A checklist for to explore elements of Integrated Systems Research

1. Integrates research on policy and institutional alternatives with that on technologies and management practices	☐
2. Involves natural biological and social sciences to identify and address constraints	☐
3. Is based on the work of a multidisciplinary research team	☐
4. Community-based approaches are part of the research process	☐
5. Has a strong element of communication that enables stakeholders to negotiate and agree research agendas and how to take research results further	☐
6. Includes stakeholders multiple levels in the context hierarchy	☐
7. Identifies and implements interventions across multiple levels	☐
8. Attempts to understand the interactions of interventions and their effects across levels	☐
9. Considers the status and evolution of slow variables in the Human-Environmental system	☐
10. Addresses variation at different scales	☐
11. The result of the research process is learning that goes beyond the technical solutions into the environment, social, institutional, policy and economic spheres	☐
12. The results include understanding on what works, why it works, or does not work, looking at factors that enhance the uptake and effectiveness of solutions proposed problems	☐
13. Includes elements of risk management, making efficient use of resources particularly land and water	☐
14. Explicitly includes some of the following aspects	☐
15. Systems analysis	☐
16. Participatory approaches	☐
17. Combined social, economic and ecological perspectives	☐

18. Multiple knowledge systems ☐
19. Markets ☐
20. Institutional context ☐
21. policy context ☐
22. A nested scale agro-ecosystem approach that embraces risk and efficient use of resources particularly land and water ☐

23. Aims at:
    a. Mitigating vulnerability ☐
    b. Reduce risk ☐
    c. Increase resilience ☐
    d. Increase efficiency in the use of limited resources ☐

24. Identifies an impact pathway involving stakeholders in multiple scales ☐
25. Uses local research/adaptation successes to generate contextualised principles that help in scaling up and out ☐
26. Considers the process of research as a virtual cycle based on following the impact pathway backwards and adjusts through continuous learning ☐
27. Is demand driven ☐
28. Is results orientated ☐

29. Explicitly includes elements of vertical integration ☐
30. Explicitly includes elements of horizontal integration ☐

This list is intended to be used in conjunction with the scientific article used as the basis of this topic. Please refer to it and to the abridged video version of the paper before using it. Notice that not all research activities need to include aspects of an Integrated Systems Approach process. Some research activities are components within larger programmes that follow and integrated systems approach. In using this checklist be aware of the scope and position of different research activities within the wider strategy of the research programme within which you (and your team) carry out your research