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Ecosystem Goods and Services (EGS) Approach & Valuation

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Abstract:

The role of indicators in ecosystem service provision in shaping and informing policy is becoming a major area of interest and debate. The use of EGS approach to inform decision makers in the Pacific region is slowly gaining interest and the MTR recommended the adoption of EGS framework as the foundation of its scientific and technical approach. One of the key challenges to EGS valuation is the availability of quality data, however, it is important to note that there are various tools available that can be used to capture and estimate the values of the ecosystem goods and services. The EGS approach can build on any work carried out under the DPSIR framework to avoid any duplication of efforts. This paper provides information that supports the recommendations made in the RSTC meeting in July 2019.

Recommendations:

The R2R Technical Consultation is invited to:-

- (i) Consider and discuss the suggested approach supporting a hybrid DPSIR framework and EGS approach with details set out in Figure 1;
- (ii) Discuss the EGS valuation methods set out in this paper and, recommend on the preferred valuation method appropriate for assessing 'impacts' on ecosystem goods and services in this regions; and
- (iii) Consider and discuss option(s) for integrating EGS in R2R planning, mainstreaming and policy development; identify entry points in current and future R2R projects.

Ecosystem Goods and Services (EGS) Approach & Valuation

Introduction

1. The concept of natural resource ecosystem goods and services is gaining interests from policy makers and natural resource managers. The attractiveness of the concept lies in the use of systems dynamics to describe complex ecosystem functions and process and their linkages to human wellbeing.
2. The last Regional Scientific and Technical Committee (RSTC) meeting discussed the recommendation 5 of the IW R2R project mid-term report (MTR) that “the project should adopt goods and services framework as the foundation of its scientific and technical approach by:
 - a. Integrating ecosystem goods and services;
 - b. Integrating an EGS approach/context as the basis for all relevant project activities including for R2R planning, mainstreaming and policy;
 - c. Testing an EGS and valuation approach as the entry pont in a limited number of appropriate demonstration projects that have yet to commence or have recently commenced (subject to country needs and buy-in);
 - d. Commencing basic training on ecosystem goods and services (including valuation) for national capacity building, including considering a dedicated module on this topic as part of the ongoing post-graduate training delivered through an appropriate institution (subject to resource availability).”
3. This is an information paper on ecosystem goods and services valuation and how this has been applied in the Pacific and why the approach be adopted as the foundation of the scientific and technical approach.

Key Issues

4. The last meeting of the RSTC in July 2019 had a lengthy discussion on recommendation 5 of the MTR and discussed the pros and cons of the EGS approach and the DPSIR framework. The RSTC made the following recommendations:

31. The Committee **agreed** with the recommendation to mainstream ecosystem goods and services but to do so within the scope of (and not to replace) the current DPSIR framework. Moreover, the Committee:-

- (i) recognised the value of the EGS approach – and that it is an appropriate goal to work towards in the future;
- (ii) noted that the current DPSIR approach comprehensively address the objectives as originally developed; and
- (iii) noted that an EGS approach would need considerable additional data so could best be deployed in projects where data were yet to be obtained.

32. The committee **endorsed** the EGS approach but did not agree that EGS framework is a better choice than the DPSIR framework. The Committee therefore **disagreed** with the recommendation if the intention is to replace the current DPSIR with EGS. If resources allow, SPC should, support implementation of both DPSIR and EGS frameworks (hybrid) focusing on opportunities for strengthening the scientific approach while avoiding duplication of efforts on indicators.

33. The Committee **supported** planned activities for the testing and training on EGS approach and EGS valuation through current pilot projects and JCU training. It also **supported** the intention that it should be considered in future project design if possible, again noting the limited time and resources to do so now.

Data needs for EGS valuation

5. One of the key elements to undertaking an EGS valuation is data and in order to carry out a thorough valuation exercise, a mix of market and non-market data and use and non-use values are required. One limitation identified in the last RSTC meeting was the limited resources available to gather new data for EGS valuation. However, it is important to note that valuation of ecosystem goods and services has been carried out in a few of the Pacific Island countries including Fiji, Kiribati, Solomon Islands, Tonga and Vanuatu. The adoption of EGS framework can build on these exercises.

