



## PROCEEDINGS NATIONAL THEMATIC WORKSHOP

### WHAT PERFORMANCE INDICATORS FOR ASSESSING AGROECOLOGY IMPACTS?

**Dates:** 29<sup>th</sup> November 2016

**Location:** LANITH, Vientiane, Laos

**Supported by:**



**Organized by:**



Produced by Pierre Ferrand and Dr. Saythong Vilayvong (ALiSEA, Gret)

## I. INTRODUCTION

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### 1. Few words about ACTAE and ALiSEA

With a fast growing population, increased pressure on its natural resources and climate change impacts everyday more present, South East Asia is at a crossroads regarding its agriculture development, calling for an important shift towards an agroecological transition.

ACTAE (Towards an Agro-ecological Transition in the Mekong Region) is a program funded by the French Agency for Development (AFD) with a regional focus (Cambodia, Laos, Myanmar and Vietnam). It aims at enhancing and building durable and effective networking mechanisms to facilitate synergies among agroecology initiatives. It intends at providing institutional and operational backstopping to the Conservation Agriculture Network in South East Asia (CANSEA), while at the same time enlarging the scope to cover the whole field of agroecology (emergence of an Agroecology Learning alliance in South East Asia, ALiSEA).

ALiSEA intends assisting the actors of agroecology in the region in increasing their visibility and impacts by supporting the development of synergies between all operators in the sector: farmers, development agencies, private companies, donors, policy makers, etc.

A 1<sup>st</sup> national multi-stakeholder workshop addressing Agroecological Transition in the Mekong Region was organized in Lao PDR on the 2<sup>nd</sup> and 3<sup>rd</sup> of June 2016 by CIRAD and GRET as part of the inception phase of ACTAE<sup>1</sup>. During this later, it was expressed a common interest from **research and civil society organizations** to address the issue of **performance indicators when assessing agroecology impacts**.

Thus, this thematic workshop is part of the activities implemented by the **Agroecology Learning Alliance in South East Asia** (ALiSEA) to foster multi stakeholder collaborations in regards to promoting an agroecological transition. It is expected in particular to provide an opportunity for initiating co-evaluations of agroecological practices and experiences, with the objective to identify, document and compare parameters, expected results and condition of success for diverse agroecological cropping systems.

It is anticipated that this first thematic workshop will lead to the implementation of some pilot testing of the performance indicators identified with some financial support from ALiSEA network.

### 2. Why focusing on AE performance indicators?

Over the past decades, several publications<sup>2</sup> have highlighted the potentialities of agroecologically based farming systems, especially in challenging environments (degraded soils, dry areas...) and/or in the face of climate change.

In some cases, it was even demonstrated that such systems could outperform conventional farming systems in different ways<sup>3</sup>.

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<sup>1</sup> Proceedings of this national multi stakeholder workshop can be downloaded on ALiSEA website: <http://al-sea.org/aliseaonlinelibrary/proceeding-of-the-national-workshop-on-agroecology-transition-in-laos/>

<sup>2</sup> Jules Pretty, November, 2006, *Agroecological approaches to agricultural development*

International assessment of agricultural knowledge, science and technology for development (IAASTD): global report / edited by Beverly D. McIntyre . . . [et al.], 2009

Olivier De Schutter & Gaëtan Vanloqueren, 2011, *The New Green Revolution: How Twenty-First-Century Science Can Feed the World*

UNCTAD, 2013, *Make agriculture truly sustainable now for food security in a changing climate*, in Trade and Environment review 2013

**Agro-ecological (AE) approaches** are seen as convincing and evidence-based alternatives towards sustainable agriculture. They clearly aim at strengthening innovation capacity of family farms, as well as the recognition of their contribution to food sovereignty in the region. They cover technical, economic, societal and policy dimensions of agricultural production respectful of environment. They also contribute to poverty alleviation, food security, climate change mitigation and adaptation

However, relying on conventional metrics to measure the performance of farming systems, it is hard to make the case for agroecology. To understand the impact of agroecology requires assessing the performance through a different lens.

