



SPERI - Social Policy and Ecology Research Institute
Eco-Farming Action Research Development
Farm Snapshots: Research Proposal
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Introduction

Eco - Farming systems are complex and diverse. Eco-farms exhibit a web of interconnections between a diversity of plant and animals in an assembly patterned after nature. Within this matrix of relationships there are intrinsic difficulties that arise in trying to separate out different variables for study and analysis while maintaining a respect for the whole. Our challenge is to develop research approaches that take into account the holistic nature of these systems while also offering us useful insights that can be applied in practical situations in our work with farmers and students and to the development of sound eco-farming practice.

SPERI has a long term objective of developing its research capabilities to professional standards. The strength of SPERI is that it is an innovator and pioneer of eco-farming research in Vietnam. However at present SPERI lacks comprehensive methods and skills to enable consistently sound and effective research in the practical developing eco-farm environment. What follows is a proposal to develop an innovative practical action research tool - *farm snapshots*, to be applied across SPERI's pilot farms with possibilities for adaptation for use at key farms in the Mekong region. I hope that we can trail the farm snapshots approach at HEPA and continue to modify and develop our methods until we reach our research objectives.

What is a snapshot?

A snapshot is a term often used to define a method of ecological research. When using the snapshot method we observe the ecosystem and report its characteristics as it exists at a particular moment in time. As a term used in photography it implies taking a picture (capturing a moment) to record an event we wish to remember.

A farm snapshot overviews a farm in relationship to eco-farming indicators and the design process at a moment in time and offers management / Action Research Outcomes. We can take regular snapshots over time to get an understanding of how the farm is progressing and what management options are available to us at certain times during the year.

Action research

Action research is a participatory research model. In its simplest form it is a cycle that starts with planning an activity followed by practice, then reflection on what was done, this leads to the next cycle of action research and an improvement in the activity.

In Eco-farming this cyclic process of action research can be represented by the design process itself. It enables us to reflect on our design solutions and practice where by we can enrich our designs with experience and create an 'evolutionary design' approach.

Farm Snapshots	
Objectives	<ul style="list-style-type: none"> ● Develop a sound and effective action research tool, that benefits our eco-farming pilots and practice. <ul style="list-style-type: none"> ● Develop staff skills in the use of an effective action research tool and method. ● Connect appropriate management practices, eco-farming technologies and past experience to the seasons and FFS program timing. ● Develop a database that we can search to overview past management practices, challenges, design solutions, experiences etc. ● Develop a research method that could be adapted for use in the assessment of eco-farms of key farmers. ● Develop a research tool that allows eco-farming students to be effective in self study and observation. ● Connect the farm snapshots method into activities that are under way at HEPA. These activities include; the educational program, student Handbooks, sharing meetings on the farm, action research, design process, information sharing (newsletter) and note taking / Dairy. <ul style="list-style-type: none"> ● Develop resources that can help farm and FFS planning over different time scales. ● Create a system to monitor and evaluate changes at each pilot farm. ● Follow up on how students are applying lessons on the farm. ● Create an effective design aid, through thoughtful observation methodologies and asking the right questions. <ul style="list-style-type: none"> ● Refresh our understanding of the Eco-farming design process while undertaking action research.
Methodology	<p>Observation practices that are regularly employed in eco-farming in regards to plant and animal systems, structures, soil, water, natural elements and human energy are the primary research methods, these include;</p> <p>1) Participatory observation – Developed through trained human</p>

	<p>perception and experience based on our practice and embedded relationship with the eco-farm.</p> <p>2) Analytical observation – Developed through the use of quantitative or qualitative indicators to measure specific elements or systems on the farm.</p> <ul style="list-style-type: none"> ● The data – area model: <p>Observations in the Farm Snapshots method will be connected to specific predetermined areas in the eco-farm. These area observations will be related to monitoring, evaluation and the process of evolutionary design for that area on the farm. Thus each farm needs to determine the borders of these areas and the appropriate scale of the area for each of the main farm systems / elements.</p> ● Researchers will work with farmers or students, and record all necessary information on the farm snapshots data sheet. General information about the farm will be recorded as well as that particular to each predetermined farm area. Ideally students should be able to learn the method themselves. ● Photography will also be used as a key method in the arm snapshots model. <p>At our FFS's the farm snapshot may be thought of as a less frequent but more detailed farm diary that can be used by the students to encourage reflection and deeper thinking and also as an aid to make farm management decisions.</p>
<p>Design Process</p>	<p>The design Process together with the core values could help create the basis of data collection templates and Questions, some examples of appropriate questions in relationship to the design process are as follows;</p> <p>Beliefs and Ethics How have ethics and belief played a role in the activities on the farm? Why are we developing the farm? (Refresh our commitment to our beliefs and ethics) What worship activities have you carried out, how did it make you feel about your practice? Engagement in contemplative prayer in the eco-farm? What local values have been important for your practice?</p> <p>Local Knowledge What are the most valuable lessons that you have learnt during the past month from your experience on the farm? What new information have you found from elders, books or online that has helped you in your activities / design on the farm? What lessons have you applied from workshops at HEPA? How has local knowledge from your village</p>

helped you on the farm?

Patterns and Principles

Note down observations of Patterns in growth and patterns relative to the weather, season during the past month. Have you noticed any interesting patterns developing on the farm, involving human energy, time, natural forms etc? Principles can be addressed by working with indicators that are based on our nine design principles.

The design process could also be encouraged in the action research method, to connect with the learning orientation of the students.

Observe and Research

Where have you been spending the most energy? What pests have been a problem? What plants are growing well together?

