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CSIRO Agricultural Sustainability Initiative



How we deliver

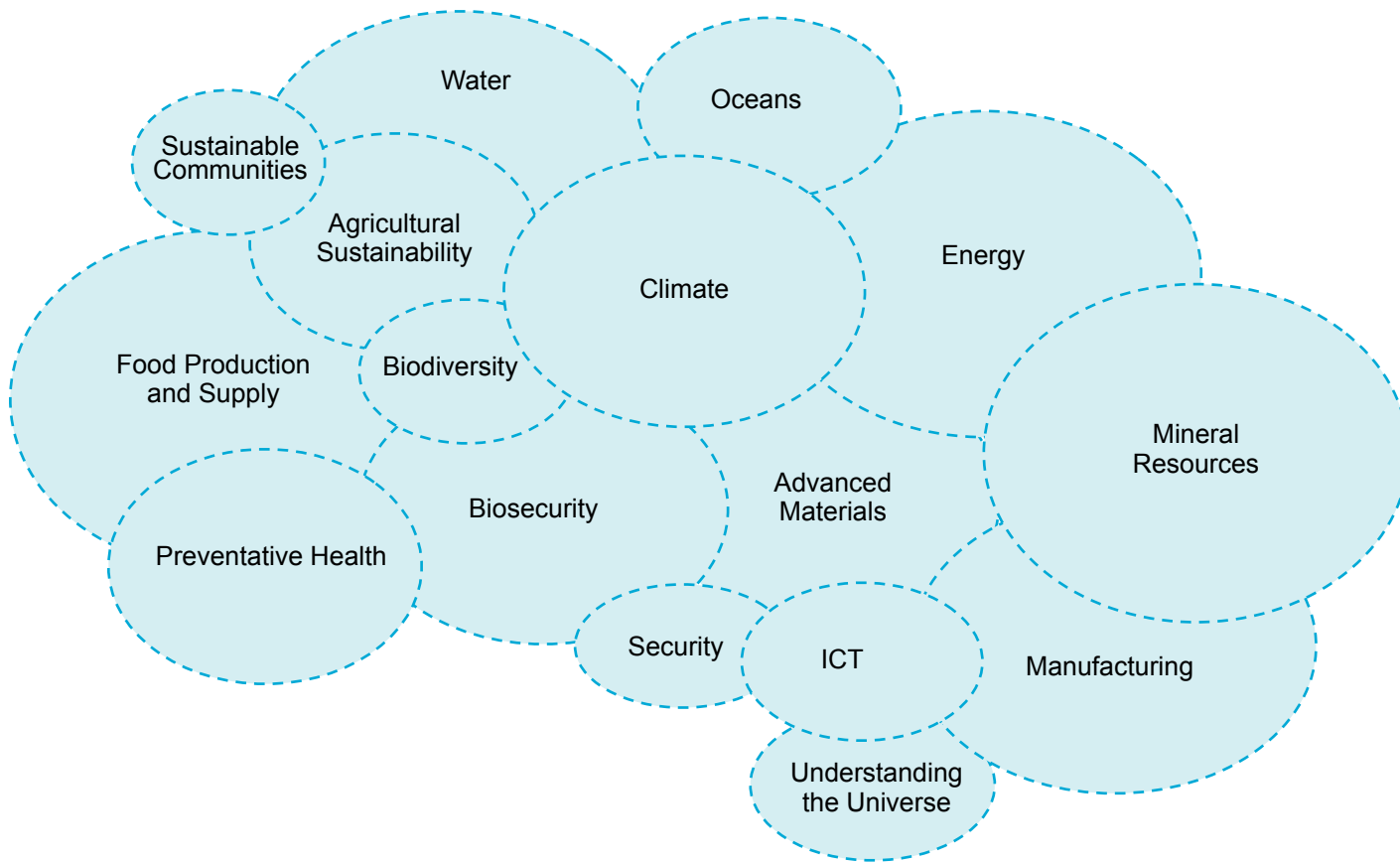
- Six national research flagships (further three in 07/08)
- Divisions (~17)
- Joint ventures
- (Agricultural Sustainability Initiative)
- Participate in 37 of the 56 CRC's
- Major National Research Facilities (eg. *Southern Surveyor*)
- More than 50 specialised analytical services

