# Public agricultural research in an era of transformation: The challenge of agri-food system innovation

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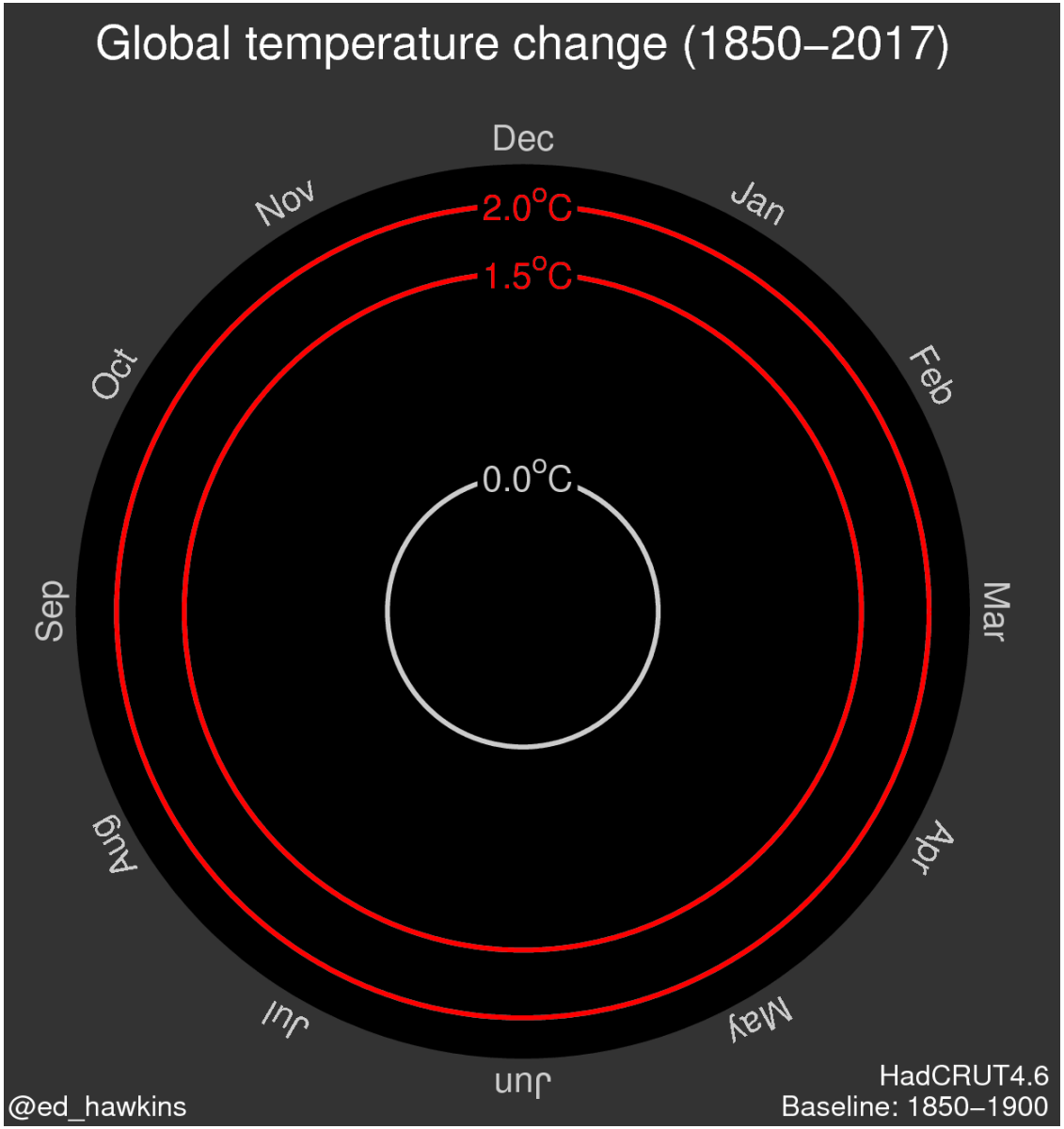