*In simple terms, starting from the notion that yield per hectare of one single crop is not the “be all and end all” measure of progress. New ways of measuring impact can highlight two important elements of the food systems:*

- *First, to show what is wrong with dominant ways of producing and distributing food, and its direct consequence with a true cost of the food much different from the present one (“cheap food” rarely taking into consideration all hidden costs related to negative impacts both on environment, on human health and social balance of conventional farming).*
- *Second, to make explicit the various benefits, including natural resources protection and/or valuation, from alternative systems such as agroecology.*

*The impact of agroecology at any level, from the point of view of farmers, of communities and of the whole society (point of view of general interest) is more adequately assessed in terms that reflect people’s well-being in all facets of life, including environmental and social sustainability. It requires a departure from oversimplified ratios that consider farming to be nothing more than conversion of material inputs (e.g. fertilizers, hectares) into commodities (e.g. yields). The importance of yield should not be minimized, but it should be placed in the context of many other, equally important, economic, social and environmental indicators (ILEIA, 2016).*

In this context, and with the objective to convince not only farmers but also policy makers and consumers, it is critical to develop alternative performance indicators.

*It is important to measure the impact of agroecology in order to demonstrate to the sceptics that agroecology is a form of agriculture capable of producing enough good and accessible food without harming the environment or contributing to greenhouse gas emissions and without any cost transfers among the value chain. It is also important that society as a whole be informed about the impacts of agroecology and of the need to advocate for public policies that support food sovereignty through small scale producers’ and consumers’ rights. Impact studies are crucial for the amplification of agroecology (Clara Nicholls, Latin American Scientific Society of Agroecology, 2016).*

### **3. Participants**

This one day workshop has been very intense and very fruitful paving the way to some common indicators to assess performance of agroecology and enabling rewriting a more positive narrative about agriculture. There is still a lot of work to do but it has highlighted a strong interest from the participants to address this issue collectively.

The workshop has offered room for a lot of experience sharing from Laos (and abroad). It has enabled to start brainstorming about some revised indicators and to identify ways to start testing them in the field.

This 1<sup>st</sup> thematic workshop was instrumental in initiating a collective and multi stakeholder reflection regarding ways to measure success. It was the first of its kind and it is expected that

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<sup>3</sup> John P. Reganold & Jonathan M. Wachter, 2016, *Organic agriculture in the twenty-first century*

others will follow to furthering the discussion, sharing findings of preliminary pilot testing, experiences and best practices and ultimately promote agroecology transition in the Mekong region.

It brought together **30 participants** from **Research and Universities (about 60%)** and **National and International NGOs / CSOs' (about 40 %)** actively working on sustainable agriculture sector in Laos (see participants list in annex).

## II. SETTING THE STAGE

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The first part of the workshop has focused on introducing the concept of indicators and presenting some examples of future and past initiatives that aimed at measuring performance of agroecological systems in other countries.

The following presentations have supported this introduction session and will be accessible for download on ALiSEA website shortly:

- *The use of indicators to assess the sustainability of farming systems Definition & challenges, Juliette Lairez, CIRAD*
- *Capitalization of experience for developing resilient AE practices in West Africa, Pierre Ferrand, GRET*
- *Farm to Systems-Where is Our Measuring Tap? Case study from India (Welthungerhilfe) presented by Dr Saythong Vilayvong, NUoL*

The first presentation provided a good introduction regarding the very concept of indicators and the ways to assess sustainability.

In a very partial way, here are just few elements that were presented and instrumental for the discussion that followed during the day:

### Qualities of a good indicator

#### **Scientific relevancy**

- Transparency about the choices made (method, type of data, hypothesis, etc.)
- Scientific Validation (design and outputs) / ability to simplify a complex reality
- Repeatability in different contexts (time and space)
- Sensitivity to change

#### **Feasibility**

- Easy to document and interpret (easy access to data)
- Simple to calculate
- Be appropriate to the abilities of the users (and understandable)

#### **Usefulness**

- Meet the needs of users
- Able to be reported easily to the targeted audience

## Issues to bear in mind while using indicators and assessing sustainability

### **Any assessment is subjective!**

- Results depend on your choices
- Interpretation of a complex reality

### **How to ensure the scientific scope of your evaluation:**

- Be transparent in your choices
- Check the sensitivity and reliability of the method
- Make sure to have a consistent framework of analysis

The 2 other presentations of the session were very different since not addressing the same geographic focus and the same audience.