*CSIRO is about the size of one Australian University
(e.g. University of Melbourne)*

Delivery metrics

- In the top 1% of international research institutions in 13 different fields
- Ranked in the World top ten in plant and animal sciences, agricultural sciences, and environment and ecology
- Over 3900 granted or pending patents
- More than 150 spin-off companies based on CSIRO IP
- 13,000 client reports, 5000 science publications in 2006
- Rates of citation of CSIRO publications 2nd highest in Australia (behind ANU)

CSIRO Outcome Domains



Agricultural Research Delivery

- Sustainable Ecosystems
 - Plant Industry
 - Livestock Industries
 - Land and Water
 - Entomology
 - Forestry and Forest Products
 - Textile and Fibre Technology
 - Information and Communication Technology
-
- = ~\$50M investment, 400+ projects

Internal Drivers - Agriculture

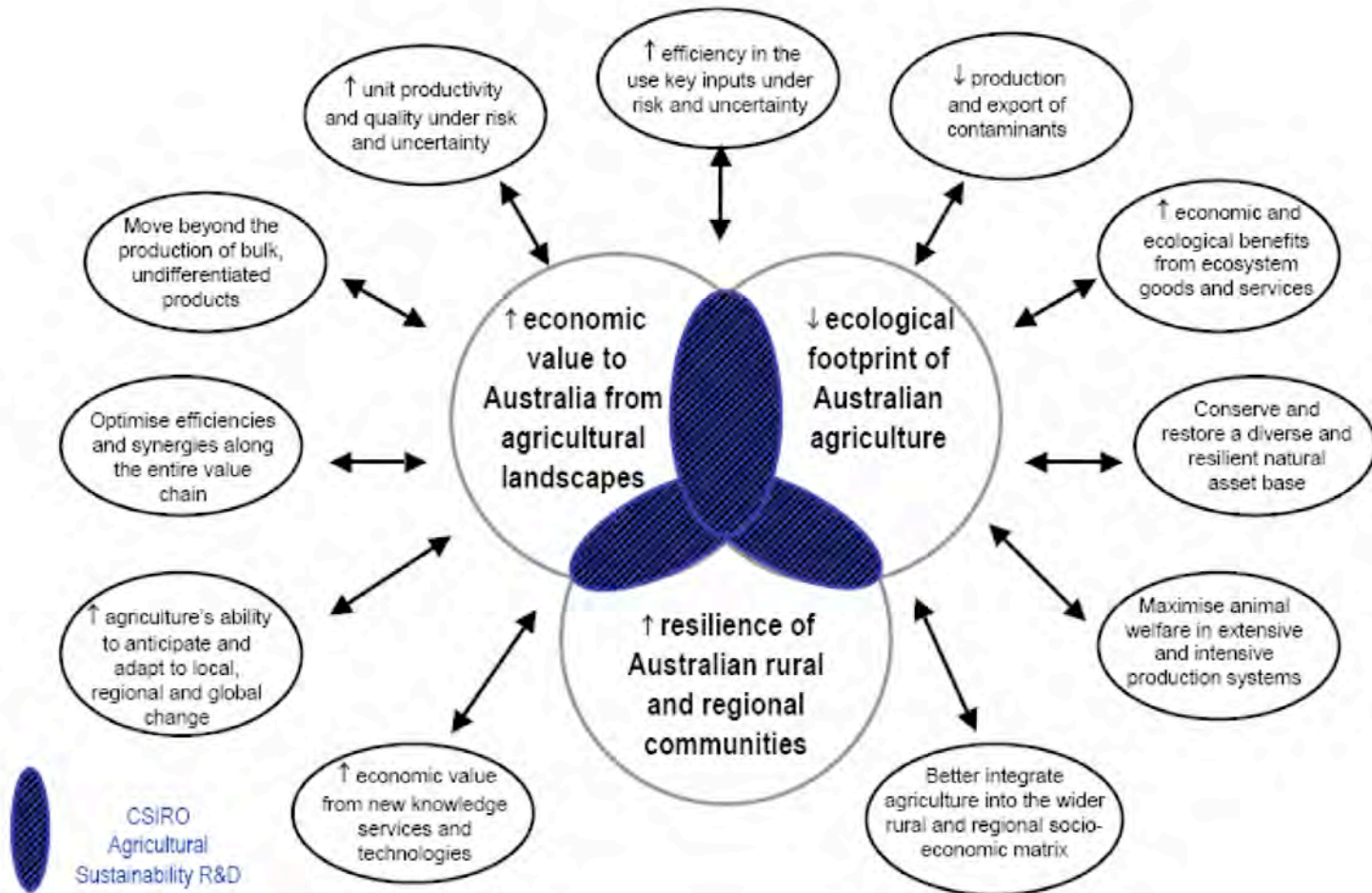
- Has CSIRO been maximising its national impact ?
- Did we have a CSIRO strategy or 8 separate / competing strategies ?
- Have we been using our capability most effectively ?