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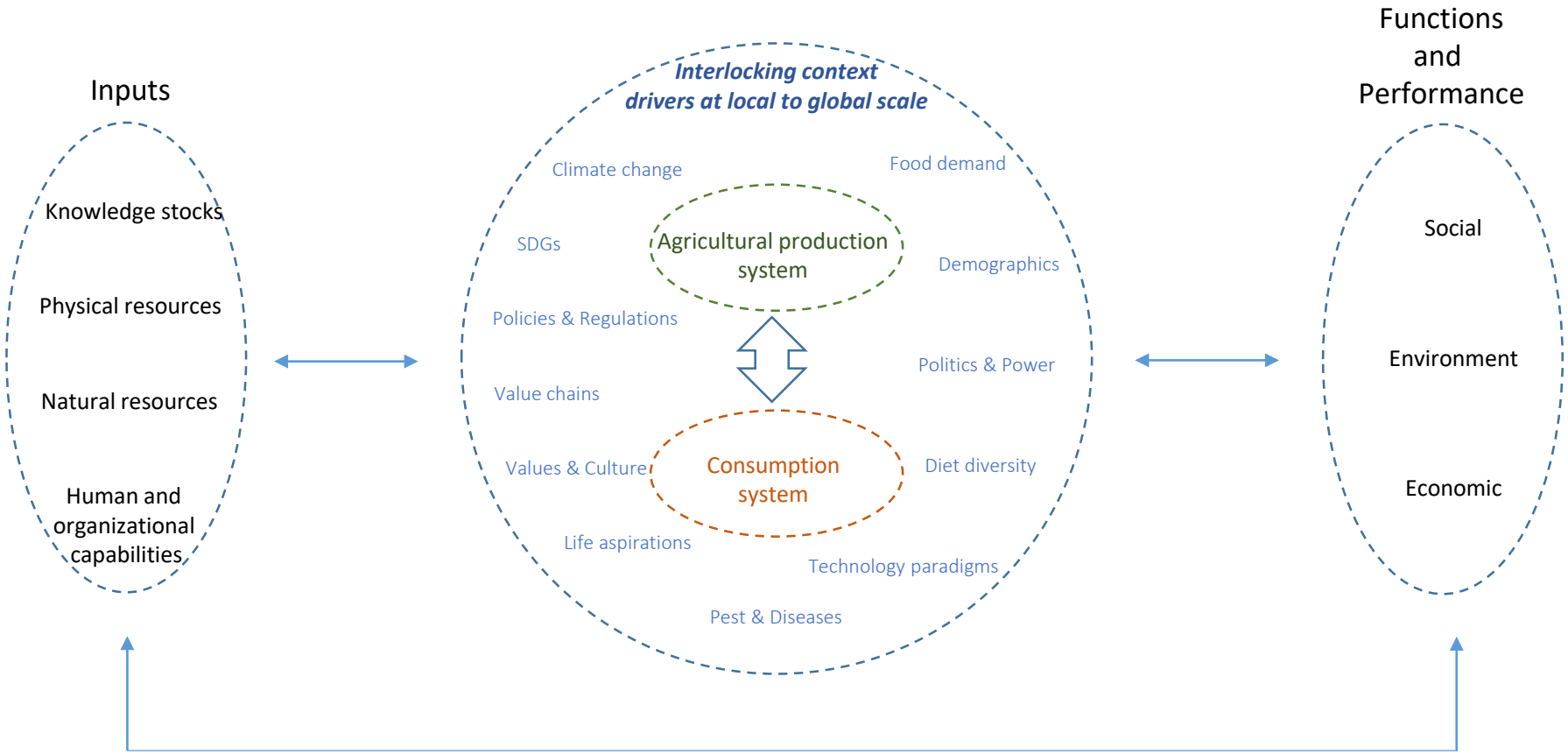
- The SDGs and the related need to transform agri-food systems requires a new suite of innovation processes

