The New Zealand Sustainability Dashboard

ARGOS

February 2015

Newsletter

SAVE THE DATE

Stakeholder workshop – 6th of August 2015 – Wellington (location be confirmed).

MBIE CONTRACT

Positive feedback received on the MBIE contract condition 3 review – however process still to be finalised.

SAFA Small App

NZSD is currently testing the application before its final release planned in 2015.

OUR PROJECT

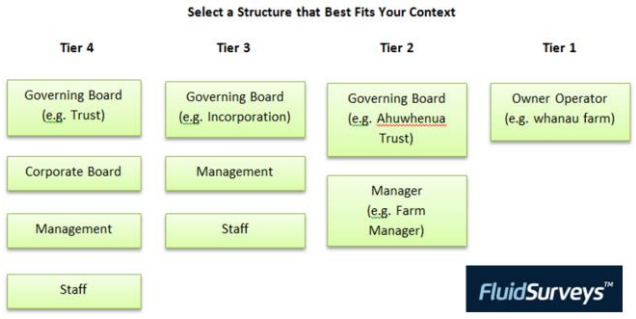
The New Zealand Sustainability Dashboard (NZSD) project's main aim is to build practical tools for sustainability assessment, auditing, reporting and learning. For more information on the project, please check the NZSD project website (www.nzdashboard.org.nz).

"Tell it as good stories and honest stories. Absolutely, declare your uncertainty." Morgan Williams at the NZSD Stakeholder Workshop, 19th of June 2014.

MAIN INDUSTRY UPDATE

Wine – The WiSE (Wine industry Sustainability Engine) tool has been deployed, and a large number of National and Individual reports including benchmarking results have been delivered for Energy, Water and Agri-chemicals use (8 different benchmark reports), including recommendations, links to resources and tutorials (video). The individualised pdf reports are being emailed annually and are be integrated into WiSE along with exploring in-season reporting. The plan for 2015 will shortly be confirmed and could include some new research topics, such as using a materiality assessment process for indicator prioritisation (see detailed description in Research update), as well as trialing some other project developments.

Kiwifruit – Funding has been confirmed with our industry partners (Zespri, Treveylan's, OPAC, Te Awanui HukaPak, DMS and the PlusGroup). The Packhouse and Orchard dashboard prototype tools have been delivered and evaluated through interviews with the feedback used to prioritise the next developments i.e. creation of an industry level dashboard, delivery of carbon footprint tools, linking with existing industry databases (e.g. Zespri Spray Diary) and enhancements to the design and functionality of the existing dashboards. Also, a study to identify the main sustainability-related topics of focus for Zespri customers has been completed. Environmental and labour issues were of most interest to Zespri's customers.



Ngāi Tahu / Māori – The Māori assessment tool design is now completed for Tier 4 organisations and will be trialed using FluidSurveys with a range of Māori organisations. A review is underway to check how this tool could be applied to other sectors (Māori and non-Māori enterprises).

Forestry – Two case study partners have been confirmed with another likely to confirm shortly.

Others –The organic case study is currently under review. Aquaculture NZ is developing an environmental framework and standards, and is currently developing its dashboard with EcoPortal. The NZSD team is providing support in reviewing some of the elements of this. We have been working also with other organisations to assist with enhancing sustainability assessment and reporting systems – including ANZCO, HortNZ as well as irrigation companies.

MBIE CONTRACT UPDATE

The annual reporting was delivered in early September 2014 and the project has received a **Green status.**

There were some conditions on the project when it was first funded by MBIE. Currently the project is being reviewed as part of condition 3 which involves a review of the project risks and the KPI selection process (i.e. KPIs used in the Dashboard are scientifically robust and linked to farm practices). A report entitled "A risk and reliability analysis", has been delivered to MBIE, this was reviewed in October 2014, with a review workshop held in Christchurch in January 2015. The process should now be finalised really soon by formal feedback to be received from MBIE in the next few months. The project has seen this process as a good opportunity to review its work and ensure that the project can meet the expectations of all our partners and funders.

RESEARCH TEAM CHANGE

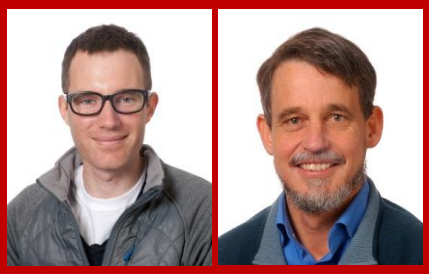
Our two main Social Researchers left at the end of September: Dr Chris Rosin has returned to the United States, and Dr Lesley Hunt has retired from Lincoln University.