ASI rationale

Re-organise to:

- Better address large, complex issues that require skills from multiple science disciplines
- Improve responsiveness
- Clearer external 'gateway' to CSIRO agricultural research

Agricultural Sustainability R&D



Theme 1 - Australian Agriculture Transformed

- New industries
- Industries moving to new areas
- New enterprise combinations

In response to:

- Climate change
- Economic globalisation
- Demographic changes
- Changed attitudes in society
- Increasing energy costs



Theme is about change: anticipating, responding, adapting

Features: Drivers often external to the enterprise, hard to predict, large economic and social components

Theme 2 - Economic and Environmental Performance of Australian Agriculture

- Enterprise level production systems
- Enhancing economic performance
- Enhancing environmental performance
- Efficiencies beyond the farm gate (value chains, energy, waste)
- Benchmarking/monitoring for accreditation
- R&D adoption and impact



Theme is about : delivering management options for agricultural producers and value chain processors

Theme 3 – Agro-ecosystem Function and Prediction

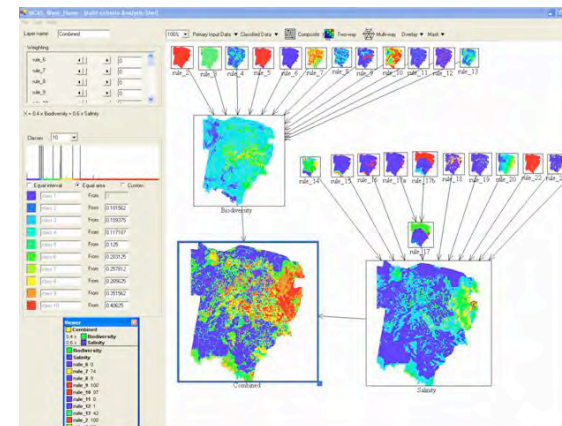
- Predictive capability (models etc.)
- Decision support tools
- Understanding agricultural ecosystems
- Ecosystem services



Bringing together CSIRO's biophysical science and modelling capabilities to underpin agricultural sustainability

Features:

- Enterprise scale,
- strongly biophysical,
- processes more predictable (cf international economics)



ASI Science Foci

- Climate change: impacts and adaptation in agro-ecosystems most at risk
- Crop-livestock integration: systems for managing multiple enterprises
- Multi-functional landscapes: quantifying key agro-ecological trade-offs
- Improving on-farm irrigation efficiency and crop water use efficiency
- Biofuels: getting from paddock to pump, production and environmental
- Development of agriculture and plantation forestry in northern Australia
- Cutting-edge information technology for the agricultural sector
- Agriculture as a greenhouse gas source or sink
- Connecting agricultural sustainability with market opportunities

ASI Capability

- Farming systems
- Irrigation & drainage
- Pests
- Diseases
- Agronomy/plant physiology
- Transport
- Value chain analysis
- Economics
- Soil management
- Livestock sciences
- Land use planning
- Precision agriculture
- Monitoring and sensors
- Water management
- Plant-soil interactions
- Waste water
- Climate analysis
- Social science
- Fertiliser management
- Risk analysis
- Salinity
- Weed management
- Feed utilisation
- Stock nutrition
- Systems modelling
- Landscape ecology
- Software engineering
- Farm forestry
- Environmental chemistry
- Policy analysis

Summary

- We can build teams to address large and/or complex research issues
- We are looking forward to continuing to work with you!

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Thank you

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