- Far-reaching implications for agricultural research organisations and their partners

# Why is transformation important?

- SDGs: Call for society to drastically and urgently overhaul the performance of all production and consumption systems including agri-food systems
- Tackling the underlying system failures that cause inequity, unsustainability and unbalanced growth highlight the importance of transformation of existing agri-food systems rather than incremental improvement
- Emphasis on renewing systems that comes with the transformational agenda, broadens the scope of the change processes that society needs to engage with and places new demands on research




# Agri-food systems

# How does transformation happen and what is new and different about this era?

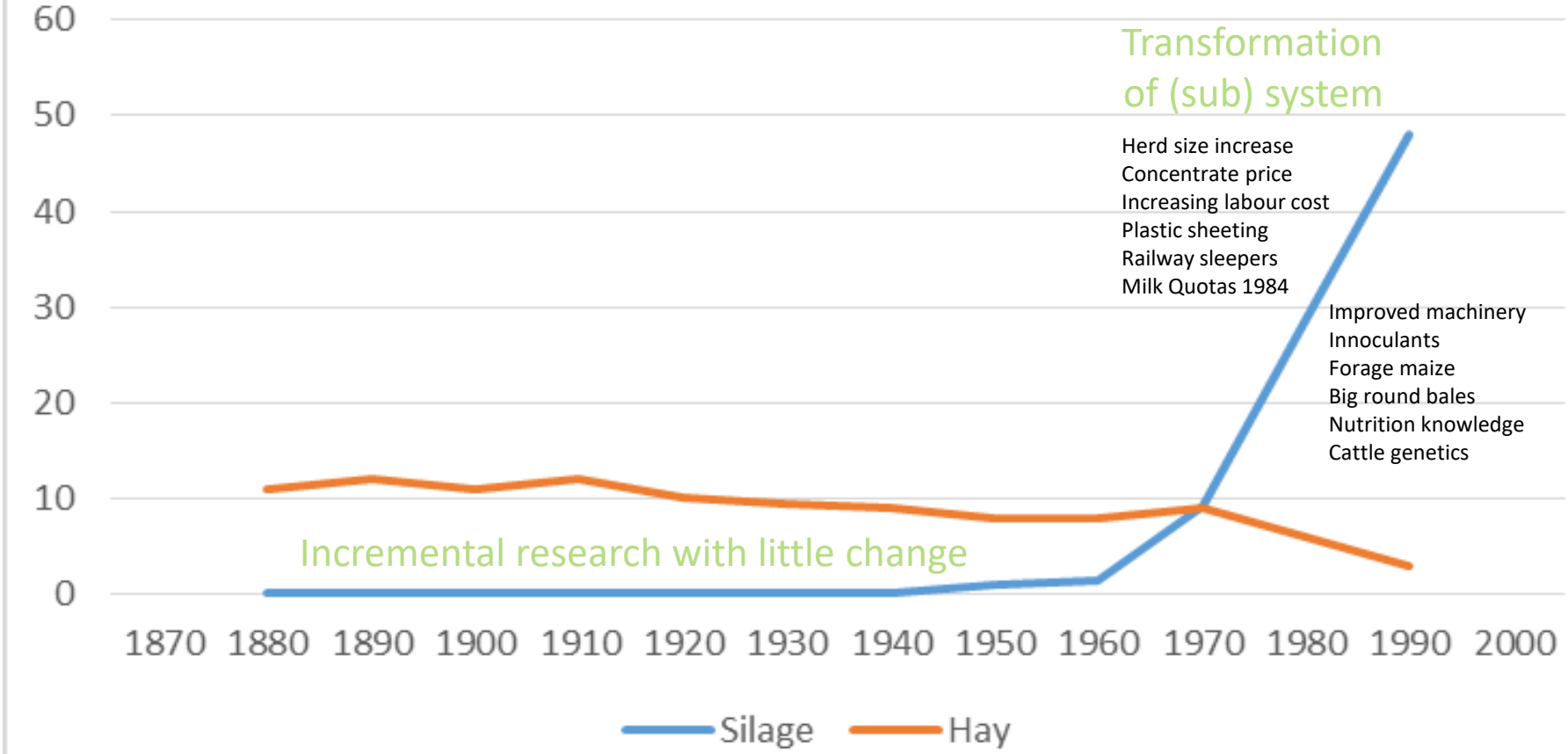
- Historical examples: long-term, society-wide and deeply political process of interconnected sets of changes that involve a high degree of complexity and unpredictability

