PERARES Deliverable D9.2

Evaluating Projects of Public Engagement with Research and Research Engagement with Society

Final report on PERARES Work Package 9: Monitoring and Evaluation

[+]Dr. Henny van der Windt, *Dr. Pádraig Murphy, *Diana Smith and **Dr. Andrea Vargiu

[+]University of Groningen, *Dublin City University, **University of Sassari

June 2014

With a contribution from Esther Boere, MSc, and Prof.dr. Wim Heijman, University of Wageningen

This publication and the work described in it are part of the project *Public Engagement with Research and Research Engagement with Society – PERARES* which received funding from the European Community's Seventh Framework Programme (*FP7/2007-2013*) under *grant agreement* n° 244264

Contact details of co-ordinating author:
Dr. Pádraig Murphy, School of Communications, Dublin City University,
Dublin 9, Ireland
+353 1 7007703
padraig.murphy@dcu.ie

ACKNOWLEDGEMENTS

There are many complex interactions within the PERARES project that have kept the project ticking along and on schedule. The authors are particularly grateful to those Science Shops, WP leaders and other participants who found time within their existing schedules to listen to us, talk to us, set out evaluation processes and provide feedback, all the while thinking of the bigger picture.

Disclaimer:
PERARES is an FP7 project funded by the European Commission.
The views and opinions expressed in this publication are the sole responsibility of the authors and do not necessarily reflect the views of the European Commission.

Contents

1. INTRODUCTION 5

1.1 Work Package (WP) objectives 5

1.2 Specific tasks of the WP 5

2. PUBLIC ENGAGEMENT RESEARCH AND POLICY IN EUROPE: THEORY INTO PRACTICE 7

2. 1 Evaluation of PER projects: learning from the past 7

2.2. Defining criteria, indicators and method for evaluating public engagement with research: methodologies and approaches from the literature 10

What is evaluation? 10

Why evaluate? 11

Who evaluates? 12

What can we evaluate? 12

When can we evaluate? 14

2.3 Modelling society's influence on the direction of research: formative evaluation on the example of Nanotechnology Knowledge Debate 17

2.4 Economic evaluation of Science Shop projects 18

3. TESTING THE EVALUATION AND MONITORING INSTRUMENTS 23

3.1 Testing reflexive self-evaluation methods for evaluating projects in public engagement with research and its application to PERARES procedures 23

3.2 Iteration and interaction among partners at key stages: Science Shops and debates 24

3.3 Evaluation in WP 6 – the specific case of the Roma Communities in Spain 31

3.4 Evaluation Workshop at the 6th Living Knowledge Conference, Copenhagen, April 2014: perspectives from outside PERARES 32

4. EVALUATION AND MONITORING TOOLKIT FOR PER: CONCLUSIONS AND RECOMMENDATIONS 35

4.1 General conclusions for WP9 35

4.2 Overall conclusions from PERARES partners on the monitoring and evaluation process 35

4.3 Recommendations for Evaluation of Civic Society-based research and Science-with-and-for Society 37

REFERENCES 39

Appendix 1 – Tables 41

Appendix 2 - Toolkit: Evaluation Survey Matrix 47

Appendix 3 - Toolkit: PERARES Evaluation Surveys 49

PREPARING THE EVALUATIONS 50
COLLECTING DATA 50
ANALYZING SURVEY RESULTS..... 50
REPORTING ON THE USE OF EVALUATION TOOLS 51
START-POINT EVALUATION..... 52
MID-POINT EVALUATION..... 54
END-OF-PROJECT EVALUATION..... 56
POST-PROJECT EVALUATION..... 60

1. INTRODUCTION

This report represents Deliverable D9.2 of the PERARES project (Public Engagement with Research and Research Engagement with Society)[1]. In overview, the aim of this Work Package was to develop and maintain a system of internal evaluation and self-evaluation for project partners. This took the form of the establishment of indicators and instruments for evaluation based on relationships between Science Shops[2] whether or not associated with HEIs and their participating community partners. This effectively was the monitoring of public engagement with, and influence on, institutional research, and the reciprocal institutional engagement with social and community partners at key stages of the PERARES project.

1.1 Work Package (WP) objectives

a. to develop a set of indicators to evaluate influences of CSO and public participation in the development of scientific knowledge with reference to specific projects and actions;
b. to make available guidelines and replicable instruments and practices for such evaluation, based on the indicators mentioned above;
c. to 'test' these indicators and instruments on initiatives undertaken by Science Shops as part of the present project;
d. to be a resource for the project partners and individual work packages in their self-evaluation exercises
e. to initiate the development of a framework for evaluation of the economic role of Science Shops
f. to independently evaluate the progress made in achieving the objectives of PERARES regarding Public Engagement with Research and Research Engagement with Society.

1.2 Specific tasks of the WP

The objectives are related to the following specific tasks.

Task 1: *Modelling society's influence on the direction of research with public engagement with nanotechnology*; co-ordinated by University of Cambridge (UCAM), with support from University of Groningen (RUG): this resulted in a formative report on nanotechnology engagement initiatives, utilised by PERARES partners in WP2 to set up a pilot transnational debate on nanotechnology. This milestone (9.1) contributed to the development of the criteria for evaluation of public engagement with research in general (see Task 2 below). The main results of this report and the pilots are summarised in this final report.

Task 2: *Defining criteria and methods for evaluating public engagement with research*; co-ordinated by University of Sassari (UNISS), with support from RUG, Dublin City University (DCU) and UCAM. This was a crucial element of evaluation. Once a decision had been taken for

[1] http://www.livingknowledge.org/livingknowledge/perares
[2] http://www.livingknowledge.org/livingknowledge/science-shops

reflective and guided self-evaluation, following the principles of Participatory Action Research and current community-based research evaluation thinking, a draft evaluation instrument was co-developed.

Task 3: *Testing procedures for evaluating projects in public engagement with research*; co-ordinated by DCU, with support from UNISS and RUG. The self-evaluation instrument was tested and refined following consultation with WP leaders, Science Shops, and other PERARES partners.

Task 4: *Drafting of a document on economic evaluation of Science Shop projects*; co-ordinated by Wageningen University (WUR): following the 5th Living Knowledge Conference in 2012, there was a stated need within the community-based research and learning communities that evaluative costing methods and models were required for Science Shops based on welfare theoretical principles where there was scientifically valid services for groups of people that would not be served otherwise, and where student input and academic supervision are essentially costed as already part of the education process. Task 4 is a guideline document intended to generate further discussion and research. There is consideration in this task for the calculation of the value of Science Shop projects through collecting data Science Shop clients costings; on equivalent prices that would have been charged by professional consultancies for similar services; on the full economic costs of Science Shops and on possible positive and negative externalities that occur unintended because of the project. The document was a milestone for the consortium to coordinate follow-up proposals to be submitted to further explore this field. A summary of this report is included in this final report.

Task 5: *Final report* (all partners, co-ordinated by DCU). This report present represents the summation of this task. It presents modified evaluation instruments, along with a review of the test evaluations that sets out the experiences of evaluation and the modifications made to the evaluation methods (D9.1). This publicly accessible report will be made available for online discussion before presentation at the final conference of PERARES. It will be revised and finalised on the basis of the virtual and face-to-face discussion. It will include some final test results based on working with the first-revision version of the evaluation criteria, compiled by RUG.

This report contains, as a recognisable and discrete element, a toolkit for self-evaluation of public engagement with research and other Science Shop activities. It is anticipated that the resulting revised procedures will be robust and replicable, and will thus represent a major addition to the toolbox for existing and emerging Science Shops.

Task 6: *To evaluate the progress made in achieving the objectives of PERARES regarding Public Engagement with Research and Research Engagement with Society*. This is an independent evaluation of the entire PERARES project carried out by the University of Newcastle (UNEW). The results of this evaluation are presented in a separate document as D9.3.

2. PUBLIC ENGAGEMENT RESEARCH AND POLICY IN EUROPE: THEORY INTO PRACTICE

2. 1 Evaluation of PER projects: learning from the past

As Science Shops evolved, it quickly became obvious that novel methods of evaluation were required to track these unique interactions between science and society. In the 1980s, researchers such as Zaal and Leydesdorff (1987) attempted to evaluate the practices and the impacts of Science Shops, in particular the Amsterdam Science Shop. Two decades later, in her evaluation study, Farkas (2002) focused on all Dutch Science Shops. Also within the framework of the EU-funded program SCIPAS, some preliminary efforts were made toward evaluation (Hende & Sogaard Jorgensen, 2001). Recently the Science Shop of Wageningen (Aalbers & Padt, 2010) presented a rather thorough analysis of the impact of this Science Shop. We will discuss the studies and their results briefly.

The study of the Science Shops Wageningen (Aalbers & Padt 2010) investigated the characteristics of the modes of operation and impact of the Science Shop Wageningen, from scientific and, particularly, social dimensions. For this impact study, 11 enquiries of the Wageningen Science Shop have been examined in detail. With respect to societal impacts, three types of influences have been identified:

a. In a substantial number of Science Shops projects resulted in a stronger societal position of the stakeholder or in a change of the political plans;
b. Furthermore, the projects influence the reception of the problem and the position of stakeholders with respect to the problem.
c. Finally the projects resulted sometimes in new societal coalition of the stakeholders.

With respect to scientific impacts, the Wageningen Science Shop study distinguishes direct impacts from indirect impacts. In many cases, the Science Shops projects reinforced the position of research lines. In some cases new lines of research started or resulted in grants based on Science Shops studies. In general, the Science Shops projects themselves rarely resulted in scientific publications. However, what were once considered indirect impacts peripheral to science are now integral to the 'Mode -2' operations of the science/society interface in a highly technoscientific world (Felt, et al, 2007; Nowotny et al, 2001): namely the growing knock-on effects across domains of society, economy and environment, and the sciences' new sensitivities to stakeholders in collaborative projects and the training of researchers in doing and communicating their research in complex projects. What is required is a type of *rapprochement*, in the words of Jacob (2008, p176) ' [a juxtaposition, integration, or fusion] between disciplines geared toward comprehending a complex phenomenon' (ibid.).

The Wageningen Science Shop study presented a list of success factors. These included:

- A relatively high education level of clients and already existing contacts with clients;
- High level and good organization of expertise, for instance a 'supervising committee' and review procedures;
- Clear roles for all people involved and clear appointments;

- Common ideas and activities and agreement about the aims of a project in order to enable processes of common knowledge production;
- Opportunities for participating researchers to spend more time than on regular research projects;
- Researchers, students and supervisors all open and flexible;
- Challenges or bypasses to current reward systems of research;
- Contacts between students and clients;
- Creating societal impact opportunities, if the results of the project are combined with a communication plan.

The SCIPAS evaluation study (Hende and Jorgensen, 2001) studied the impacts of Science Shops on curricula and research at universities. 70% of the Science Shops reported that students work within educational programs and 40% reported curricula changes in a positive way. About 30% of the Science Shops reported some change in research agenda and 20 % in research methods. Zaal and Leydesdorff (1987) reports that of 162 research projects, 22 had led to 33 scientific publications and 21 to follow-up investigations. According to the breakdown of responses to rationale for participating, the reasons for researchers' willingness to participate were social (71) and scientific (30). The SCIPAS study mentions five impact mechanisms:

1. the Science Shop as incubator for new research;
2. the university funds Science Shops based research;
3. researchers integrate Science Shop research in their own research;
4. Science Shops introduce new research methods to scientific staff;
5. Science Shops are transformed into a research centre for participatory science.