On one hand, the presentation about AE practices in West Africa was meant to present the approach / methodology of a future project that aims at capitalizing on past experiences across 3 different countries and ultimately targets policy makers (the project is commissioned by ECOWAP).

On the other hand, the case study of the project in India presented the approach that has been developed, implemented and capitalized upon for supporting farmers to self-assess the performance of their AE systems. This presentation was therefore much localized with a targeted audience at farm level.

Then, the session focused on Laos with the presentation of indicators which have been developed within the framework of 3 different projects. Here again, all presentations will be accessible for download on ALiSEA website shortly:

- *What performance indicators for assessing agroecology impacts? From the EFICAS project implemented by CIRAD, Dr Jean Christophe Castella*
- *Environmental indicators developed in the framework of the Forestry and Agro-Ecology in Lao rural Uplands (FORAE) project implemented by Agrisud, Claire Kieffer*
- *Measuring climate resilience: an example of indicators system in the framework of the NU-PCR project, implemented by CCL-CARE-SAEDA, Anthony Gueguen*

Few questions & comments were raised by the participants after the different presentations mostly related to:

- It is important to have a good **Monitoring & Evaluation** system to assess performance and impact but it is **costly**. It is needed to find the tradeoff between practicality and robustness
- Several indicators were presented during the presentations and it was not always clear who the **targeted audience** was. Some indicators address more **policy makers** (and financial partners such as donors) with a level of complexity that cannot be dealt by farmers themselves (and rely very often on experts inputs), and other are more **farmers oriented** relying on **participatory approach**.
- It was also mentioned the importance of **counterfactual** in order to assess properly the impacts and trajectories (what would happen if there would be no AE practices?)
- How to **scale up successful approach** and move beyond the targeted villages (which is often the project scale)?

- Importance to ensure the “**buy in**” from the stakeholders for long term change and adoption of innovations.
- Lastly, it was pointed out that there are hundreds and hundreds of indicators that are being available and used. In most cases, such indicators are filtered / selected by organizations (development practitioners, researchers) while there should be a greater ownership over such indicators with a deeper involvement of both local community and policy makers (depending the focus of the indicators).

In addition, it was acknowledged that in Laos in general Development Practitioners & Researchers are *good at collecting data but bad at telling stories*. There is a need to readjust the way to better use data collection for telling better stories that could ultimately lead to some policy influencing / policy change as well as better adoption of AE practices in the field of agriculture development.

### III. CASE STUDIES & GROUP WORK

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This session was organized around the presentation of 3 case studies addressing 3 different AE practices and supporting some group work. Each case study will be accessible for download on ALiSEA website shortly:

- **Sustainable Rice System**, presented by Thongdam Phongpichith from SAEDA (Xieng Khouang Province)
  - Focus on comparison between SRS and conventional rice practices
- **Agroforestry coffee**, presented by Andrew Bartlett from LURAS / Helvetas (Xieng Khouang Province)
  - Focus on comparison between agroforestry coffee and either large scale foreign investments for conventional coffee (or deforestation for monocropping)
- **Maize/rice bean intercropping**, presented by Juliette Lairez from CIRAD (Xieng Khouang Province)
  - Focus on comparison between innovative system and conventional system

After a brief presentation of the case study, participants were split in 3 groups in order to identify collectively performance / success indicators according 3 main dimensions in regards to each AE practice that was presented:

- Economic
- Social
- Environmental

The findings from the group work can be found hereafter. In some cases, indicators have been sorted according to their focus (plot, household, village). We have used a color code to point out this.

After all groups had finished presenting their indicators in plenary session, it was requested to each group to go over the flipcharts of all other groups and select the 3 most important indicators for each dimension. This enabled a cross selection of the most important indicators (according to participants). When indicators were selected by 2 groups out of 3, they have been highlighted in bold in the table below.