- Changes across multiple levels and scales ranging from the adoption of new technologies and practices in businesses and homes, to new societal values and regulatory and policy environments that together form a socio-technological regime

# Salmon industry, Chile

- Multiple phases:
  - Large public-led technology transfer / infrastructure
  - An industry-led expansion phase that was economically successful but at high social and environmental cost
  - A responsive phase were new innovation capacities were built to address social and environmental issues

# Forage Production Trends UK (million tonnes/yr)



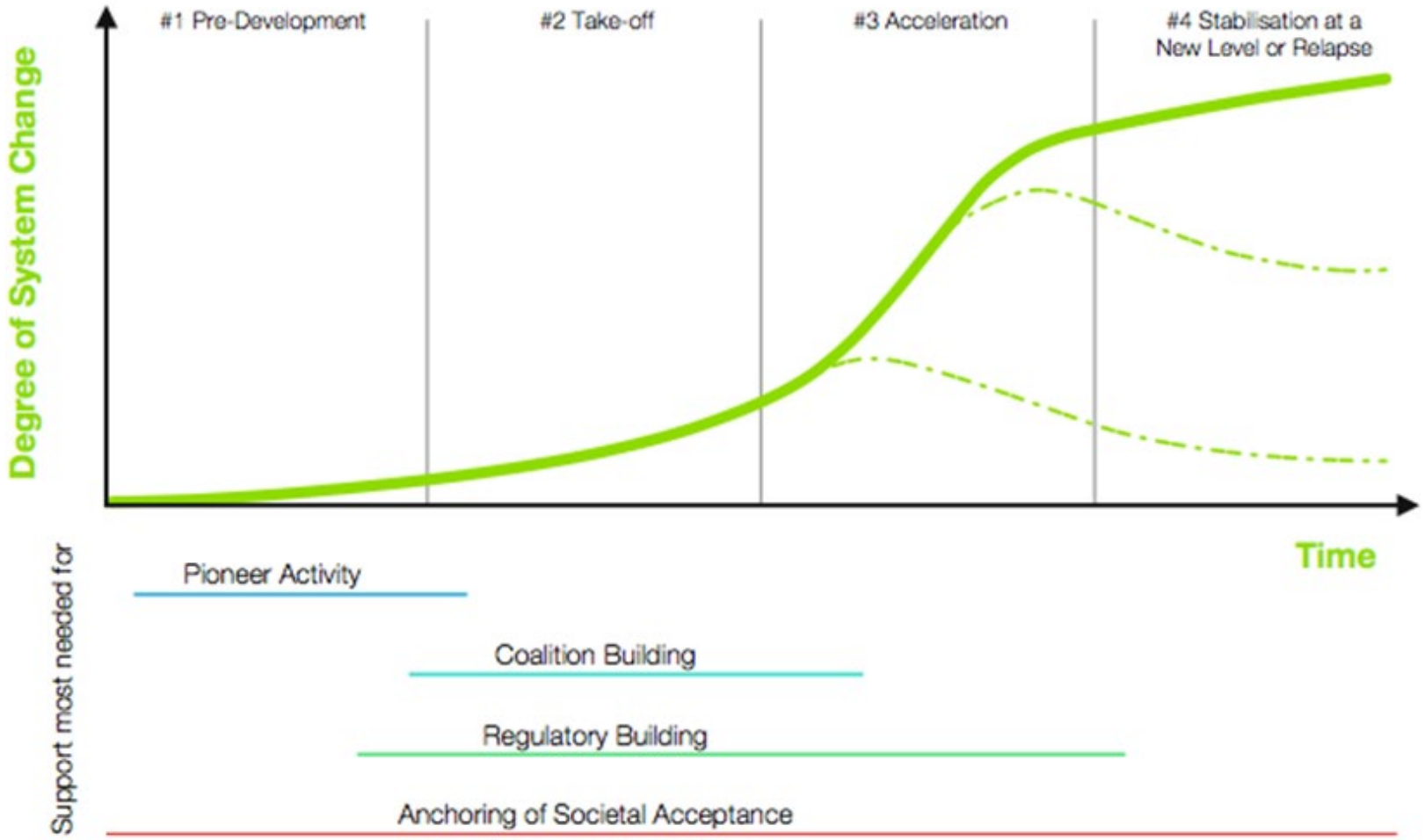
# How does transformation happen and what is new and different about this era? (cont)