Also this study lists some success factors:

- early cooperation with research groups;
- defining of the topics that is neither too broad or too narrow;
- keeping numbers of scientific departments involved to a low number;
- linked research problems to existing or earlier – fundamental – research;
- presenting a research problem that is sufficiently challenging for research purposes;
- ensuring sufficient time;
- working together in a networked structure (ibid, 1987).

Farkas' (2002) study aimed to find out if Dutch Science Shops have been successful at getting scientists involved in societal or community issues and citizens more involved in science. Farkas concludes that the Science Shops are relatively successful but the 'latent social demand' is hard to formulate in terms of research questions. In addition they help CSOs to articulate their demands and they have improved conditions for interaction of science and CSOs, but there has been limited change in mainstream research agendas.

In combination, the evaluation studies identify three domain levels concerning research agendas:

1. Individual staff members;
2. Projects/of research groups;
3. Institutions: universities, research councils etc.

In general, Science Shops may influence research agendas of individual researchers and thinking about institutional social responsibility/third mission issues, but the 'Mode-2' vision of Felt *et al* (2007) for an influence on, or a dialectic with, mainstream research groups and institutions as a whole has, up to now, remained elusive. Given the small size and small budgets allocated to Science Shops this is hardly surprising. However, Science Shops did achieve small changes in research agendas by creating an atmosphere that stimulates research for CSOs. Important mechanisms of traditionally 'indirect' influence are involvement of clients in the projects of the Science Shops, combined education projects, collaborative projects with researchers and common PR policy with stakeholders. Funding for larger projects is still hard to come by. It is hoped that the focus on Responsible Research and Innovation, and outreach, in the European Commission's Research Program *Horizon 2020* will be a game changer. This must also be seen in the context of the turn in science communication and STS towards upstream engagement (Delagado *et al*, 2011;Wilsdon, 2005).

Crucial success factors surround the question of whether or Science Shops can translate and bridge societal demands with scientific questions. If Science Shops staff works closely together with teaching staff, with researchers and with clients, it will be more likely that the projects are successful. Toolkits of this nature will become increasingly common for highly complex community based tasks (see also Pain et al (2011) for a participatory research toolkit).

Evaluations of Science Shops have been common if we take the example of one specific domain: health. Sandoval *et al* (2012) reports on community-based participatory research project on tobacco prevention while Blevins *et al* (2008) carried out a detailed evaluation on a research project for elderly mental healthcare in rural US.

One key factor, for example, that enhances the impact of Science Shop projects on research agendas, is the reward system for scientists. There are many models of Science Shops, some (co)exist within Higher Education Institutions (HEI), some are dependent on another 'host' and some exist independently as self-sustaining economic and legal entities.
Those HEI-dependent Science Shops must balance and align academics' growing expectation to publish in high impact peer-reviewed journals within their discipline with the typical interdisciplinary and societal-based nature of Science Shops' clients' demands. In addition, the success of Science Shops regarding influencing societal and research agendas depends on style, their way of working, the model (whether a more active participatory style or 'hatch' style) and the stage of development or institution. In the UK, the influential National Co-coordinating Centre for Public Engagement (NCCPE) has recommended the use of Socially Modified Economic Valuation (SMEV) as a type of metrics to evaluate the social value of so-called 'third mission' in higher education. Its focus on real societal outcomes is fed back into the value chain within HEIs, a model also adopted by Harvard Business School (Kelly and McNicholl, 2011). 'Third mission' can be defined broadly however, as 'continuing education (CE), technology transfer & innovation(TTI) and social engagement (SE)' (E3M project, 2008).

2.2. Defining criteria, indicators and method for evaluating public engagement with research: methodologies and approaches from the literature

The literature outlines many reasons for Science Shop evaluation. If we condense into summary form, we get the following:

1. Building knowledge. Knowledge is produced as an end in itself (thus, not necessarily for intervention).
2. Learning. In order to learn from what has been done. It may apply to all relevant actors of the evaluated organization or programme/project.
3. Informing (accountability). In order to give information to relevant stakeholders (funders, institutions, general public etc.). It mainly focuses on results and impacts.
4. Managing and planning. In order to get a better organization. Evaluation is intended to get elements useful for decision making. Differently from the simple "learning" evaluation, it is mainly used by decision makers within an organization. It mainly focuses on internal efficiency (typically organization monitoring and evaluation, quality management etc.) and external efficacy (costs/benefits analysis, customer satisfaction etc.).

Normally, accounting is destined to external entities and actors in order to ensure rewards (funding, social recognition etc.) or sanctions (external control, often through the definition of standards).The learning/management function of evaluation is more of internal use for organisations in order to ensure better functioning (efficiency), get better results (efficacy and equity), take significant decisions and plan future activities.
Clear information supplied to external actors can be also useful for operators and managers of the organisation, therefore ensuring a mutual learning function. Those functions and objectives might sometimes overlap, but as a general rule, an organisation must be clear in about the aim and objectives of evaluation activities. In fact, as a general rule, different functions imply a different approach, as well as different instruments, indicators and uses of evaluation.

What is evaluation?

Before getting more into more practical issues, it is worth clarifying some terminological matters from the literature. This is useful for current and future Science Shops to define the kinds of questions they want to answer and, thus, what kind of activity is worth undertaking. Evaluation generally implies a variety of different activities and is often mistaken with one or more of them. A short definition of terms often used as synonyms can be therefore useful, distinguishing between benchmarking, auditing, monitoring and evaluation (see Table 1.).

Table 1. Basic terminology (from Hart *et al*, 2009)

Term	Short definition
Benchmarking	Used mainly in management, and higher education; organisations evaluate various aspects of their processes in relation to best practice, usually within their own sector, for comparison, thus adopt best practice, to increase performance.
Auditing	Quality improvement process ; performance measured against standards or criteria, indicators of overall performance. Audit works for economic, social, environmental reasons. Changes then implemented to improve standards.
Monitoring	This can be considered an activity of cyclical or continuous data gathering for punctual description of the advancement of a project. Therefore, it is especially used within auditing and evaluating.
Evaluation	Evaluation mainly (but not exclusively) is a form of applied social research that is conducted within a decision-making process. It is therefore integrated with the phases of programming, project, intervention and it aims at decision-making complexity reduction by means of the analysis of direct and indirect effects of actions. While audit and benchmarking are mainly descriptive, evaluation is essentially concerned with assessing the worth or value of an activity, i.e. its outcome or impact in social and economic terms, and how well its processes operate. As a participated instrument of judgement of actions that are socially relevant, it implies that the operational consequences of research are accepted as far as the relationship among decision-makers, operators and customers is concerned.

Why evaluate?

Let us consider now, more generally, the reasons for evaluating. We can refine our definitions more clearly towards discernible outputs, as Table 2. demonstrates, taken from Masoni (1997).

Table 2. Simplification of terminology

Monitoring	"It's 6:07 pm"	A matter of fact is ascertained by referring to a pre-determined measurement unit
Auditing	"I was late for the 6:00 pm train"	A discrepancy is observed between a matter of fact (the time I arrived) and a norm (the scheduled time for my train)

Benchmarking	"My colleagues from work didn't miss the train. How did they manage?"	A comparison is made with others in the same situation (who left office at the same time)
Evaluating	"Why was I so late? Does it matter? Could I take the bus?"	Causes are analysed; consequences are discussed; solutions are sought

Adapted from Masoni (1997) cited in Bezzi (2003., p 67)

Application to WP9

Based on these definitions, we have proposed evaluation for learning and managing functions (through continuous monitoring) as well as auditing for accountability.

Who evaluates?

Organizational needs and resources, as well as aims of evaluation must be considered in order to decide who is going to perform evaluation. Especially for budget reasons, evaluation is often done by recurring to organisation's own human resources. Nonetheless, possible different options must be seriously considered before proceeding to self-evaluation. In order to decide, it is advisable to take into account the following.

Application to WP9

Learning and managing evaluation could be done through self-evaluation (that is systematic recurring to an external facilitator and/or supervisor/mentor). Accountability could be best assured by independent external evaluation. Nonetheless, assuring transparency of evaluation procedures could be considered suitable. Moreover, using instruments that look more "objective" (questionnaires, quantification procedures and the like) could help.
Also, negotiation with stakeholders about indicators and procedures could be useful, in order to ensure an "external" view.

What can we evaluate?

It has been said that evaluation supports decision-making. That is a generic indication if the elements to be observed are not clearly identified (Table 3.).

Table 3. Focus of evaluation

Focus	Comment
Needs	Decisions are intended to pursue change of a situation that is perceived as unsatisfactory. Evaluation of needs helps decision-makers to identify priorities, circumscribe and describe a phenomenon and imagine answers.
Organisation	For implementing an action or programme human, as well as material, financial and temporal resources are to be assessed.

	Customers are to be assessed, as they contribute to the efficiency and efficacy of an organisation. An organisation assessment can be done as to its concrete functioning, acts and structure. Costs/benefits analysis falls into this ambit of evaluation.
Effects or impacts of intervention, project or programme	This is the most obvious ambit of evaluation which, nonetheless, has to be considered in the light of the two previous ones. In order to value impacts of a project we must, in fact, consider the needs it is intended to respond to and how it has been planned and managed.

Application to WP9

In the case of Science Shops (and cognate community-based, science-and-society organisations) the focus of evaluation can concentrate on specific ambits:

- teaching/learning
- research
- Science Shop
- CSOs
- community

Therefore, evaluation can be oriented to explore the following in Table 4.

Table 4. Focus of Science Shops evaluation: proposal for priorities and evaluation strategy

Focus	Ambit	Importance	Evaluation strategy
Needs	teaching/learning	+ –	Unstructured
	Research	+ –	Unstructured
	Science Shop	+	Unstructured
	CSOs	++	Structured
	community	++	More or less structured
Organisation	teaching/learning	+	More or less structured
	Research	+	More or less structured
	Science Shop	+++	Structured and unstructured
	CSOs	+ –	Unstructured
	community	–	Unstructured

Effects or impacts of intervention, project or programme	teaching/learning	++	Structured and unstructured
	research	+	Structured and unstructured
	Science Shop	–	Unstructured
	CSOs	+++	Structured and unstructured
	Community	+++	Structured and unstructured

The term 'structured' evaluation strategy in Table 4 is utilised to point out the need for the identification of specific evaluation instruments, whereas 'unstructured' evaluation activities can be conducted not necessarily by recurring to specific or organised observation/judgement activities.

If the contents of Table 4. is agreed upon by participants in PERARES, it follows that (with different sets of priorities) we particularly need to identify instruments and indicators for:

- Needs of CSOs
- Needs of community
- Organisation of teaching/learning
- Organisation of research
- Organisation of Science Shop
- Effects on teaching/learning
- Effects on research
- Effects on CSOs
- Effects on community

When can we evaluate?

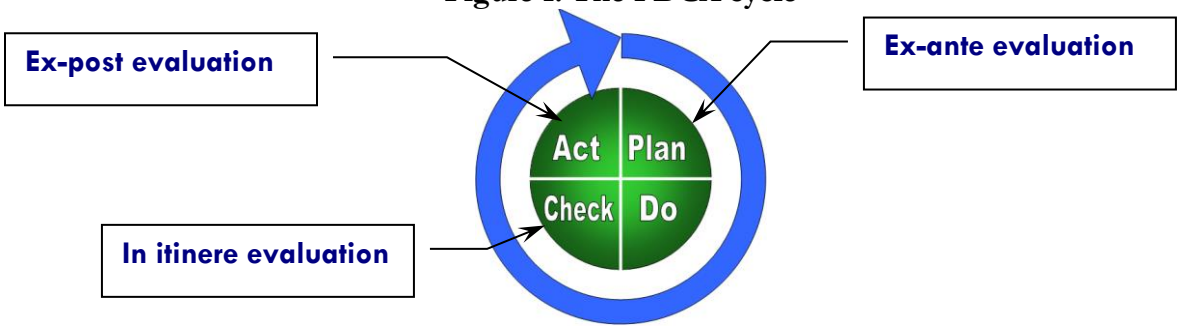
Evaluation can be done during the entire cycle of decision-making → programming → implementation process. That process is known as PDCA (Plan – Do – Check – Act): it is a continuous cycle which implies different evaluation activities, shown in Figure 1.