"We wish both Lesley and Chris well in the future and thank them for intellectual and personal integrity that has kept us honest!" - Prof Henrik Moller

They have been replaced by Jay Whitehead and Professor Paul Dalziel (AERU), Dr Katherine Legun (University of Otago) and Dr Marion Sautier (invited Post Doc Research fellow at CSAFE). Their profiles are available on our website.

TEAM CHANGE

Farewell Lesley and Chris !



J. Whitehead and Prof Dalziel

Dr Sautier and Dr Legun

RESEARCH UPDATE: THREE MAIN RESEARCH AREAS

1- Sustainability assessment framework:

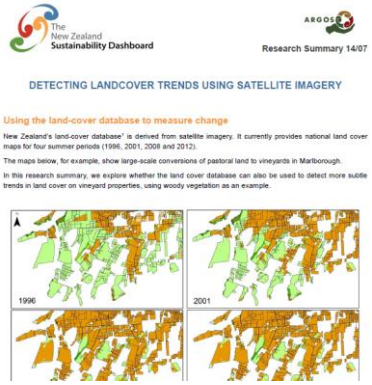
Framework and KPI selection – Prioritisation process: After the development of the NZSD framework last year, we have decided to focus on a process to select and prioritise indicators – similar to a materiality assessment methodology but customised and applied with our partners. This project is led by Jay Whitehead from AERU and the methodology and results will be published later this year –a first trial is being conducted with the wine industry. The methodology is using the following four main steps:

- Step 1 - Determine the importance of the sustainability issue.
- Step 2 - Determine risk posed by sustainability issues/indicators.
- Step 3 - Combine importance and risk findings to determine issue priority and organise issues on a timeline for phased action.
- Step 4 – On-going: findings of this process could then be used to help inform our partners' decision making. The results could also be used as a base upon which further stakeholder engagement could be undertaken to refine the results.

Social pillar: A research report 14/02 from Lesley Hunt has been published about the social pillar (**"Introducing the social pillar into prototypes of the New Zealand Sustainability Dashboard**"): it provides a deep review of definitions and existing frameworks for social sustainability assessments, as well as analysing previous ARGOS projects' results on this topic, and proposes a framework and recommendations to our industry partners.

Biodiversity KPIs:

A new **Research Summary has been published** (**RS14/07 Detecting Landcover trends using Satellite Imagery**) and provides an initial assessment (using power analysis module) of what detect trends (for instance in woody vegetation) on vineyards are realistic to detect using satellite imagery. The next steps include the assessment of the benefits of woody vegetation – using surveys on vineyards to explore how much woody vegetation on vineyards is required to deliver such benefits, particularly for biodiversity.



A pilot project is underway investigating **biodiversity indicators** for organic grape growers. The vineyards of all these grape growers have been identified on a GIS map with additional layers including soil type and vegetation types added. Changes of vegetation types have been identified over time for each of the regions. Optimal levels of vegetation to support different types of biodiversity such as birds is currently been reviewed and provide insights on the relative importance of management practices and landscape context for predicting biodiversity. Recommendations will then be developed for biodiversity monitoring.

2- Monitoring and Reporting system:

Monitoring and reporting systems have been set up through prototypes delivered to the industry partners. Please check the case studies section for more information.

FAO (Food and Agriculture of United Nations) **- SAFA** (Sustainability Assessment of Food and Agriculture systems) **Small APP:** NZSD is currently testing the application before its final release later in 2015.

Power analysis module:

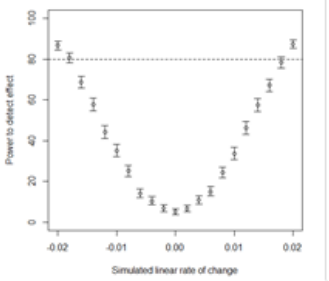


Figure a. Changes in power for multiple simulated linear rates of change for an existing dataset.

Before investing in data collection and monitoring, it is important to know:

- Is a given survey design suitable for detecting what we are trying to find?
- How can we improve the survey design?
- To increase our ability to confidently detect change or an effect of interest.
- To avoid misleading conclusions and highlight data limitations.
- To reduce monitoring costs.
- To investigate how to optimise spatial and temporal coverage.

