SUBMISSION: Primary Sector Science Direction

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OVERVIEW

1. Irrigation NZ (INZ) is a national body that promotes excellence in irrigation. INZ represents the interests of over 3,600 irrigators nationally (irrigation schemes and individual irrigators) totalling over 360,000 ha of irrigation (over 50% of NZ's irrigated area). It also represents the interests of the majority of irrigation service providers (over 150 manufacturers, distributors, design and install companies and consultancies).

2. An irrigators business is founded on certainty. This includes access to a reliable water supply for irrigation and the ability to farm their land with a degree of flexibility. It is this certainty that enables investment and continuous improvement in resource use efficiency. Without certainty they and the considerable flow-on benefits to the regional economy can be significantly impacted. The national economy would also be impacted upon given NZ is an agricultural export based economy. Irrigated produce currently contributes between 1 - 1.5% to national GDP.

SUBMISSION

View of the Future

3. Is it realistic to have a vision in which input costs will be substantially reduced? Whilst there should be a goal of reducing actual inputs, there will inevitably be an additional cost for the technologies that help do this - in terms of capital and operating. To date it is INZ's experience that input costs are redistributed rather than substantially reduced. Instead increased profitability should be the goal on its own, or alternatively together with reduced inputs, as this is in part what the science strategy is aiming to achieve for the sector – 'more from less'.
4. In addition to taking account of public needs and decisions the vision should aim to actively influence these by bringing credible science to the fore. Credible science needs to have a vision of becoming dynamic in order to respond and surpass the current disruptive trend of trial by 'social media' – the science of self-proclaimed experts.
5. There needs to be an additional vision in terms of growing resource availability - through a focus on increased social and built infrastructure. The vision for resource use for the primary sector needs to be one where we grow and/or better use New Zealand's natural resources through communities coming together and working co-operatively for the advantage of all.

Pillars

Pillar 1

6. In the title the word 'protecting' should be replaced with 'growing'. Alongside sustaining and adapting, science should have a focus upon innovative ways to grow our natural resources rather than simply protecting them.
7. The outcomes are all focused at the farmgate level. There is no mention of integrated catchment management or greater social co-operation to grow natural resource availability for the benefit of all. Both need to be explicit within the primary sector science roadmap as they are key to a prosperous future.

Pillar 2

8. The integration of existing farm systems, diversifying the dairy platform or sheep and beef unit for examples, needs to be added to the outcomes. It is partially captured by the diversified production landscape outcome but needs to be more explicit. Improved integration of existing farm systems is of equal importance to new plant and animal crops. Presently primary sector science has a tendency to be sector specific rather than explore integrated farm systems. A number of farmers already run integrated systems. These display good resilience and also have much potential for better environmental management. Their accelerated evolution is a key part of a successful future for NZ's primary sector.

Pillar 4

9. The concept of more dynamic credible science to counter trial by social media needs to flow through as part of the public understanding and engagement outcomes in this pillar.

Barriers

10. The potential RMA regulatory barrier is not identified. For resource management in NZ the primary focus is upon the effects of the individual. This creates tensions with the required future move to an integrated catchment management approach for resource management. There are ways of manoeuvring around this, through the establishment of catchment collectives that are able to self-manage the resource within the constraints placed upon them - either through a single consent or legal agreements linking consents. However, the current regulatory environment could be made more user friendly.

Themes

Data-driven, digitised and connected primary economy

11. Data-informed is a better way of describing the future rather than data-driven.
12. The theme currently reads as the future involves farming sensors rather than crops or livestock, the practical reality is a balance will have to be struck. A useful science direction under this heading would be understanding the level of precision or accuracy required, given the constraints of application technologies and variability of the physical environment. Noting this will change overtime as technology improves and knowledge increases.
13. The need for enforced data standards should be acknowledged, that's if the primary sector is to more efficiently move through the current data interoperability bottle neck. There is currently a significant opportunity cost that is not being accounted for.
14. The concept of artificial intelligence - self-learning decision support systems needs to more clearly come to the fore in this theme. This is the direction in which ICT multi-nationals such as IBM and Microsoft are already headed.

Social licence and the public forum

15. This science theme also needs to explore ways to actively influence public preferences and decision making. Presently the public forum part of the theme is very passive, it's all about understanding and acknowledging. It needs an active marketing social science work stream – determining how best to influence.

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