Application to *WP9*

In the case of WP9, it proposed to evaluate in several stages, in the start stage, during the project, at the end, and at a suitable time after the project has been complete..

For PERARES, these proposals were carefully discussed amongst WP9 members and operational decisions were made as follows.

Figure 1. The PDCA cycle



Evaluation: what, why, who and when

If we take an example of the participants in WP9 - there was agreement on the idea that evaluation could serve different objectives and would refer to the life cycle of every single project. Organisational learning was considered a transversal objective; planning, management and accounting to stakeholders were emphasised as relevant issues for project evaluation.

The relationship between each specific objective, the focus of evaluation, as well as the object of evaluation is shown in Table 5. Each objective can be considered as mainly pertinent to a specific temporal level of a project: before the project starts (ex-ante evaluation, which is functional to planning), while the project is running (in itinere evaluation and monitoring, which serves managing purposes), at the end of the project (ex-post evaluation, for future programming but also for accounting to stakeholders). It must be noted that ex post evaluation can be done right at the end of the project (thus outputs are evaluated), but also after some time after it has come to an end (longer term effects that can be referred at as outcomes) and after a longer period (long term impacts). A decision was made to merge outcomes and impacts in just one medium term evaluation.

Once purposes, objects and timeframe had been identified, a decision could be made as to the instruments to be used at each phase of evaluation in order to gather data useful for evaluation. Table 6 (Appendix 1) gives an overview of instruments for data collection according to each purpose and phase of the project. Indicators related to each dimension of evaluation and each phase were then identified as the tables in Appendix 1 summarize: ex-ante evaluation dimensions and indicators (Table 7), in itinere evaluation dimensions and indicators (Table 8), output evaluation dimensions and indicators (Table 9) and impact evaluation dimensions and indicators (Table 10.)

Table 5. Project evaluation: why, what and when

Shared objective	Main objective	Focus	Object	Time frame
Learning	Planning	Needs and resources	CSOs Community Science Shop	*Ex-ante*
	Managing	Organization	Teaching and learning Research Science Shop	*In itinere*
	Accountability	Effects: • Outputs • Outcomes • Impacts	Teaching and Learning Research CSOs Community	*Ex-post* • Outputs • Outcomes • Impacts

Indicators were then translated into properties and variables within each single data gathering instrument (checklist and questionnaires). First drafts of instruments were tested amongst PERARES partners in order to verify clarity, feasibility and adequateness. After testing in 2011 (see below), a new version of data gathering instruments was elaborated along with instructions for use and merged into a single evaluation toolkit made of the following:

1. Checklist for early-stage evaluation, to be used in the preparatory phase before substantive interventions happen and researchers go into the field;
2. Questionnaire for mid-point evaluation, to be used at a stage in a project when the project can still be modified without damage to it;
3. Questionnaire for end-point evaluation, to be used when the project report is submitted;
4. Questionnaire for post-project evaluation, to be used for assessing longer-term impacts and carried out approximately 12 months after the project has completed.

A matrix of evaluation decisions are contained in Appendix 2, with copy of the toolkit is annexed to this report in Appendix 3.
Specific attention was given to strategies that could ensure that each instrument would enable organizational learning. Therefore, recommendations are given in the toolkit as to how make use of gathered data through in depth discussion amongst people filling in questionnaires (see "Analysing survey results" in the introductory session of the toolkit).

Framing questions for partners on the evaluation surveys
For the first iteration of the early-stage/start, mid-point and end-point surveys, those selected partner with whom our evaluation team engaged were asked the following questions as standard reflexive element with evaluation forms:

- Content of the forms

Are all aspects, issues and topics of the project covered? Are the forms applicable to the specific project? Is the quality of the questions acceptable (avoiding ambiguity, jargon, irrelevance)? Is the format easy to handle?

- Appropriateness of the instruments

Are the tools easy to use? Is the process using the instruments easy to manage? Is the time involvement and length of questionnaire acceptable? Do the evaluation tools address the needs of all stakeholders? Have the evaluation tools influenced credibility and acceptance of the evaluation project? Did the evaluation tools allow the project to be investigated in a complete and fair way?

- Drawing conclusions from data gathered

Is the information collected relevant to the project? Whose information needs are served by the instruments? Did the evaluation provide feedback that was useful for all stakeholders? Is the information produced of sufficient value? Do the criteria used reflect the projects' concerns? Are the criteria useful in regard to evaluating effectiveness? Are the criteria useful in regard to equity?

- Effects of the evaluation

Did the evaluation help to structure the project? Has the evaluation helped to improve processes during the project? Will insights from the evaluations be used for future project or the future of an ongoing project? Did the evaluation promote capacity-building? Did the evaluation cause disruption? How much interest was there in the evaluation report?

2.3 Modelling society's influence on the direction of research: formative evaluation on the example of Nanotechnology Knowledge Debate

An integral part of the PERARES project is the Transnational Knowledge Debates, a series of discussions set by PERARES Science Shops on various topics with supporting information on a secure area of the Living Knowledge website, and with contributions from various actors in society. The concept is to raise a research question for connecting European Science Shops of the PERARES project based on these discussions, or to define research themes that would require attention from funders in their programmes. The first such debate was on the topic nanotechnology. For PERARES, Mount and Doubleday (2011) carried out a comprehensive review of nanotechnology public engagement and its evaluations (see PERARES Milestone M9.1 *Formative evaluation of Nano-Dialogues,* the output for *Task 1: Modelling society's influence on the direction of research with public engagement with nanotechnology*). The objective was a formative evaluation of the central action of PERARES, namely the Knowledge Debates. Criteria were established early on through a proof-of-concept of evaluation, a pilot for assessing integration with research policy and practice. This would inform the research-policy-society research nexus of both the online discussion and evaluations that followed.

The following guide was set out by the nano-dialogue evaluation:

Context and framing

- Framing: At what stage were the project's focus main issues framed, and by whom?
- Clarity, transparency and accountability: Were all participants satisfied that these criteria were adequately met?

Learning and influence

- How far did the project impact on the knowledge used in policy-making (or research)?
- How far did the project influence actors' opinions and attitudes?
- How far did the project impact on the actions taken by policy makers or other actors?

There were eight nanotechnology dialogue discussions at the formative evaluation process
Six recommendations were made by Mount and Doubleday (2011):

1. The dialogue should have a clear purpose 'on the table' for debate.
2. Discussion should be grounded in specific cases and concrete issues.
3. Public engagement should be understood as an on-going process of learning and reflection, rather than seeking to represent a single 'snapshot' of public attitudes.
4. Web-based dialogues are possible, but require careful and intensive moderation to ensure productive engagement.
5. Web-based dialogue makes it possible to extend engagement over a wide geographical area; however it is important to link 'transnational' dialogue back to local engagement.
6. Participation in web-based dialogues requires considerable time and effort of participants if it is to be successful, it is therefore important to be clear what is offered in return for participation.

2.4 Economic evaluation of Science Shop projects

A method for economic evaluation of Science Shops was developed as part of *Task 4: Drafting of a document on economic evaluation of Science Shop projects*, coordinated by Wageningen University (Boere and Heijman, 2011)[3]. They answered the question whether or not Science Shops are economically efficient, based on a Cost Benefit Analysis (CBA) analysis of three Science Shops: Wageningen, Brussels, and Eindhoven. These are linked to universities; Wageningen and Brussels are relatively large Science Shops compared to that of Eindhoven. A fourth Science Shop, in Zittau, which is not linked to a university, was analysed as well, but a comparison was not possible because it also performs many projects for SMEs.
Their work has also been published as Boere & Heijman, 2012.

In this Deliverable report we include their summary written for the Living Knowledge Journal (reprinted with permission)[4].

[3] http://www.livingknowledge.org/livingknowledge/wp-content/uploads/2014/07/PERARES_M9.3_A-Cost-Benefit-Analysis-and-Evaluation-of-Science-Shops.pdf
[4] http://www.livingknowledge.org/livingknowledge/wp-content/uploads/2011/11/LK9-May11.pdf, p12-13.

The Social Value of Science Shops: A Cost-Benefit Analysis by Esther Boere and Wim Heijman[5] (Reprint from the Living Knowledge Journal)

Introduction: Over the past decades Science Shops have been set up, closed, rebuilt and developed, not only in Europe, but also in Canada, the USA, Africa and Asia. The main aim of these Science Shops is to provide access to (academic) knowledge to private persons, civil society organizations (CSO) and/or small and medium enterprises (SME). These individuals or organizations lack the financial means to turn to professional consultancy bureaus[6]. The PERARES project states that the increasing involvement of civil society organizations leads to an increasing amount of research questions posed by clients and a need to extend the number and capacity of Science Shops. We will evaluate this argument by analysing Science Shops with the help of a cost-benefit analysis (CBA). The central question of this research is therefore *whether or not Science Shops are economically efficient*.

The concept of Science Shops is spread around the world. As a consequence, Science Shops developed in a large variety of ways; depending on the region, area of expertise, focus from policy makers and institute to which the science shop is connected[7]. Because of the different origins and transitions of Science Shops, there is a large variety in structure and way of functioning. In order to answer our research question, we will give an economic evaluation of Science Shops that differ in size, region, target groups and area of expertise; however, we will limit our research to Science Shops that are linked to a university or research institute. This led us to evaluate three different Science Shops; that of Wageningen (NL), Brussels (B) and Eindhoven (NL). In order to overcome variation in costs or revenues between years, we tried to use a five year period for our analysis to measure the costs and benefits of research hours conducted for each Science Shop.

Methodology: In general, a CBA aims at answering whether a project or program should be carried out and if funds are limited, which elements should be selected. In doing this, the specific project is compared to its next-best alternative (Mishan 2007)[8]. Boardman et al. (2006)[9] formulate it as: *"CBA is a policy assessment method that quantifies in monetary terms the value of all consequences of a policy to all members of society"*. With this economic evaluation we try to assess the social desirability of Science Shops relative to its next best alternative; i.e. where clients of Science Shops would turn to if Science Shops would not exist.

Because of the financial restrictions of science shop clients, they would not engage in the market segment of professional consultancy bureaus if there would not be a science shop. Therefore, clients of consultancy companies effectively engage in another segment of the market than clients from Science Shops. The different segments of the market are graphically represented in Figure 1, where area ODRQ represents the segment of

---

[5] Both authors are affiliated with the Agricultural Economics and Rural Policy Group, Wageningen University, Hollandseweg 1, 6706 KN. E-mail: esther.boere@wur.nl, wim.heijman@wur.nl

[6] G. Straver: "De student in de Wetenschapswinkel. Jaarverslag 2007-2008 en vooruitblik 2008-2009." Wetenschapswinkel Wageningen UR, Wageningen, the Netherlands.