## Sustainable Rice System

Social dimension	Economic dimension	Environmental dimension
<ul style="list-style-type: none"> <li>- Percent of time saving for women (%)</li> <li>- <b>Degree of hardship of field work (difference between conventional and SRS)</b></li> <li>- Percent of farmers adopting/adapting SRS (%)</li> <li>- Percent of farmers who learn about SRS from others farmers (%)</li> <li>- Percent of DAFO staff promoting SRS (%)</li> </ul>	<ul style="list-style-type: none"> <li>- Percent of rice productivity increase (t/ha)</li> <li>- Total production (rice + vegetable + fish + livestock) increase (LAK)</li> <li>- <b>Return on labor (LAK/day)</b></li> <li>- Percent different input cost as compare to conventional practice (%)</li> <li>- Percent price increases for organic rice production (%)</li> </ul>	<ul style="list-style-type: none"> <li>- <b>Pesticide free (SRS being organic)</b></li> <li>- Soil fertility balance</li> <li>- <b>Agro-biodiversity increases (number of rice varieties, number of aquatic species...)</b></li> <li>- <b>Percent of biomass recycling (compost, manures, rice straw...)</b></li> <li>- Water use efficiency (kg of total rice production/m<sup>3</sup> water)</li> </ul>

## Maize + rice bean intercropping system

The group has first identified all constraints faced by farmers to then list down performance indicators. These later are addressing farmers and are at **plot**, **household** and **village** level.

Social dimension	Agro-Economic dimension	Environmental dimension
<ul style="list-style-type: none"> <li>- <b>Number of Households involved in a farmer group (rice, maize and bean)</b></li> <li>- Number of persons with lung problem/skin diseases/head ache/nervous problem</li> <li>- Percent of protein intake in household diet</li> <li>- Labor dynamics (total labor, men / women distribution, labor source (family, mutual help, hire)</li> <li>- <b>Drudgery (qualitative perception)</b></li> </ul>	<ul style="list-style-type: none"> <li>- <b>Production cost</b></li> <li>- Productivity (land/labor)</li> <li>- <b>Risk of not selling / % of selling</b></li> <li>- Price (rice bean)</li> <li>- Yield stability (rice bean)</li> <li>- Maize yield</li> <li>- Weed infestation (labor w.d)</li> <li>- Rodents/locust</li> </ul>	<ul style="list-style-type: none"> <li>- <b>Quantity of herbicide</b></li> <li>- Soil quality fertility, NPK, SOM</li> <li>- Stone at soil surface (note ranking)</li> <li>- <b>Aquatic resources (not increase, decrease, constant)</b></li> <li>- <b>Soil quality: soil life (note ranking)</b></li> <li>- Gullies (note ranking)</li> </ul>

<ul style="list-style-type: none"> <li>- Percent of adoption (number of household applying)</li> </ul>	<ul style="list-style-type: none"> <li>- Frequency of crop (rice bean) damage by roaming animal</li> <li>- Complexity to implement system</li> <li>- Land use intensity</li> </ul>	
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### Agroforestry-Coffee

The group has first identified how an agroforestry coffee system could positively impact the target area and the livelihood of local communities. It has also pointed out some positive impacts of coffee production that are not related to an AF system (would happen anyway even with large scale foreign investment for conventional coffee plantations). The impacts that are specific to an AF coffee system are highlighted in green.

Social dimension	Economic dimension	Environmental dimension
<ul style="list-style-type: none"> <li>- Year round healthy and local employment (decreasing migration and increasing livelihood)</li> <li>- Dignified jobs / labor rights</li> <li>- Land security</li> <li>- Enhance collective actions (cooperative, collective sales...)</li> </ul>	<ul style="list-style-type: none"> <li>- Diversified sources of incomes (timber, NTFP, Khao Kao Noi rice, Coffee)</li> <li>- Existing market (coffee)</li> <li>- Opportunities for added value (local processing, organic)</li> <li>- Opportunity cost</li> </ul>	<ul style="list-style-type: none"> <li>- Decreasing runoff water and contamination</li> <li>- Maintaining water quality</li> <li>- Increasing rice quality production (KKN)</li> <li>- Maintaining agrobiodiversity</li> <li>- Encouraging organic systems (increased economic opportunities)</li> <li>- Increased or control carbon sequestration</li> </ul>



Based on these first findings, the group has come up with a series of encompassing indicators as compiled hereafter.