Our goal is to provide a tool that makes it simple to test whether a given sampling design, or range of designs, is/are fit-for-purpose. The power analysis module has been developed (open-source data-mining tool, R) and trialled. Next steps are to use it to evaluate existing data like: trends in soil quality for kiwifruit sector or national trends in woody vegetation cover on vineyards (see above).

3- Learning by doing/monitoring

Learning tools: a focus in the wine sector (see details in wine sector update on reporting, benchmarking and recommendations provided to the members) and the kiwifruit sector (plan for 2015 to develop carbon footprint capability and linkage and analysis of spray diaries data).

Learning processes using a participatory research methodology proposal:

- **Kiwifruit evaluation report:** interviews done in July 2014 about the first release of the kiwifruit prototypes. The full report has been published by Lesley Hunt – however it is not a public one.
- Dr Sautier and Dr Legun are taking over the next steps on the evaluation process. They focus on **3 main social dynamics** that we don't know much about – and will first trial this new methodology in the wine sector before extending it to others - on how much the following actions improve grower engagement, uptake and input:
    - participation in design and implementation.
    - concrete numbers, measure and comparisons with peers.
    - Are absolute (more likely from scientists) or relative (more likely from peer discussion) indicators more useful?

MAIN INTERNATIONAL CONFERENCES PARTICIPATION

John

2-3 November 2014, Bandung, Indonesia. 5th ICMNS *(International Conference on Mathematics and Natural Sciences).* Dr John Reid has provided a presentation entitled "Insights from Cross-Cultural and Transdisciplinary Research in Sustainable Food and Fibre Production".

Henrik

1-2 November 2014, California, USA. OECD ICROFS *(International Centre for Research in Organic Systems)* ***Conference.*** Prof. Henrik Moller has provided a presentation of a paper entitled "Are organic farm input restrictions sufficient to secure ecosystem services? Lessons from New Zealand's ARGOS and Sustainability Dashboard project".

5-11 October 2014, ***Salt Lake City, USA. IUFRO World Congress 2014*** *(International Union of Forest Research Organizations).* Dr Tim Payn has provided a presentation entitled "Using A Criteria And Indicators Framework To Explore Future Impacts Of Planted Forests On NZ's Economy, Environment, And Society".

Jayson

17-10 August 2014, Brisbane, Australia. 29th IHC *(International Horticultural Congress).* Dr Jayson Benge and Andrew Barber have presented papers about:

- The New Zealand Sustainability Dashboard: Connecting Growers, Industry, Consumers, Regulators and Policy Makers to Drive Sustainable Horticulture (Jayson Benge with co-authors).
- Benchmarking Energy and Water Efficiency in New Zealand Wine Production: Eco-Verification and Incentivising Improvement Using the New Zealand Sustainability Dashboard (Andrew Barber with co-authors)

Andrew

MAIN NATIONAL WORKSHOPS OR EVENTS PARTICIPATION, SUCCESS STORIES

January/February 2015: A long article (New tools to lift industry performance) from Jayson Benge about the NZSD project and on what has been developed for the kiwifruit industry so far has been published in the **New Zealand Kiwifruit Journal** along with about 20 pages on a "Focus on: Sustainability" theme.

26 November 2014 – Working Together Workshop Wellington. Professor Paul Dalziel was invited to give a keynote address to the Working Together workshop jointly hosted by Statistics New Zealand and the Treasury. The workshop explored how frameworks of indicators can be constructed to provide broader insights into living standards at the regional and national level than can be achieved by concentrating simply on measures of production such as gross domestic product. The Dashboard approach is an example of such a framework. Paul's address focused on well-being (individuals, communities and governance) and adding value.

Paul

12th September 2014, Christchurch. Regional Councils Resources Managers Group meeting. Prof. Henrik Moller presented a talk: "New Zealand Sustainability Dashboard for more resilient production landscapes: an opportunity for collaboration?"

14 July 2014 - DOC Christchurch. Workshop with Department of Conservation. Manhire J, MacLeod CJ 2014: New Zealand Sustainability Dashboard: Future-proofing agriculture for all New Zealanders.

LINKAGE

The AgriBusiness Group is now a member of the Sustainable Business Network (SBN). They have just published their business opportunities report for a Sustainable NZ and some of our partners could be interested in their initiatives, especially linked with the restorative transformation area (Restoring NZ's food system). Please contact Emily for more information.

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