[7] CW (Commissie Wetenschapscommunicatie), 2009: "Dossier Wetenschapswinkel. Voor de Commissie Wetenschapscommunicatie." Science Shop Brussels.

[8] Mishan, Q. (2007) "Cost Benefit Analysis." Fifth edition. Routledge, New York, America.

[9] Boardman A.E., D.H. Greenberg, A. R. Vining and D.L. Weimer, (2006, 3rd ed.). "Cost-Benefit Analysis: Concepts and Practice". Pearson / Prentice Hall, Upper Saddle River (NJ) , p. 2

professional consultancy bureaus and area QRE the segment of research conducted by students, under which science shop research falls. If point O till point Q represents the number of Professional Research Hours (PRH) against price P, then clients of a science shop will demand research hours from point Q till point E. As a value of one PRH produced, we used €147 (point P). The maximum valuation for science shop research is, as represented in Figure 1 below, part of the triangle QRE and part of this maximum valuation is composed of the total costs paid by Science Shops. Therefore, the triangle can be best referred to as 'gross benefits of science shop research'. We will value the price of the research produced by the science shop as the average of the triangle QRE, which is halfway on the straight line RE. We assumed the average of this price to be half of price P, which makes the average willingness to pay for an hour of student research €73.50.

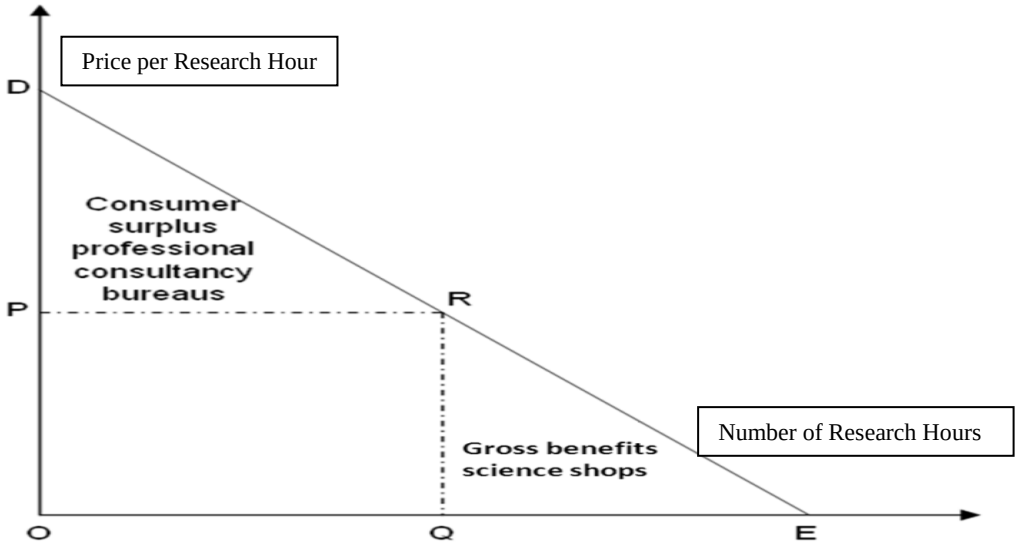


Figure 1: social benefits of Science Shop research

There are two lines of thinking in deciding upon the next best alternative for science shop clients. On the one hand, there are the critics of Science Shops who say that without Science Shops, clients and student researchers would have found each other just by demand and supply of the market. If this is true, the next best alternative would be student research without Science Shops acting as an intermediary. On the other hand, there are the proponents of Science Shops, who argue that without the interference of Science Shops to regulate demand and supply, the clients would not get their questions answered. In this latter case, the next best alternative would be where civil society organizations would turn to if they would have the financial means to do so; hence, professional consultancy bureaus.

In our analysis we performed a sensitivity analyses from these two viewpoints. Firstly, we analysed the benefits or losses that the science shop made with the help of a benchmark for the rate of efficiency between a PRH and a SRH; we set this benchmark at one PRH representing three SRH. The second viewpoint is based on the assumption that if Science Shops did not exist, student and clients would meet each other via the market. Based on discussions with science shop leaders we decided to use a benchmark that without Science Shops, only 50% of science

shop clients would get their research question answered. This led us to the following four scenarios:

Table 1: Different scenarios for sensitivity analyses on Science Shops

Scenario	**1**	**2**	**3**	**4**
SRH-PRH ratio	1 PRH: 1 SRH	1 PRH: 3 SRH	1 PRH: 1 SRH	1 PRH: 3 SRH
Without Science Shop	0	0	50%	50%

Results: In the comparison between science shop research and that of professional consultancy bureaus, we estimated the number of SRH that can compose one PRH up till the point where the science shop breaks even, which can be seen in figure 2 below. We analysed that the break even ratio of 1 PRH represents between 5 and 6, 19 and 20 and 9 and 10 SRH for respectively science shop Wageningen, Brussels and Eindhoven.

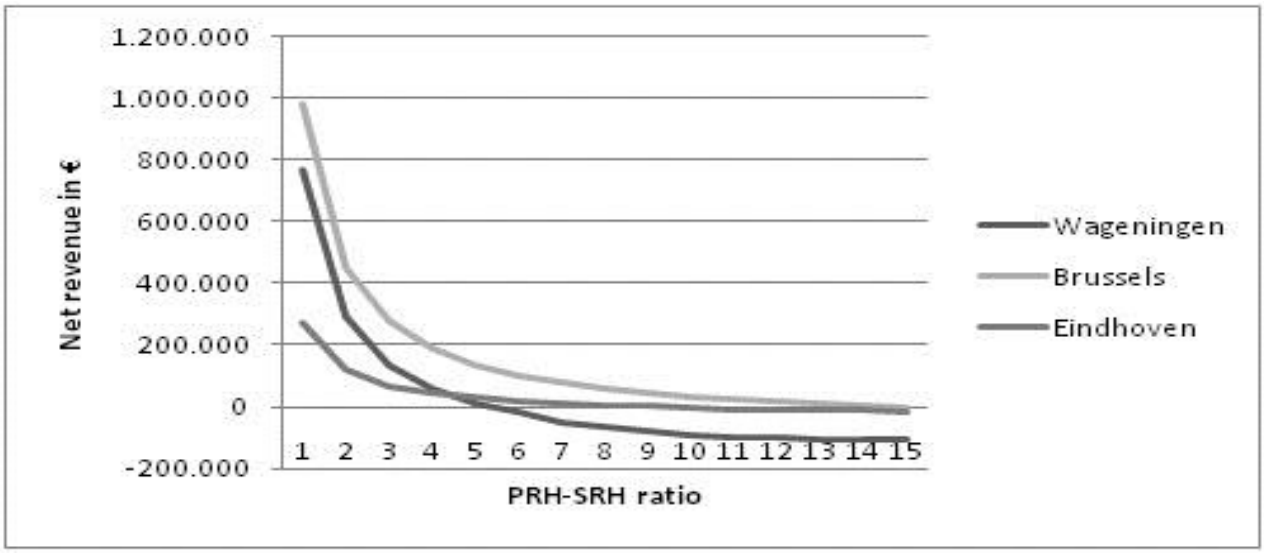


Figure 2: Comparison of Science Shop revenues with changing SRH/PRH ratio

Table 2 below shows the CBA results for the three Science Shops under the four different sensitivity analyses. All Science Shops ended up with negative results under the scenario that one PRH equals 3 SRH and 50% of the SRH would also occur without the help of the science shop. This is probably quite a strict calculation in the cost-benefit analysis. We can therefore conclude that the best-guess of for the economic efficiency of the analysed Science Shops would be half way between the most positive scenario (Scenario 1) and the most negative scenario (Scenario 4).

Table 2: Comparison of CBA results and sensitivity analyses between Science Shops

Scenario	**1**	**2**	**3**	**4**
SRH-PRH ratio	1 PRH:1 SRH	1 PRH:3 SRH	1 PRH:1 SRH	1 PRH:3 SRH
Without Science Shop	0	0	50%	50%
WAGENINGEN				
With Science Shop (€)	765.972	136.812	765.972	136.812
Without Science Shop (€)	0	0	471.870	471.870
With – Without (€)	765.972	136.812	294.102	-335.058
BRUSSELS				
With Science Shop (€)	980.456	277.992	982.016	277.992
Without Science Shop (€)	0	0	526.848	526.848
With – Without (€)	980.456	277.992	455.168	-248.856
EINDHOVEN				
With Science Shop (€)	269.755	68.132	269756	68.132
Without Science Shop (€)	0	0	151217	151.217
With – Without (€)	269.755	68.132	118539	-83.085

Table 3: Best guess of economic efficiency of Science Shops

Science Shop	**Annual Net benefits (€)**
Wageningen	215.457
Brussels	365.800
Eindhoven	93.335

From this, we can conclude that both large and small Science Shops can be economically efficient.

Conclusion: The analysis provided in this study gave some useful insights in the costs, benefits and efficiency of Science Shops. There are however a number of other important aspects to keep in mind when evaluating the social desirability of Science Shops. The CBA analysis only took the direct costs and benefits into account. It can easily be assumed that the projects conducted by Science Shops have not only led to direct costs and benefits, but also to indirect ones. These indirect costs and benefits are however very difficult to measure in monetary terms. Moreover, Science Shops themselves do not only focus on answering research questions for clients, but do also bring a valuable contribution to the education of students by offering practical topics for, amongst others, master theses. The fact that Science Shops are generally linked to universities makes them the ideal bridge between science and society and allows them to often bring new, innovative approaches to answer research questions. This analysis aims to be a substantive addition to the evaluation methods and models available for the evaluation of Science Shops and is intended to generate further discussion within the PERARES network and the wider area of community based research.

3. TESTING THE EVALUATION AND MONITORING INSTRUMENTS

3.1 Testing reflexive self-evaluation methods for evaluating projects in public engagement with research and its application to PERARES procedures

Based on the findings listed in Section 2, our experiences with Science Shops and other PER projects we developed an evaluation form – in English - and a time schedule to test it within the PERARES project.

As already stated, it was decided to develop an evaluation form that would be appropriate for all types of PER projects. Furthermore, we distinguished four stages of evaluation, an initial stage, a mid-term stage, an end stage and a post project stage.

- **Start-point** In the first stage, during the formation of a project, the aims and means are discussed,
- **Midpoint** In the mid-point evaluation it is discussed whether the original aims are still adequate and whether resources are sufficient and if it is likely that the aims will be reached.
- **End-of-project** At the end of the project, at the moment that the end report is submitted, it is evaluated whether the aims are reached.
- **Post-project** During the post project evaluation, when it is assessed in future, impacts of the project are considered concerning research, education, cooperation and societal aims.

In each stage of evaluation, we asked to answer questions on the following issues:

- framing, objectives and aims
- means, resources
- organisation, transparency
- involvement of the parties
- expectations and outcomes
- reorientation
- most valuable/most difficult issues

In order to serve the learning objective, we also gave instructions on how to use filled in forms in order to stimulate discussion and confrontation useful to reach a common understanding of issues at stake.

We asked PERARES partners to use these forms during their projects and to discuss them with colleagues and partners. Together with the forms, we offered an instruction. In this instruction, we recommended to prepare each stage of the project evaluation carefully and

- to identify who in the project team would be responsible for overseeing the evaluation;
- to identify stakeholders and partners to be included in the evaluation
- to discuss the purpose, scope, aims and procedures of the evaluation with all participants and partners.

PERARES partners were expected to use forms and to send completed copies to the WP9 partner representatives (Dr. Henny van der Windt and Ms. Diana Smith), including their comments, based on their experiences.