<b>Social dimension</b>	<b>Economic dimension</b>	<b>Environmental dimension</b>
<ul style="list-style-type: none"> <li>- <b>Number days of local employment (year round employment)</b></li> <li>- Percent of outmigration (proxy for indicating satisfaction level &amp; local opportunities for young people)</li> <li>- Share of sales going to producers (bargaining power for high quality products)</li> <li>- Number public policies references to AF/AE farming systems</li> <li>- Level of voluntarily participation in collective action</li> <li>- Percent of land sales/ transfer (low transfer of land use)</li> </ul>	<ul style="list-style-type: none"> <li>- <b>Diversity of incomes contributing equally to the overall farm economy</b></li> <li>- <b>Ability to access premium price / existence / usual or dedicated markets</b></li> <li>- Share of budget of MAF allocated to AE approaches such as Agroforestry / Organic agriculture...</li> <li>- Health costs associated to occupational related activities.....</li> </ul>	<ul style="list-style-type: none"> <li>- Runoff coefficient</li> <li>- Turbidity of water (quality)</li> <li>- Soil micro functional biodiversity (healthy soil)</li> <li>- <b>Biodiversity index</b></li> <li>- Biomass maintained</li> </ul>

Emphasis has been put on the “targets” of assessment process and the necessary adaptation and aggregation in accordance with the objective of the evaluation.

The choice of the challenge has been mentioned, still in accordance with the context.

For examples:

- From an economical point of view, return on labor is requested when there is a shortage of labor, whereas return on land is preferred when land availability is the constraint
- With the objectives to lobby and involve government official, it appears important to challenge the policy makers and local authorities regarding a true assessment of the cost related to conventional practices’ externalities and environmental impacts.

#### IV. WAY FORWARDS AND TIMEFRAME

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Report / proceedings writing and circulation to all participants for finalization

- **December 2017 (draft from ALiSEA team & review by workshop participants)**

Analysis of the selected indicators and drafting of an evaluation framework based on such indicators

- **January-February 2017 (draft from ALiSEA team & review by workshop participants)**

Developing a pilot test for evaluating AE practices

- Building upon interest expressed by SAEDA, focus could be put on SRS
- Opportunity to develop a co-evaluation process associating a NPA together with University / Research → SAEDA / NUoL?
- Need to select some of the indicators that have been identified regarding SRS practice and draft ToR for a joint evaluation of SRS in Xieng Khouang
- Specific budget could be allocated by ALiSEA to support this evaluation process
- **January-March 2017**
- **Necessity to set up a smaller working group who would actively partake to this action**

Developing some indicators that could be included in the upcoming new call for proposal for ALiSEA Small Grant Facility

- **February 2017 for the launch of the 2<sup>nd</sup> call for proposals from ALiSEA (ALiSEA team)**

Introducing / testing new indicators in some on-going projects:

Need for respective organizations to elaborate more on which indicators they would like to test and how they would introduce them in their project

- Upcoming **AVSF** project in Luang Prabang
  - Addressing peri urban and rural agriculture for production aimed at hotel, restaurant and local market
  - Building on past experiences in the area and in Laos (profil project)
  - Focused more on clean agriculture than full organic agriculture
- Agroforestry coffee project supported by **LURAS/Helvetas**
- **From project start onward (2017)**

## V. SUGGESTED RELEVANT SUPPORT DOCUMENTS TO FURTHER...

- *Agroecology, The Ecology of Sustainable Food Systems*, 3<sup>rd</sup> Edition, Stephen R. Gliessman ( part 23: Indicators of Sustainability)
- IPES-Food 2016: *From uniformity to diversity: a paradigm shift from industrial agriculture to diversified agroecological systems* (<http://alisea.org/aliseaonlinelibrary/from-uniformity-to-diversity-a-paradigm-shift-from-industrial-agriculture-to-diversified-agroecological-systems>)
- *Farm to systems, Where is our measuring tape?* LESIA India, Anshuman Das, September 2016 (<http://leisaindia.org/articles/farm-to-systems-where-is-our-measuring-tape/>)
- *Agroecology-Measurable and sustainable* – Sept 2016 – Issue 18.3 - LESIA India (<http://leisaindia.org/magazines/english/agroecology-measurable-and-sustainable-sept-2016-issue-18-3/>)