- Transformation is the shift from one socio-technological regime to another. It often starts with pioneers experimenting, with transformation taking place when sufficient political alignment has taken place to shift the direction of innovation towards new goals such as sustainability

- This era of transformation coincides with the emergence of a more engaged public that has expectation and increasing political voice to define new development directions and the acceptability of technology

# Golden Rice

- Biotech invention to address VAD in Asia
- Global consortium of research, private sector and philanthropic organisations
- Caught in science – policy controversy as part of the debate for and against GM crops




Phase model of transformation processes (Source: Mersmann et al., 2014)

from.. Technology transfer

- Built science and technology capacity;
- Inefficient and weak demand orientation;
- Insensitive to social and environmental agendas

to.. Innovation systems

- Broadened the capacity building agenda and accelerated innovation;
- Elevated private sector agenda over social and environmental concerns;
- Cop-out for public investment and leadership

to.. Innovation for sustainable development

- A form of innovation that embeds social and environmental concerns;
- Involves new patterns of governance and coalitions of interest;
- Draws from a range of existing and diverse analytical and policy frameworks;
- Demands proactive public sector leadership and investment

# The evolving framing of innovation for sustainable development

# Implications for public agricultural research

- SDG transformation agenda alters the context, nature and scope of the change process that agricultural research organisations need to engage with

- Requires a shift away from a technology centric, incremental improvement narrative, driven by markets and laissez-faire economic policies

# Four key issues for research to consider

- Adopt scaling and impact perspectives that involve reconfiguration of systems as well as component parts
- Link in to multi-stakeholder alliances aligned to sustainability
- Engage society to define new development directions and the acceptability of technology
- Safeguard the balance among the social, environmental and economic contributions of innovation

# Scaling and impact logic

- Scaling process needs to be understood as an interlocking set of adaptations that range from individuals to the entire "system of use" or socio-technological regime
- Need to recast this scaling logic into impact narratives and engage funders in a discussion on the new nature of scaling and the expectations and time frames that this entails
- A useful starting place would be to embrace the notion of agri-food system innovation to flag the recognition of an underpinning theory of change that is systemic in nature

# Alliances

- Link into value networks that are truly committed to advancing the SDGs and are committed in both policy and practice to transformational change.
- Join new partnerships that align around the big issues that can create coalitions of interest needed to drive system innovation rather than only transactional partnerships aimed at getting projects implemented.
- Involve new and different private, public and tertiary sector partners in different partnership architectures

# Societal engagement

- Part of the transformation agenda is the development of production and consumption systems that are sustainable and socially acceptable
- Need a much clearer understanding of the economic, social and environmental dimensions of new generations of platform technologies
- Engage with society to develop the social acceptability of technologies used and agricultural system developed (social license)

# Directionality

- Not just  worry about the speed of innovation but also for its direction: Calls to design and implement policies and approaches that foster the use of knowledge to create more inclusive impacts


- An agricultural science agenda that serves contemporary global development ambitions and drives the directionality of innovation towards that end