We also sent the forms to six well established Dutch Science Shops and interviewed the sciences shops staff about these forms compared to their evaluation methods.

3.2 Iteration and interaction among partners at key stages: Science Shops and debates

In 2012 we discussed the feedback of the PERARES partners and Sciences shops. The main comments were:

- there are too many questions
- we need more open questions
- the questionnaire is too structured

Also, the way data was to be used for learning and discussion was not clear enough. The responses differed from respondent to respondent. Existing Science Shops preferred short clearly structured forms, while scientists working in less structured participatory projects preferred open questions.

Nevertheless we altered the forms by reducing the number of questions and by adding more open questions. We sent these new forms to the PERARES partners, for end evaluation and for post evaluation.

In the last months of 2012 and the first months of 2013, we contacted the PERARES project leaders and other PERARES members to ask them if they used the forms and how.
In 2014, we contacted some project leaders again regarding the outputs and impacts of the projects

We designed a simple format for a semi-structured interview. The questions concern the way the evaluation was carried out, the stage of the project, specific questions and indicators and the way this evaluation can be integrated in existing procedures.

Representatives from the following WPs were interviewed:

- WP 2 Nano online debate ("Structuring Public Engagement with Research through knowledge debates: Nano-dialogues - The experiences from researcher-civil society dialogues")
- WP 3 debates between researchers and CSO's ("Pilot for permanent debate lab-CSO")
- WP 4 Starting Science Shops ("Capacity Building for Structuring PER through Research with CSOs")

- WP 5 Domestic Violence project ("Connecting CSO's and researchers through Science Shops on the topic of Domestic Violence & Pregnancy")
- WP 6 Roma project ("Forgotten citizens of Europe: Participatory Action Research for Local Human Rights")
- WP 8 Advancing PER through support from Research Councils for research of CSOs with Research Institutes

WP 7, 11 and 12 were deemed not relevant for self-evaluation.
In addition we interviewed representatives of two existing Science Shops from Germany.

What follows is a summary of our analysis of qualitative feedback on the iterative process of instrument design, as Science Shops and individuals tested these instruments by using them as part of their evaluation processes.

Use of the Likert scale quantitative instrument

One of the new Science Shops was concerned about the gradations in the Likert scale questions, the oft-stated worry that for the tendency for respondents to remain neutral on instinct and select the middle in a 5 point scale. There was also a query about 'yes' or 'no' answers.

This respondent stated:

> Most of the questions [are] high numbers [and] mean positive appraisals. There's a danger that, given the prevalence of positive statements, someone glancing at this form might think that all 4/5 responses means that everything is fine and nothing needs to be addressed.

However, the respondent Science Shop agreed with the strategic rationale for quantitative response - any numerical answer can be explained or qualified on site with the questioner. "It also means," they wrote " that for each response we have a place to 'describe/cite/make reference' to the project itself as required and any document produced and its context...". There was also a warning to ensure equal mix of positive and negative statements.

Requests for a qualitative instrument

To continue the theme of assessment, many partners raised the issue of its quantitative nature during trialling periods with the instrument "Space for individual short notes for single questions may be desirable", proposed a respondent from another new Science Shop. "I found the fact that the mid-point evaluation only involves quantitative questions quite limiting", a Western European Science Shop representative stated. "Even if such questionnaires are completed," the Central European Science Shop representative explained, "it does not really reflect the process. And from my experience of working now a bit more than 40 years in related fields I have my doubts that such processes can be evoked this way".

Our WP9 team have responded to these concerns and suggestions by stating that the qualitative elements are necessarily contextual, and can be decided within their own setups - the idea here is to set down a systematic way of including as many as possible (within a small instrument) relevant science society evaluation indicators for Science Shops. The instruments represent the basic starting point for each to begin the evaluation discussions.

Reiteration of project goals, current progress and future aims at key evaluation points

Some Science Shops were keen to have strategic goals and progress and direction included during the process of evaluation. "In order to resume discussion on each topic, maybe an additional page or two is needed where main themes addressed by each questionnaire could be summed up," as one Southern European Science Shop offered.

However , another of the new Science Shops stated:

> The questionnaires were generally perceived as useful by participants. Notably, star-point and mid-point were useful to address issues that were not clear to all participants/partners, thus enabling better management of project and satisfaction of participants.
> In general, in our experience, questionnaires were useful to generate discussion and confrontation: they set an exhaustive list of themes to be approached and gave the possibility to discuss them in an orderly way.

And yet another stated: "All main aspects are representative and give a good overview to the situation of the project. I really like the questions, because they are easy to understand and one can give clear answers". One suggestion from a Science Shop was to simplify forms into 4-5 key questions addressing the following: What was the key learning for you from this PER process? What could be improved in the process? What was the community partner's response to the project? What will happen now? This respondent mentioned that personnel resource issue related to the PERARES project would also have to be included in these forms regarding progress, achieving goals etc. Another, longer established Science Shop also suggested defining clearly to whom the survey instruments are aimed from the beginning.

We contend that the summary tables for qualitative notes at the end of each survey capture these project and programme orientation information.

Translation

Many partners asked for version of the evaluation instrument. There is unfortunately a limitation of four languages of translation for the instrument. However, everyone is free to translate it in their own language.

An instrument that captures contingencies and project delays

There were questions from Science Shops about how to attend to contingencies what happens after the project, the latter being a topic raised at the post-project workshop at the

6th Living Knowledge Conference in Copenhagen in 2014 (see below). According to one respondent Science Shop:

> We've found that it was difficult to get the questionnaires filled in accurately after the project because the whole of the project team is no longer available. The questionnaire needs to be part of the initial project plan with an obligation to participate in the completion of the questionnaire at the end of the project.

The Grenoble Science Shop, organized by ADReCA, came up with a proposition that formed the inspiration for our inclusion of the qualitative boxes at the end of the surveys, to capture mutual learning, project management improvement indicators of future projects, validation of the worth of the model of cooperation between the Science Shop/civil society/researchers, and perhaps most importantly of al for current partner to see to HEI management, assess/validate the added value for the partners of the project.

It is worth including in tabular form here this particular Science Shop's suggestion for mapping competences and skill obtained across functional categories (see Table 11)

Table 11. ADReCA's suggestions for the mapping out of skills and competences for Science Shops

Competence	Skills
Professional activities	Planning, conception, organization and application *- Project management (answer A.10 of questionnaire « A »)* - Planning - Definition of tasks
Auto-formation	Reflection regarding their professional work, their evolution, ongoing learning.
Communication	Communication (written, spoken, corporal), human relations, internal and external communication tools.
Diffusion	Diffusion of information, scientific and technical culture, vulgarisation activities.
Disciplines	Disciplinary skills (scientific, technique, human, social, literary, artistic) Good scientific expertise
Ethic	Ethical issues and professional responsibility, legal knowledge, citizenship
Project management	Capacity to handle work in terms of project management, management activities
International	Culture, collaboration et positioning within an international environment, use of English
Tools	Use of professional tools (IT, evaluation, documentation...)
Potential	Understanding of oneself, valorisation of personal potential
Publics	Capacity to interact in accordance with the public, their needs and their diversity
Network	Understanding of the sector, the actors, teamwork, network, interpersonally relations. - Good Networking (for example refer to answer A.11 A12 of questionnaire « A »)
Valorisation	Enterprise, valorisation of results, innovation, creation

Evaluating the connections between science with society

The Roma projects (WP6) used the evaluation forms in all stages. The results of the evaluations were used but not always explicitly. As it was said by a Hungarian researcher, "It helped to reflect on our own work. It was useful to talk with each other, there were nice discussions." The indicators are seen as useful and appropriate.

> It is needed to identify the scientific results to assure the connection with the scientific world. But the use of local knowledge is important as well. The Roma themselves did not see us as scientists but called us 'helpers'.

The criteria for social impacts are seen as relevant. The Hungarian researcher continues:

> In this case, it is not also clear what should be seen as impact, because the cooperation with the Roma did not stop. The PERARES project was part of a long term cooperation. The list was useful for our own learning process, regarding academic, social and personal results.

The instrument was difficult to use because of its academic language and flavour. It was useful

> But it needs to change for Roma. It is only for higher educated people... In addition it is time consuming...And the list [sic] is more useful for Science Shops whose work is project-oriented. Action research as in this Roma work is not really project-based.

For these reasons it is hard to integrate it in their own evaluation procedures. Researchers of the Roma project in Spain agreed. "All question were adequate, with respect to societal academic impact and regarding learning, but: the list was too closed, it should be extended to more open, qualitative information. Although the list is seen as "well-constructed", the list is not easy to use because of its closeness.

The Domestic Violence research project (WP5) organised a midterm and a start evaluation and the project members think that the indicators are useful, for scientific impact, societal impact and learning purposes (internal and external). "The form inspired to look at other aspects than we used to use". But: "The academic impact is hard to judge, however." And again: "The form is not easy to use because it offers too less room for qualitative judgements." and it is uncertain if we will use the form in future, because it is too long. "

The members of the nanodialogue project (WP2 program) used the mid-term and end-evaluation. In general, the format of the questionnaire was difficult to use. The jargon was not always adequate, for instance; what was striking about responses was the admission that evaluation output was quite different than the output of a research project. In addition, the debate came to an end, but the resulting research project has still to be started (there were, however, further issues here about how successful the online 'debate' format was for

harvesting of Science Shop questions). The social impact was seen as limited for WP2. The evaluation forms were deemed less useful:

> The Science Shop is accepted more or less and no one forces to make a strict evaluation. Nevertheless, the midterm evaluation and end-of-project evaluation were suitable. During the evaluation, CSO and researchers were involved (WP2).

In the WP 3 projects, concerning discussions between researchers and CSOs, the forms were not useful for these projects, because the discussions – the aim of WP 3 – were part of an inventory project looking for projects. There was, at that time, no existing project.

The WP 8 project concerns the involvement of partners in participatory projects. In this project, the start and mid-term forms were used, from which they developed interview questions for further evaluation. The WP8 project leader's comments concern the level of detail; he wants more questions regarding participating issues and more open questions. "We need more questions like: what is the role of CSOs, what will be, or was, the role of researchers, or even more detailed: who did the first steps, who formulated the methods, objectives, and so on". "Nevertheless, the questionnaires were helpful to formulate our own questions. We were inspired, so to say." CSOs and researchers were involved in the evaluations. One of the main problems was to get all the participants to respond and fill in the forms.

Science Shops for which the evaluation instruments were of lesser use

The representatives of two Science Shops, neither connected to a Higher Education Institution, were rather sceptical about the evaluation forms. One Science Shop did not use the questionnaire at all. As the representative said :

> We are a big Science Shop; we are always talking to CSOs because we have to. We need external funding to survive. Our main evaluation criteria are economic - we deliver our reports and that is it. If the clients are happy and willing to fund again, it is OK. Once a year, we all report on our projects, and the people work rather independently. They will laugh at me if I show these forms. I cannot force them to fill it in; they see it as extra work that is not useful. Do not forget that we know how to play the game: we are all very experienced. It is in our bones.

During the interview, the representative admitted that the forms might be useful, and that it might be worthwhile to introduce the other Science Shop members to the forms that have not been distributed so far. However, this does represent an issue for those experienced Science Shops with their own methods of evaluation, and sometimes none.