## VI. PARTICIPANTS LIST

No	Organization	Name & Surname	Position
1	Agrisud	Claire Kieffer	Country director
2	VFI	Mr Hongthong	L&L Program Coordinator
3	HELVETAS	Andrew Bartlett	Team Leader and Policy Advisor
4	HELVETAS	Sopavanh Rassapong	Local consultant
5	GRET	Pierre Ferrand	ALiSEA regional coordinator
6	GRET	Saythong Vilayvong	ALiSEA Laos Facilitator
7	SAEDA	Thongdam	Co Director
8	SODA	Mr Keophet Phoumphon	Director
9	Faculty of Forestry/NUOL	Assoc. Prof. Dr. Sithong Thongmanivong	Director of Reseach Division
10	SUFORD	Peter Greindl	Coordinator of SUFORD-SU
11	CIRAD	Philippe Cao Van	ACTAE coordinator
12	CIRAD	Frank Enjalric	CANSEA coordinator

13	CIRAD	JC Castella	EFICAS
14	CIRAD	Guillaume Lestrellin	EFICAS
15	CIRAD	Pascal Lienhard	EFICAS
16	CIRAD	Patrick d'Aquino	CANSEA
17	CIRAD	Juliette Lairez	EFICAS
18	NAFRI	Bounthanom Savayvanh	WOCAT
19	IRD	Alain Pierret	
20	IWMI	Paul Pavelic	
21	NUoL	Mr. Parnthong Xaithilath	
22	ACIAR	Tamara Jackson	
23	AVSF	Gaylord Robin	Regional partnership officer & country director
24	CCL	Anthony Gueguen	
25	CCL	Vincent	
26	University Berkeley	Annie Shattuck	
27	AFD	Morgane Cournaire	Agriculture project officer
28	CIRAD	Chloé Aussaresses	EFICAS
29	MAFF/GDA	Rada Kong	PhD student
30	SAEDA	Sonephet	PA-SA

## Tentative program:

When	What	Who	How
<b>Morning</b>			
8h-8h30	<u>Registration of participants</u>		
8h30-9h30	<u>Introduction session : Setting the stage / overview of existing indicators across the world (1h)</u> <ul style="list-style-type: none"> <li>- Review about existing indicators</li> <li>- A new framework for evaluating AE transition in West Africa</li> <li>- A case study from India (Welthungerhilfe project)</li> </ul>	Juliette Lairez, CIRAD Pierre Ferrand, ALiSEA Saythong Vilayvong, ALiSEA	PowerPoint presentation + Q&A session
9h30-11h	<u>Examples of indicators from Laos: Who is measuring what and how? (1h30)</u> <ul style="list-style-type: none"> <li>- CIRAD</li> <li>- Agrisud</li> <li>- CCL</li> </ul>	JC Castella, CIRAD Claire Kieffer, Agrisud Anthony Gueguen, CCL	20 minutes presentation for each example + Q&A session
<b>Coffee break 11h-11h20</b>			
11h20-12h30	<u>Group work focusing on case studies addressing one of the main AE practices: How do we measure success? (about 1h)</u> <ul style="list-style-type: none"> <li>- Sustainable Rice System (SRS) (SAEDA)</li> <li>- Agroforestry (Helvetas)</li> <li>- Conservation Agriculture (CIRAD)</li> </ul>	Thongdam Phongpichith Andrew Bartlett JC Castella, P. Lienhard, G. Lestrelin & J. Lairez	Presentation of the case studies in plenary session (10 min each) then participants break into 3 groups (one for each case study) and identify collectively indicators according 3 main axis: <ul style="list-style-type: none"> <li>- Economic</li> <li>- Social</li> <li>- Environmental</li> </ul>

<b>Lunch 12h30- 13h30</b>			
<b>Afternoon</b>			
13h30-14h00	Finalization of group work identification of indicators (preparation for restitution)		
14h-15h	Group work restitution and evaluation framework consolidation	Identification of the 5 indicators for each axis that are common to each group Build the draft of a common evaluation framework	
15h00-16h00	Identification / designing of action research pilots involving multi stakeholder approach (CSO_Research_Academics_Government agencies partnership) and aiming at testing the draft evaluation framework	To encourage participants to already think about potential partnership (Research – CSO) for implementing pilot projects	
<b>Coffee break 16h00-16h20</b>			
16h20 - 16h50	Cross presentation of the different proposed action research pilots	Plenary session	