This step is related to the farm snapshots process as a whole, also patterns can be noted in patterns and principles.

Brainstorm and Connect

Where are we trying to get to? How can we be doing things better? How can we better use the principles on the farm? How can we create more connections between different elements on the farm so we use less energy? How can we work more effectively in the current weather / season? How can we improve things next month? What are we doing now that will help achieve our ideal eco-farm design? What ideas do you have for different areas on the farm? How can we more effectively work with nature?

Design

Draw an example of one design that can help improve a system that you have been working on. What would be needed to put into practice this design? What could be improved in the long term design of the farm based on your experiences this month? Have you got any design ideas for specific areas of the farm?

Practice

What percentage of your time have you used in practice this month? What key activities did you undertake? What will you do next month to achieve your design objectives? What technical issues have you dealt with this month? What techniques have been most useful this month?

Reflect and Share

What is going well on the farm? What has been challenging? What did you learn that would be a good lesson to others? How do you feel in general, are you healthy able to concentrate on work? What has been the most interesting event on the farm this month? What will you monitor closely / be mindful of during the next month?

	<p>Trials are needed to determine what questions are suitable for each location, and those that are appropriate for the general state of the farm.</p>
Indicators	<p>There are different indicators that we can measure or reflect upon that allow us to evaluate and monitor the progress on the developing eco-farm.</p> <p>We could use Indicators that relate to the nine design principles, some examples of questions follow:</p> <p>Diversity – How many plant layers are growing together? What scales of diversity am I aiming for?</p> <p>Connection – Is this element placed in a way that benefits the whole system? Is there a waste that I am not using?</p> <p>Natural Succession – What plants in this area help secure self replication / self management of the system? Am I stacking enough accumulators in this area for the needs of future generations of higher yielding plants?</p> <p>Feed the Soil – Do I have enough compost for the needs of the garden? Is there enough mulch to feed and protect the soil? Is the soil improving its life richness?</p> <p>Use the edge – Are there any edges that I am not utilizing? How can I get more yields from the edges on the farm? How can I design more edges into the farm / area?</p> <p>Multiple Functions – Are there elements on the farm that could be used for more functions than they are currently fulfilling? How effective is a particular element at fulfilling more than one function?</p> <p>Save Energy - What element could be introduced to fulfill a function that will save energy? How could we do things in a different way to save energy? Can we make use of any wastes currently not being utilized?</p> <p>Small and Slow solutions – What takes time on the farm but has increasing long term benefits? What could we design now that would take time but improve the arm in the long term?</p> <p>Use Biological and local resources - What local resources have you made use of? How does the design of the farm allow for production of biological resources to be used on site? What resources are in the area that you could made better use of?</p> <p>Quantitative indicators: reflect key aspects we wish to measure, such as: Soil quality, humidity, rainfall, temperature.</p> <p>Management indicators: can also be useful to keep track of on-going activities on the farm, these include;</p> <p>Soil Management Water Management Fertilization Cropping</p>
Timing	<p>Regular snapshots will help us see patterns. Farm Snapshots on a</p>

	<p>monthly basis should be the starting point for initial trials.</p> <p>There are advantages for monthly timing, such as; it is not too time / resource demanding; It fits well with the monthly the planning process at HEPA. It gives a regular time interval appropriate for database entry / search. Life systems change at a rate that is suitable for recording on a monthly basis.</p> <p>The farm snapshots process ideally should take at least one day a month, if there are time constraints, than it may be possible to carry out the research in half a day. If the students are involved it will take more time, as the process would be slower. It may be possible to connect farm snapshots information gathering to other events at HEPA such as the daily life meetings, farm sharing sessions or other design sessions and thus save some time.</p> <p>When deciding on the final version of the data sheet we should be mindful of how much time will be needed to carry out the process.</p>
Database	Farm snapshot templates for the data base can be developed that relate to the field data-sheets. A database system for tracking quantitative changes from measurable indicators could also be developed. The database should be presented in a way that is easy to use for future students and staff.
Who will be Involved	The farm snapshots method will involve farm managers, students, staff and farmers. Workshops and training courses could be run in the future to train staff to be competent in this research approach.
Farm Management	Information from the farm snapshots research model can be use to design and identify appropriate management activities for particular times of the year. It will also develop a database of design options, lessons learned etc, that will be search-able by the farm manager.
Key Farmers	In the future it will be possible to adapt the farm snapshots research method for use with key farmers, thus allow us to build up usable information from our network of key farmers.
Holistic perceptions	<p>It will be possible to integrate holistic scientific methods into the farm snapshots method. At its core we should try and develop the research method to follow holistic representations of the scientific process. Aspects of Goethean Science may be applied..</p> <p><i>‘...Every new object, clearly seen, opens up a new organ of perception in us.’ —Johann Wolfgang von Goethe</i></p>
Photography	Photography will be used on the farm snapshots method, photographs are taken regularly from semi – fixed locations though-out the farm, photos help show how the farm is changing over time, and also reveals the state of a farm at a particular moment in time.
Feature plant	Every month there will be a study of one feature plant that has had an interesting role on the farm during that time; observations on this plant are noted as well answering a number of key questions in regards to it and farm design.

Development timeline	<p>Dates to be entered –</p> <p>Development of Draft farm snapshots Template / datasheet:</p> <p>Initial Trials:</p> <p>Evaluation:</p> <p>Second draft template / datasheet:</p> <p>Trial on all HEPA Farms:</p> <p>Evaluation:</p> <p>Workshops with Staff / Students:</p> <p>Final Draft</p> <p>Development of database</p>
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Notes: The information contains some basic ideas that can be used to help us develop a data-sheet for preliminary farm trials.