The representative of a German Science Shop used the forms for several small projects. Usually it was just the project coordinator who filled in the questionnaires. There was no sharing of learning, no report or no group discussion. They found that evaluation adds to the workload as it is not a usual requirement, and they fear therefore to find resistance to

evaluation. They are focusing on 'doing' rather than on reflecting, and much of their feedback is informal. They found it difficult to use the forms for most of their projects (education and communication) but could use them for the minority that involves research.
They used and approved fully of the start-point form, and found the mid-point and end-point evaluation good. The post project evaluation was seen as not serving any purpose, too time-costly and reflecting the wrong kind of impact. However, they expressed that they found them very useful to reflect on a project, and that they enable bringing an 'outside perspective' to the project.

In summary, these interviews gave better insights in the ways the PERARES partners perceived and used the evaluation forms. A major issue appeared to be that PERARES partners did not understand fully the intentions of the WP9 program. These forms were meant to facilitate round table discussions with all project partners, rather than completion of forms.

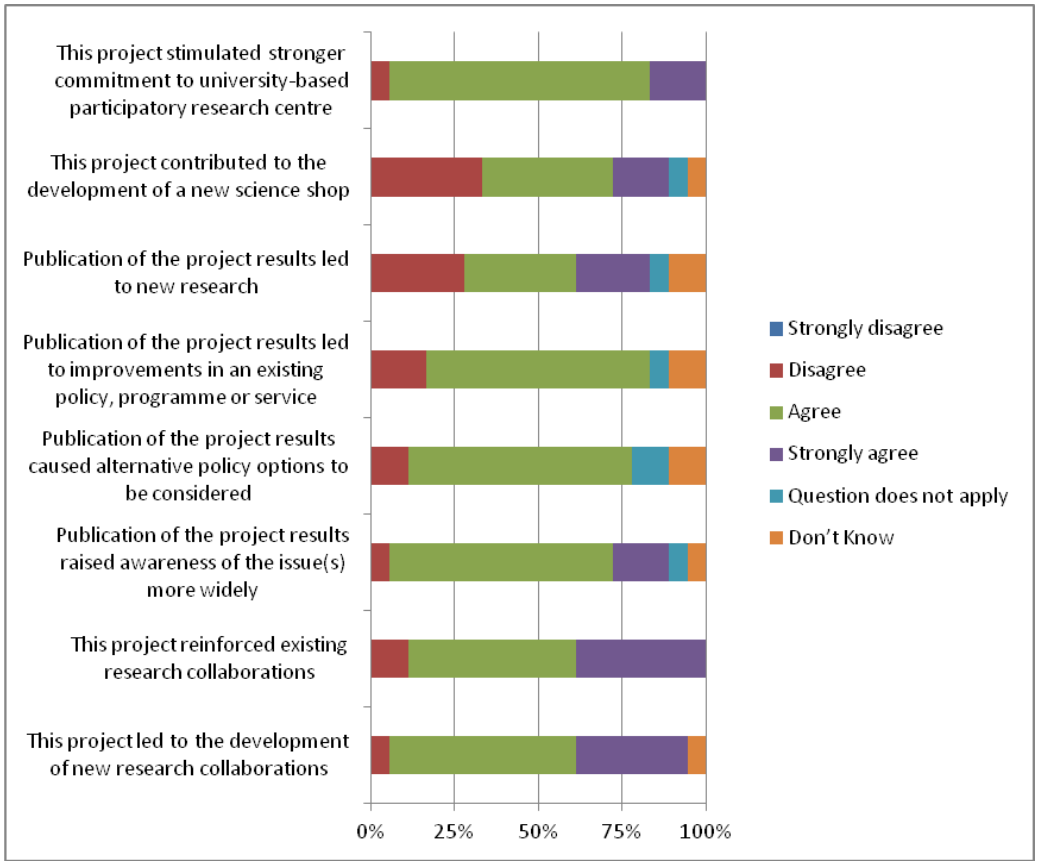
Output and Impact Evaluation

In addition to the above tests and interviews, in 2014 we asked project leaders of two PERARES projects that ended in mid-2013 to complete the post projects forms. By doing this, we aimed to get better understanding of the usefulness of these forms. The Science Shop of Crete selected seven of its Science Shops projects for us and sent the forms to the various partners involved in these projects: Science Shop staff, researchers, CSOs and students. As can be seen in Figures 2 and 3, these groups were able to answer our questions on impacts and outputs quite precisely. For instance four academic publications and five non-academic publications resulted from the seven projects. And to mention only two impacts: the projects resulted in policy improvement and new research projects. The same applied to the Domestic Violence Project. With respect to most of the questions – on, for instance new research collaborations and raise awareness - Science Shops personnel gave positive answers. These projects also resulted in several publications.
From these two - very different projects - we conclude that the post project forms are useful for this type of research.

Figure 2 Output of seven projects of the Science Shop of Crete

Academic publications produced arising from this project	*4*
Non-academic publications/documents produced (e.g. policy reports)	*5*
Citations in academic publications	*0*
Mentions, appearances or contributions in public media (e.g. radio, TV)	*6*
Mentions in non-academic publications/documents (e.g. policy reports)	*0*
Participations in academic conferences where the project was presented	*0*
Participations in non-academic conferences	*0*
New in-house research projects on same or related theme	*1*
Requests for advice on policy or legal issues relating to the project topic	*1*

Figure 3 Impact of seven projects of the Science Shop of Crete



3.3 Evaluation in WP 6 – the specific case of the Roma Communities in Spain

As continuation on the point about those diffuse projects within the PERARES family for which evaluative processes are more challenging, we include here a response from our partner involved with Roma, on the process of exclusion in institutions of science. Table 12 outlines, in their own evaluation, the issues the Roma community, to which they were connected, face, and the co-produced research responses.

Table 12. One partner's evaluation on projects with Roma Communities in Spain

Main topics and problems identified	Actions
Need for a regulatory framework to guarantee that is not possible to realize a **research project on Roma** without their agreement and support, as well as without their participation in the design, implementation and the evaluation of the project.	Elaboration of a code of conduct for researchers and definition of research agenda by the research team

The Roma people suffer a serious **educational exclusion** as a result of centuries of marginalization and segregating educational practices. This exclusion is limiting their possibilities to develop academically, as well as socially and in the area of labour.	Educating Roma students on doing research. Identification of Roma students at the university and an affirmative action educating them on research and promoting their academic career.
Exclusion of non-academic Roma women from spaces of participation, public debate and decision-making.	Supporting the organizations of Roma women with research and by university professors and students: Joint work of the researchers and the Roma association in the organization of the First Congress of Roma Women, in Barcelona, October 2010. Support to the Roma association in the constitution of the new Association Sonakay of Reus (Tarragona). Supporting the Foundation of Jesús Gómez in realization of a course aimed at Roma organizations on the development of European projects.

3.4 Evaluation Workshop at the 6th Living Knowledge Conference, Copenhagen, April 2014: perspectives from outside PERARES

Our evaluation-WP team ran a workshop in Copenhagen on April 10, 2014 to get perspectives outside the wider PERARES participants on the assessment tools. Fifteen people attended the workshop. Following presentations on the section of our final report, we asked participants to review the start and end-point questionnaire.
Participants completed post-it notes on three elements of evaluation, relating it to their own experience and expectations from community-based participatory research. The elements:

Green code - starting point questionnaire
Blue code - end of project
Yellow code - any other views on the evaluation process

There were some interesting affirmations of previous partners' suggestions for evaluation:

- clarity on who has ownership of which form
- the importance of post-evaluation
- the issue of post-project evaluation when partners and project members have dispersed, perhaps a year later; might the end-point evaluation tool work only for short-terms projects?
- the importance of a business case to promote to HEIs and funders
- Also for HEI management , the importance of demonstrating student learning, number of theses etc.

- collection of stats on peer-reviewed publications (and citations) accepted or in the pipeline, non-academic publications media hits;
- capturing qualitative data with the instrument that collects 'quotable ' testimonial type data
- identifying places of conflict and possible resolution
- potential for web-based forms

Additional suggestions that did not match PERARES partners' included:

- what influence has the project had on a) policy b) practice c) material conditions/ people's lives (e.g. health, living conditions, education etc.)? This was considered "important for private funders and action-oriented projects
- could there be a users' (and students') peer review for local publications?
- start-point evaluation should be done by Science Shop, but end questionnaire by all parties
- post-project learning - what about policy impact post project?
- attribution gap - where have the outcomes been identified, but it is difficult to be sure whether or not they are attributable to the project

4. EVALUATION AND MONITORING TOOLKIT FOR PER: CONCLUSIONS AND RECOMMENDATIONS

4.1 General conclusions for WP9

Task 1: *Modelling society's influence on the direction of research with public engagement with nanotechnology* (co-ordinated by UCAM, with support from RUG)
- this task centred around the Knowledge Debates, and concluded that although there was a space for the online versions, they needed to be grounded in specific cases and concrete issues, ensuring mutual earning, policy influence and context and framing in evaluation. The two outputs for this task were PERARES Milestone M9.1 Formative evaluation of Nano-Dialogues and Milestone M9.4 Testing Evaluation Guidelines

Task 2: *Defining criteria and methods for evaluating public engagement with research* (co-ordinated by UNISS, with support from RUG, DCU and UCAM)
- this task is demonstrated in PERARES Milestone M9.2 and is covered in the theoretical literature review Sections 1 and 2 of this report

Task 3: *Testing procedures for evaluating projects in public engagement with research* (co-ordinated by DCU, with support from UNISS and RUG)
- PERARES Deliverable D9.1 Evaluation Guidelines and Instruments demonstrates the formative and summative evaluation strategies proposed to PERARES partners and associated Science Shops

Task 4: *Drafting of a document on economic evaluation of Science Shop projects* (co-ordinated by WUR)
- PERARES Milestone M9.3 presents the economic rationale for the development and maintenance of Science Shops across Europe

Task 5: *Final report* (all partners, co-ordinated by DCU).
- This report present represents the summation of this task. The report contains the Evaluation Toolkit in Appendix 2 and 3, as well as PERARES Milestone M9.5 (the Revised Evaluation Forms).

Task 6: *To evaluate the progress made in achieving the objectives of PERARES regarding Public Engagement with Research and Research Engagement with Society*).
- this report is external to the WP, D9.3 Final Evaluation report, to be completed independently by UNEW (forthcoming).

4.2 Overall conclusions from PERARES partners on the monitoring and evaluation process

With respect to this first phase of testing evaluation forms, we can divide feedback issues from PERARES project partners and Science Shops into the following

1. **Usefulness** The forms are inspiring and useful

2. **Quantitative in nature** The forms are too quantitative for action research projects
3. **Length of questionnaires** The forms are too long for existing Science Shops
4. **Difficulty in evaluating societal and scientific impact** Some questions – about societal and scientific impact – are hard to answer.
5. **Local language** The forms should be available in different languages, all in flexible on line versions
6. **Evaluation decisions for mutual learning** A structure is needed in which the evaluation results are seen as useful, to learn, for reporting, for legitimating or otherwise.
7. **Instructions to partners** Instructions should be improved.
8. **Terminology in project evaluation** Some terms and questions should be rephrased, such as Midpoint(better Monitoring or Remedial check-list for ongoing projects).

Therefore, several changes were made to the initial forms in order to comply with the observations arising from testing, notably:

- forms were shortened up to the main issues, in order to reduce time and burden that might discourage undergoing evaluation;
- redundant questions and complicated issues were simplified according to observations received;
- forms were made more flexible and adaptable to users' needs by introducing open answers and "does not apply" answers; room was also added for comments and open expression of thoughts;
- statistical data concerning the project have been reduced and compacted in one final section of the evaluation kit;
- an introductory text with simple instructions was written down and annexed to forms to clarify possible uses of forms;
- graphics was enhanced and overall language revised in order to make forms more understandable and easy to use.