# Thank you

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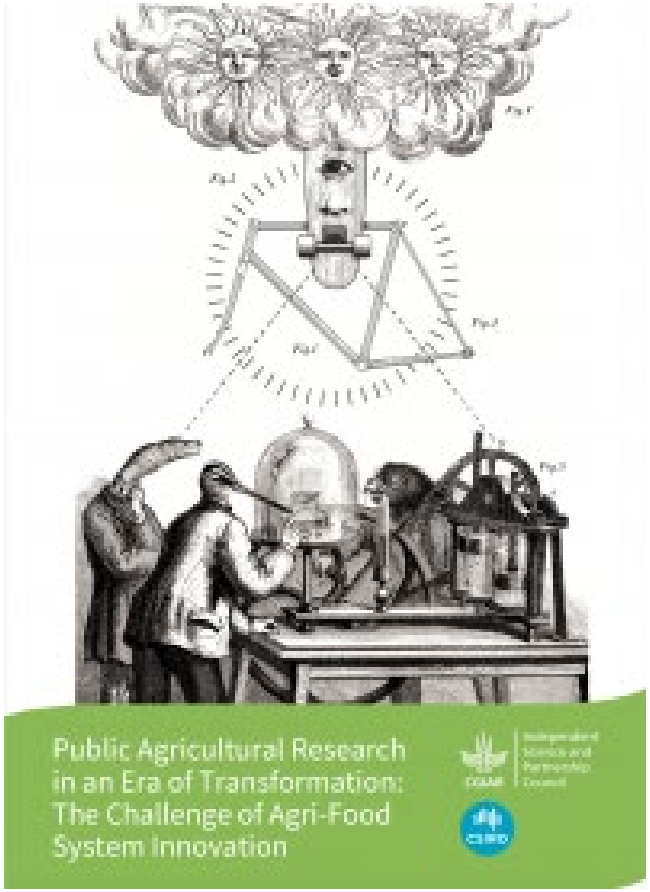


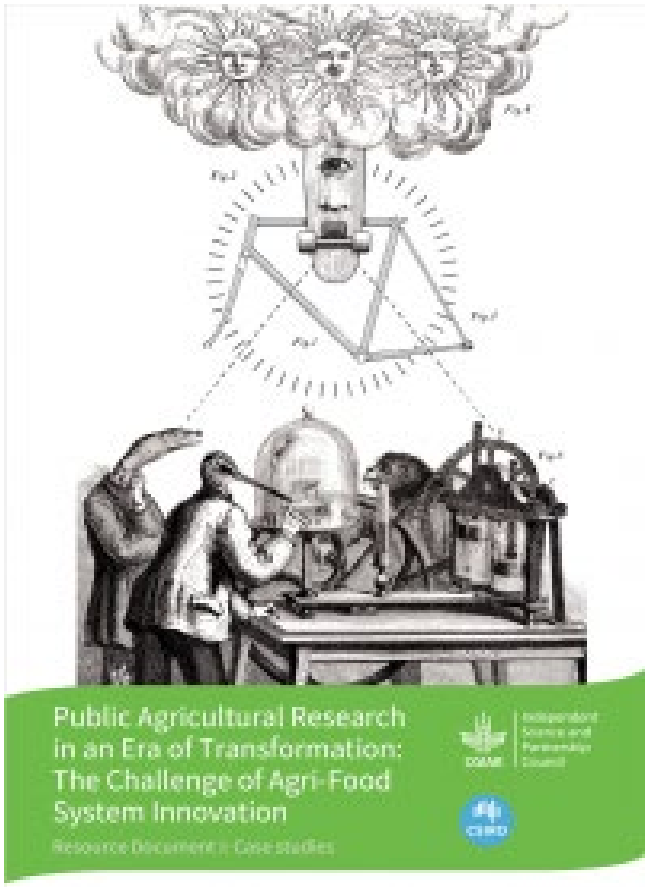


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