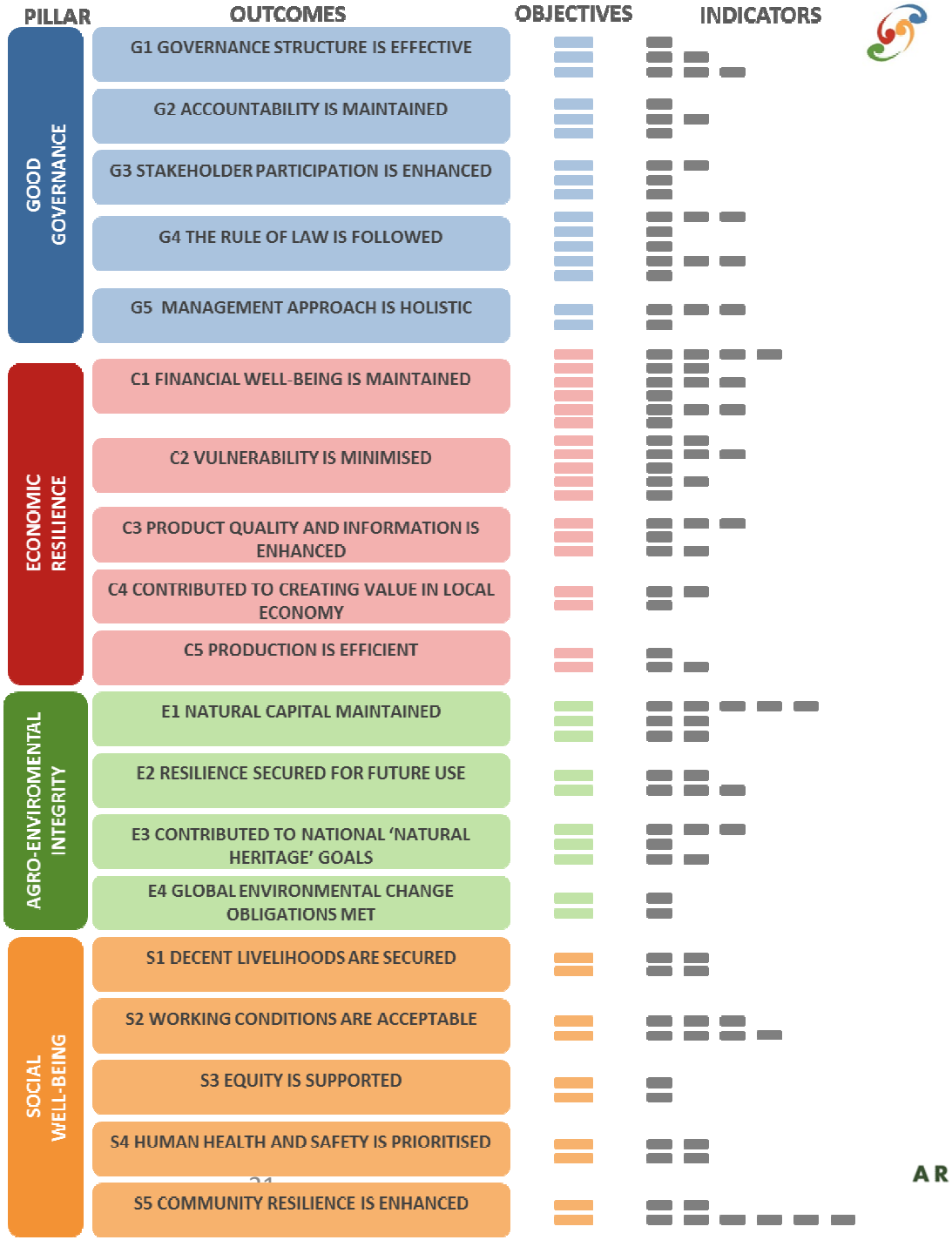
Using the Dashboard to create change

- NZ agriculture highly customer focused - no subsidies - open market
- NZ Farmers are increasingly conscious of environmental issues
- The Dashboard is designed to allow farmers to measure and demonstrate their environmental performance to customers, regulators (NZ + overseas) and NZ society

Dashboard is based on SAFA

- SAFA is the FAO's Sustainability Assessment of Food and Agriculture Systems
- http://www.fao.org/nr/sustainability/sustainability-assessments-safa/en/
- Adapted for NZ specific issues
- Still based on four main Themes / Pillars

The NZSD sustainability assessment framework



Self-reflexive analysis of a NZ sustainability program

Aim
Identify success factors and barriers hindering sustainability program adoption

Case study
The ‘Sustainable Winegrowing New Zealand’ program

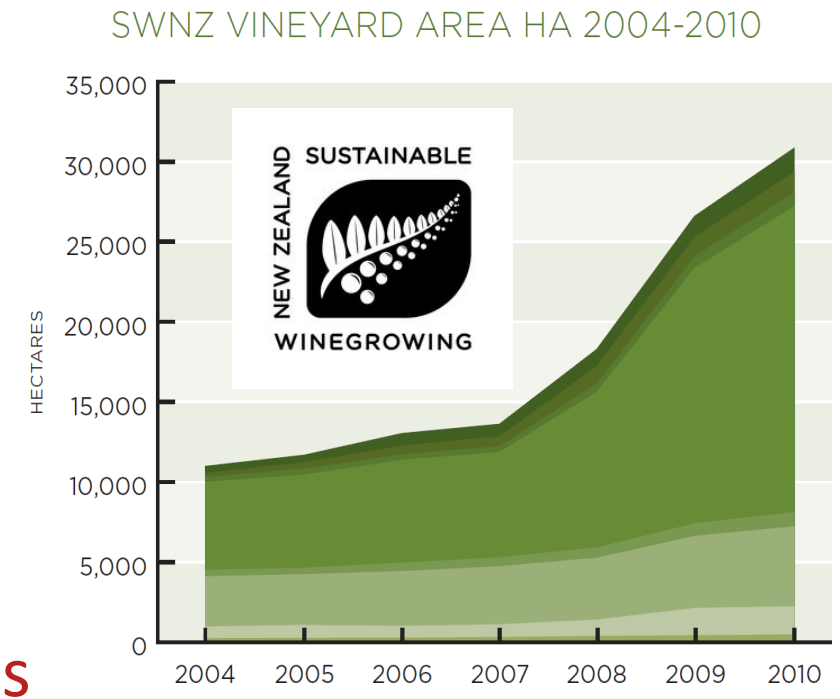
Method
21 interviews with NZ industry stakeholder and experts

Why studying Sustainable Winegrowing NZ?

- Use sustainability assessment and reporting tools
- Industry led sustainability program
- Partner of the NZSD
- Successful

  94% of the winegrowing area certified ‘sustainable’

- 20 years old
  - Memories still fresh
  - Different development phases



Success factors

- Started small then grew gradually

Fit time, material and intellectual resources with achievable goals

  - Started with 5 growers

- Rethought the strategy when adoption stagnate
  - Reach the food chain level (e.g. winery)
  - Develop a market rationale (e.g. premium price, distinctive identity on a high competitive market)
  - Allow for different level of involvement
  - Sustainability accreditation as mandatory to access to markets

Success factors

- Multi faceted definition of sustainability
- External Audit
- Monitoring
- Offer tied service (here benchmarking)
- Dedicated staff for collecting and communicating scientific information, collecting feedback, answering questions, producing national and individual reports, auditing

Potential barriers

- Multi faceted definition of sustainability
- Diversity of members profiles
- Low usability of tools
- Low relevance of reporting