The revised version of the forms is annexed to this Report. The evaluation kit has been translated into Dutch, French, German and Italian.

As a follow up of experience within WP9, some recommendations for future work:

1. To develop an online evaluation form in different languages
2. To develop an institutional framework for evaluation at several levels: Science Shop, institution, nation
3. To connect evaluations with so-called valorisation procedures to make the work of PER more visible

4.3 Recommendations for Evaluation of Civic Society-based research and Science-with-and-for Society

The Lund Declaration underlines the importance of addressing societal needs
and ethical questions in research and innovation. Science Shops and similar provide a unique, demand driven interface between science and society. The evaluation approach undertaken in this study is a valuable tool for reflecting on those interfaces, and the co-operative research projects done. This type of approach will be useful for evaluating processes and deliverables in the many Horizon 2020 research consortia that now have to engage with civil society. For further impact, it is recommended that such self-evaluations be part of future Horizon 2020 research policy.

With increasing global risks and challenges depending on ever-increasing spheres of expertise, a policy on societally-responsible science and innovation cannot be measured solely on narrow economic benefits and job creation metrics. Science with and for society requires varying evaluation techniques that is sensitive to mutual learning and dialogue, as well as the multi-way, democratic transfer of knowledge and critique between actors within the academy, industry, media, regulatory bodies, civil society and local communities. As Civil Society Organisations (CSOs) are visible as agencies requested to apply in consortia across the many strands of Horizon 2020 (particularly Science With and For Society (SwafS) and the 'social dimension' of the European Research Area in Responsible Research and Innovation (RRI)), the time has come for community-based research and initiatives, and the co-production of knowledge in the sciences and society assemblages .

With the right representation of mutual learning, economic and societal value, validated through robust evaluation, the time has come for Science Shops.

REFERENCES

Aalbers, C. & Padt, F. (2010) *25 jaar onderzoek van de Wageningse Wetenschapswinkel*, Wetenschapswinkelrapport 264, WUR, Wageningen. (http://edepot.wur.nl/138047)

Bezzi, C. (2003) *Il disegno della ricerca valutativa,* FrancoAngeli, Milano.

Blevins, D. Morton, B. and McGovern, R. (2008) Evaluating a community-based participatory research project for elderly mental healthcare in rural America *Clinical Interventions in Aging*. 3(3), pp535–545.

Boere, E. and Heijman, W.(2011)PERARES Milestone M9.3: Discussion Paper: A Cost-Benefit Analysis and Evaluation of Science Shops, Wageningen University, February 2011

Boere, E. and Heijman, W.(2012) The Social Value Of Science Shops: A Cost-Benefit Analysis, *APSTRACT: Applied Studies in Agribusiness and Commerce* **6** (3-4), pp 23-30 (http://ageconsearch.umn.edu/bitstream/138114/2/3THE%20SOCIAL%20VALUE%20OF%20SCIENCE%20SHOPS.pdf)

Delgado, A. Kjølberg, K. L. Wickson, F. (2011) Public engagement coming of age: From theory to practice in STS encounters with nanotechnology, *Public Understanding of Science* 20: 826-845

E3M Project. (2008) *Final Report of Delphi Study - E3M Project - European Indicators and Rankin Methodology for University Third Mission.* Brussels: European Commission

Felt, U., Wynne, B., Callon, M., Gonçalves, M. E. Jasanoff, S. Jepsen, M. Joly, P-B. Konopasek, Z. May, S. Neubauer, C. Rip, A. Siune, K. Stirling, A. and Tallacchini M. (2007) *Taking European knowledge society seriously*: Report of the Expert Group on Science and Governance, to the Science, Economy and Society Directorate, Directorate- General for Research, European Commission. Brussels, Belgium: European Commission.

Farkas, N.E. (2002) *Bread, Cheese and expertise: Dutch Science Shops and democratic institutions*, PhD-thesis Rensselaer Polytechnic Institute, Troy New York. (www.livingknowledge.org/livingknowledge/wp-content/uploads/2012/02/Farkas-thesis.pdf)

Hart, A., Northmore S., Gerhardt C. (2009) *Auditing, Benchmarking and Evaluating Public Engagement* Bristol, UK: NCCPE Research Synthesis: No 1.

Hende, M. and Sogaard Jorgensen, M. S. (2001) *The impact of Science Shops on University curricula and research*, SCIPAS Report 6, Utrecht University, Utrecht. (www.livingknowledge.org/livingknowledge/wp-content/uploads/2012/02/wp6-so.pdf)

Jacob, S. (2008) Cross-disciplinarization: a new talisman for evaluation? *American Journal of Evaluation*, 29 (2), pp175-194.

Kelly, U. and McNicoll, I. (2011)*Through a glass, darkly: measuring the social value of universities* Bristol: National Co-coordinating Centre for Public Engagement (NCCPE)

Masoni V. (1997)*Monitoraggio e valutazione dei progetti,* Milano: Franco Angeli

Mount, A. and Doubleday, R. (2011) *Formative evaluation of Nano-Dialogues* : PERARES Milestone M9.1 (http://www.livingknowledge.org/livingknowledge/wp-content/uploads/2013/07/M09-1-perares-244264.pdf)

Nowotny, H, Scott, P. and Gibbons, M.T. (2001) *Re-Thinking Science: Knowledge and the Public in an Age of Uncertainty* Cambridge: Polity

Pain, R. Whitman, G. Milledge, D. and Lune Rivers Trust *Participatory Action Research Toolkit: An Introduction to Using PAR as an Approach to Learning, Research and Action* Durham, UK: Durham University/ Lune Rivers Trust

Sandoval, J. A. Lucero, J. Oetzel, J. Avila, M.. Belone, L Mau, M. Pearson, C. Tafoya, G. Duran, B. Iglesias Rios, L. and Wallerstein, N. (2012) Process and outcome constructs for evaluating community-based participatory research projects: a matrix of existing measures, *Health Education Research*, 27 (4), pp680-690.

Wilsdon, J. (2005) 'Paddling Upstream: New Currents in European Technology Assessment', in M. Rodemeyer, D. Sarewitz and J. Wilsdon *The Future of Technology Assessment,* pp. 22–9. Washington DC: Woodrow Wilson International Center for Scholars.

Zaal, R. & L. Leydesdorff, 1987, *Amsterdam Science Shop and its influence on university research: the effects of ten years of dealing with non-academic questions*, "Science and Public Policy", 14 (6), pp310-316. (http://www.leydesdorff.net/scishop/zaal.pdf)

Appendix 1 – Tables

Table 6. Purposes and instruments

Time frame	Instrument	Purpose
Ex-ante	Checklist for early-stage evaluation	To be used in the preparatory phase before substantive interventions happen and researchers go into the field
In itinere	Questionnaire for mid-point evaluation	To be used at a stage in a project when the project can still be modified without damage to it
Ex-post	1. Questionnaire for end-point evaluation 2. Questionnaire for post-project evaluation	1. To be used when the project report is submitted 2. To be used as a means of assessing the longer-term impacts and carried out approximately 12 months after the project has completed

Table 7. Ex-ante evaluation dimensions and indicators

Dimensions	Indicators
Framing and aims	- Definition of aims for various stages of the project - Definition of end-products to be produced - Clear formulation of main questions for investigation - Identification of underlying societal problems - Definition of societal and research aims - Plans in place to ensure achievement of societal and research aims

Means and organisation	- Clear definition of research methods - Identification of responsible for data collection - Identification of responsible for data analyses - Degree of researchers' experience - Identification of responsible for completion of research
Resources	- Money available - Time staff and number of students - Equipment - Documentation of procedures - Project time-span definition
Involvement (access, participation)	- Definition of partners' involvement - Prevision of differences between partners and plans for handling them
Expectations	- Clarification of expectations as to process, impact and potential difficulties
Monitoring	- Coverage of major issues in the checklist - Date for mid-term evaluation

Table 8. In itinere evaluation dimensions and indicators

Dimensions	**Indicators**
Framing	- Project alignment with the original aims - Definition of main questions at the start - Significant unexpected issues causing the main questions to be redefined - Modifications agreed between the partners - Need to redefine questions and aims as the project proceeds
Objectives	- Level of achievement of objectives set for this point - Possibility of overcoming delays experienced so far - Need to re-set the objectives for the later stages of the project

Transparency	- Roles and responsibilities clearly established - Efficiency of project management - Allocation of personnel resources - Allocation of financial resources - Adequacy of methods - Fairness of project management
Resources	- Quality of personnel - Quantity of personnel - Efficient use of personnel - Adequateness of funding - Adequateness of administrative facilities
Involvement	- Participants' opportunities to contribute to the project's content - Participants' opportunity to contribute to the project's methods - Efficiency of partnership
Reorientation	- Present need for significant changes - Future need for significant changes

Table 9. Output evaluation dimensions and indicators

Dimensions	**Indicators**
Outputs	- Meeting of the end-user's needs - Usefulness to a wider public than the immediate client - Relevance to academic research - Readability of publications produced for a non-specialist public - Improvement of students' ability to perform research - Improvement of students' Problem-solving abilities - Improvement of students' capacity for self-directed work - Outputs' consistency with overall objectives

Experience	- Participants' overall satisfaction - Quality of staff involved (e.g. friendly, pro-active, client-oriented, accessible) - Partners' understanding of procedures - Students' supervision quality - Satisfaction of partners' expectations
Resources	- Appropriateness of personnel resources - Appropriateness of financial resources - Appropriateness of facilities (e.g. equipment, meeting spaces)
Participation	- Development of common ideas - Development of a common understanding of the problem area - Partnership's utility in achieving the project results - Efficiency of partnership - Students' commitment - Supervisors' commitment
Unexpected ideas	- Unexpected ideas or innovative process/product that emerged from the project - Indication of eventual relevant change
Project statistics	- Students involved in the project - Total credits, e.g. ECTS, obtained for participation in this project by each individual student involved - Average grade for student assignments - Academics involved in the project - Staff personnel involved (paid and volunteer) - External contributors - Value of contract research in cash - Days from first contact to delivery of final product - Civil society organisations contributing to the project - Private enterprises contributing to the project - Local government agencies contributing to the project - State agencies contributing to the project - Individual citizens affected by the issue(s) examined

Table 10. Impact evaluation dimensions and indicators

Dimensions	Indicators
Processes and relations	- Increase of clients' knowledge of how research is done - Awareness of community-based research - Diffusion of research-based policies - Increase in students' interest in engaging with societal issues - Effects on academic policy towards community-based research - Relations between academics and civil society organisations - Influence on the direction of further research in the subject area
Utility	- Increase of organisation's capacity to participate in research - Increase of organisation's capacity to apply research results in a societal context - Increase of organisation's capacity to get project funding
Comments	- Most important impact of the project - Most stimulating aspect of the project - Most disappointing aspect of the project
Project outputs (figures)	- Academic publications produced arising from this project - Non-academic publications/documents produced (e.g. policy reports, guidelines) - Citations in academic publications - Mentions, appearances or contributions in public media (e.g. radio, TV, newspapers) - Mentions in non-academic publications/documents (e.g. policy reports, guidelines) - Participations in academic conferences where the project was presented - Participations in non-academic conferences where the project was presented - New in-house research projects on same or related theme - Requests for advice on policy or legal issues relating to the project topic
Longer-term impacts	- Development of new research collaborations - Reinforcement of existing research collaborations - Raise of societal awareness of the issue(s)

Appendix 2 - Toolkit: Evaluation Survey Matrix

Matrix for evaluation surveys: mapping out before using surveys

	Before		During			After			
	Relevance of project objectives	Clarity of process	Adequacy of organisation / resourcing	Level of responsiveness of participants	Level of participation / inclusion	Balance of costs and benefits	Competence of researchers and science shops	Utility and quality of product	Contribution of project experience to own capacity / knowledge
NGOs / community reps	•	•	•	•	•	•	•	•	•
Research participants	•	•		•	•		•	•	•
Science shop staffs	•	•	•	•	•	•	•	•	•
Students / researchers	•	•	•	•	•	•		•	•
Teachers / research supervisors	•	•	•	•	•	•	•	•	•
Project funders	•	•				•	•	•	•

Appendix 3 - Toolkit: PERARES Evaluation Surveys

From Deliverable 9.1 Final Evaluation Instrument – PERARES Evaluation Toolkit

PERARES PROJECT EVALUATIONS

The checklist and survey forms in the following pages are proposed for use in 2012-2014 by Perares partners in evaluation of projects they undertake within Perares or independently of Perares. These evaluation templates have been refined through feedback in 2011-12 and will be improved further through additional feedback.