6. The EGS valuation methods can be classified into two different types; economic and non-economic valuation approaches. From these two types there are various economic valuation methods for valuing ecosystem services including revealed preference (RP) methods, stated preference (SP) methods and cost-based approaches to name a few. It is important to note, however, that depending on the assessment of the impacts on ecosystem services, consideration needs to be given to the appropriate valuation method.

7. There are also various tools available that can be used to make quick estimates and capture the values of the ecosystem goods and services including ecosystem services toolkit (EST), Toolkit for ecosystem service site-based assessment (TESSA) and protected areas benefit assessment tool (PA-BAT). Selecting an appropriate tool requires identifying the specific question being addressed, what sorts of results or outputs are required, and consideration of practical factors such as the level of expertise, time and data required.

Suggested Approach

8. The DPSIR framework and the EGS approach can be coupled as shown in Figure 1. This is in line with the decision by the RSTC to support the implementation of a hybrid approach where it will strengthen the scientific approach while avoiding any duplication of effort.

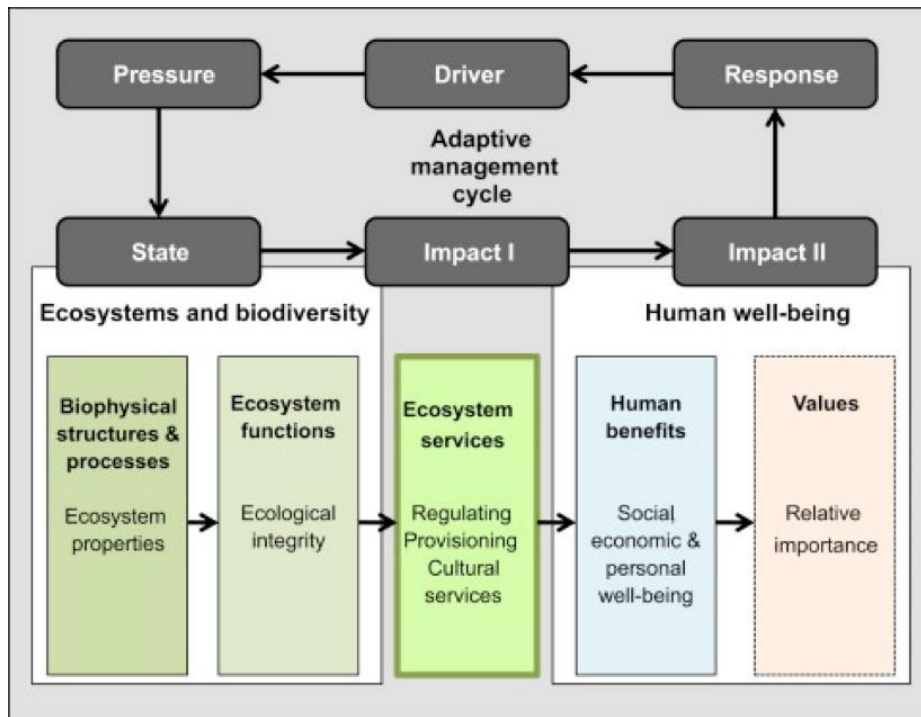


Figure 1. Ecosystem Services as part of the adaptive DPSIR Cycle for human-environmental systems (Source: Müller and Burkhard, 2012)

9. Any existing projects that have implemented the DPSIR framework can use it to build the ESG approach on. There is also existing expertise in this region on ESG valuation that this project can tap into to support the implementation of this project.

10. The planned activities for the testing and training on EGS approach and EGS valuation through current pilot projects and JCU training needs continuing. Equally, informal training on EGS can also be considered particularly where there may be opportunities in the margins of planned national or sub-regional R2R related workshops. The EGS approach should be considered in future project design supporting scaling up R2R investments and integrated coastal arrangement planning.

Conclusion

10. The EGS approach can definitely build on the DPSIR framework to support scientific and technological aspects of the project. EGS approach can identify threats to the environment and the valuation of the EGS can inform policy makers to develop measures that will mitigate the impacts of the threats in the environment.

11. Finding the balance between conservation and sustainable utilization of resources can be realized with EGS valuation which will assist policy makers determine the sustainable levels of resource use while ensuring conservation and protection of ecosystems to support future livelihoods of the communities.