This evaluation toolkit is designed to help in assessing the performance of projects focused on research for social purposes and improving their quality and to help in assessing the influences of such projects on the development of scientific knowledge.

For purposes of comparison and consistency we ask Perares partners to use these forms rather than any others they may currently use. However, Perares partners may in some cases wish to use additional methods, in particular discussion groups and interviews, in order, for example, to deepen insight into why certain answers have been given.

These forms were prepared for use in projects that conform more or less to the following model: they address the research needs of a social group, perhaps represented by CSOs, and they are managed by a Science Shop or similar organisation that can call on contributions from student assistants and their academic supervisors to carry out the research. However, the forms may also be usable for projects carried out, for example, without students or academic supervisors. The questions that refer to these participants can simply be marked, 'Does not apply'.

We recognise that not all questions can be answered by all parties to the project. Rather than produce multiple sets of questionnaires for the various parties we have indicated that respondents should not answer questions that do not apply to them. Equally, there are questions here that do not apply to some kinds of projects and, again, these questions can be marked as 'Does not apply'.

The main responsibility for ensuring that all relevant questions are answered by all relevant parties rests with the organisation at the centre of the project, that is, the Perares participant / Science Shop.

FOUR STAGES OF EVALUATION

The forms that follow are:

1. Checklist for early-stage evaluation; this is to be used in the preparatory phase before substantive interventions happen and researchers go into the field

2. Questionnaire for mid-point evaluation; this is to be used at a stage in a project when the project can still be modified without damage to it
3. Questionnaire for end-point evaluation; this is to be used when the project report is submitted
4. Questionnaire for post-project evaluation; this is to be used for assessing longer-term impacts and carried out approximately 12 months after the project has completed

PREPARING THE EVALUATIONS

In preparing for project evaluation the following steps are recommended:

- Identify who in the project team will be responsible for overseeing the evaluation
- Identify stakeholders and partners to be included in the evaluation
- Discuss the purpose and procedures of the evaluation with participants and set out the scope and aims of the evaluation
- Prepare partners for the possibility that evaluation results may not be universally welcomed
- Clarify any differences in relation to the objectives of evaluation; any such differences should be dealt with openly

At this stage do not change the evaluation forms but note that any question may be marked 'Does not apply' and can be skipped. If there are issues you feel are not covered by the forms or you would like to investigate more deeply, do gather information by other means, such as interviews or focus groups.

COLLECTING DATA

Print and copy the required numbers of the relevant set of forms (e.g. 3-4 pages marked as mid-point or end-point) from this document. Do not distribute the complete document.

It is best to have the forms completed when meeting the relevant participants and stakeholders, rather than sending them out. This ensures a higher completion rate and completion on time.

It may not always be possible to have the forms completed in this way, so it is important to keep track of where and how many forms have been sent out.

Keep the completed forms safely at least until the end of the Perares project (mid-2014).

ANALYZING SURVEY RESULTS

Filling in the forms does not constitute the evaluation. It is the analysis of the responses and reflection on this analysis that makes for an evaluation. It is the responsibility of the key partners to ensure all other partners have an opportunity to respond to the evaluation findings as represented in an overall summary.

For this summary, record the numbers of responses in each category (such as 'strongly agree' or 'don't know') for each question. You can use a blank evaluation form as a summary sheet, entering manually the numbers of responses in each box.

This summary record will quickly show where there are high levels of agreement or disagreement or where there are high numbers of Don't know or Does not apply answers that might be a cause for further discussion.

Responses to the open-ended questions (comment fields) can be grouped according to the issues raised.

Along with the summary of findings, the evaluation report should outline in a single page the conclusions and recommendations, including plans to remedy any shortcomings. A draft copy of the evaluation report should be provided for all stakeholders who should be invited to give their observations on it. The report should then be finalized and circulated to all stakeholders.

REPORTING ON THE USE OF EVALUATION TOOLS

We ask Perares partners to provide evaluation reports as outlined above to WP9 and to further report to WP9 on their experiences using the evaluation tools. This should cover in 1-2 pages:

- Content of the forms
  Are all aspects, issues and topics of the project covered? Are the questions clear?
- Appropriateness of the instruments
  Are the tools easy to use? Is the length of questionnaire acceptable? Do the evaluation tools address the needs of all stakeholders? Did the evaluation tools allow the project to be investigated in a complete and fair way?
- Drawing conclusions from data
  Is the information collected relevant to the project? Did the evaluation provide feedback that was useful for all stakeholders? Do the criteria used reflect the projects' concerns?
- Effects of the evaluation
  Has the evaluation helped to improve processes during the project? Will insights from the evaluations be used for future projects? Did the evaluation cause disruption? How much interest was there in the evaluation report?

START-POINT EVALUATION

This evaluation should take place in the preparatory phase of a project, before any substantive work has been done. The main purpose of evaluation at this stage of a project is to ensure that the objectives and methods have been clearly defined and that the resources are in place to meet the stated objectives.

Going through this checklist will help identify where there are gaps in the planning or issues to be clarified. To each question a simple Yes, No or Does not Apply should be recorded.

This checklist of questions should be addressed in discussion among the partners in the project. The Science Shop (or similar organisation) at the centre of the project should take responsibility for completing the checklist and confirming the responses with the other parties to the project.

Where 'No' answers are in the majority, discussion should ensure that all parties agree that a 'No' is acceptable or that more information needs to be gathered so that the answer can be changed to 'Yes'.

The "partners to the project" are: social groups and/or civil society organisations concerned with the issues under study; the Science Shop or similar organisation that is managing the project; student researchers who carry out the study under supervision of a senior researcher; those academic supervisors; any other groups or agencies contributing to the project. The "participants" are the individuals who belong to the partners.

Project name:

Framing and aims		Yes	No	Does not apply
1.	Have the aims for various stages of the project been clearly defined?			
2.	Is it clearly established what end-products are to be produced (e.g. research report, policy advice)?			
3.	Have the main questions for investigation been clearly formulated?			
4.	Have the societal aims (e.g. policy change; raising awareness; promoting new interactions) been clearly defined?			
5.	Does the project have clearly defined research aims (e.g. encourage new research; influence research agenda)?			

Means and organisation		Yes	No	Does not apply
6.	Are the project methods clearly defined?			
7.	Is it clear who will collect the data for the project research?			
8.	Is it clear who will analyse the data for the project research?			
9.	Do the researchers have experience with this kind of research?			
10.	Is it clear who has the main responsibility for ensuring the research is completed satisfactorily?			
Resources				
11.	Is it clear how much money is available to the project?			
12.	Is it clear how much time researchers have for the project?			
13.	Is any necessary equipment available?			
14.	Is the time-span of the project clearly defined?			
Involvement				
15.	Are the roles of the partners at each stage of the project clearly defined?			
16.	Are procedures in place for dealing with any differences that may arise between partners on the conduct of the project?			
17.	Has a date been set for mid-term evaluation of the project?			

Any other issues for this project:

MID-POINT EVALUATION

This survey should be conducted at the mid-point of a project that runs for, say, more than six months. It may not be practical for shorter projects.

The main purpose of evaluation at mid-point in a project is to identify where improvements can or must be made in order to complete the project satisfactorily. The survey should be completed by all individuals directly involved in commissioning, conducting and overseeing the project.

The survey results will help identify where there are problems to be addressed or there are opportunities for quality improvement. Follow-up interviews or discussion groups could be used to deepen the understanding of those problems or opportunities.

The "partners to the project" are: the social groups and/or civil society organisations concerned with the issues under study; the Science Shop or similar organisation that is managing the project; student assistants or other assistants who carry out the study; the students' academic supervisors; any other groups or agencies contributing to the project. The "participants" are the individuals who belong to the partners.

The main responsibility for ensuring that all partners complete the survey rests with the organisation at the centre of the project, that is, the Science Shop.

Please state your role in the project (mark X):

Science Shop personnel: _____

Civil society organisation: _____

Student researcher:_____ _____

Academic supervisor: _____

Other (specify): _____

Project name:

Framing		Disagree	Agree	Does not apply	Don't Know
1.	The project is proceeding in line with the original aims				
2.	The experience has shown that the main questions were well defined at the start				
3.	Any changes to the main questions have been agreed between the partners in the project				
4.	The partners in the project anticipate some questions and aims may need to be redefined as the project proceeds				

Objectives		Disagree	Agree	Does not apply	Don't Know
5.	The project has achieved the objectives set for this point				
6.	Any delays experienced so far can be overcome				
7.	The partners in the project need to re-set the objectives for the later stages of the project				
8.	The various roles and responsibilities on this project are clearly established				
9.	It is clear how personnel resources have been allocated for carrying out this project				
10.	It is clear how financial resources have been allocated for carrying out this project				
11.	The methods for this project have been well chosen				
Resources					
12.	The personnel on this project are well suited to the tasks				
13.	The project has an adequate number of personnel				
14.	The project has adequate funding				
15.	The project has adequate administrative facilities				
Involvement					
16.	The participants in the project have had reasonable opportunity to contribute to the content of the project				
17.	The participants in the project have had reasonable opportunity to contribute to the approach of the project				
18.	The partners in the project are working well together				
19.	Some changes in direction may be needed in the future				
In my opinion the most valuable aspect of this project will be:					
In my opinion the most difficult aspect of this project will be:					

END-OF-PROJECT EVALUATION

This survey is intended to be conducted at the point where the final report has been delivered. This evaluation aims mainly to establish the level of satisfaction of those involved with the outputs and conduct of the project. The questionnaire should be completed by all individual participants who contributed actively to the project, or, in a large project, by at least one representative of all categories of participant (e.g. civil society organisation, student, supervisor, Science Shop staff, etc.).

The "partners to the project" are: the social groups and/or civil society organisations concerned with the issues under study (also the "clients"); the Science Shop or similar organisation that is managing the project; student project assistants or researchers who carry out the study; the students' academic supervisors; any other groups or agencies contributing to the project. The "participants" are the individuals who belong to the partners.

The main responsibility for ensuring that all partners complete the survey rests with the organisation at the centre of the project, that is, the Science Shop.

Please state your role in the project (mark X):

Science Shop personnel: _____

Civil society organisation: _____

Student researcher: _____

Academic supervisor: _____

Other (specify): _____

Project name:

Outputs		Strongly disagree	Disagree	Agree	Strongly agree	Does not apply	Don't Know
1.	The project's final report met the clients' needs						
2.	The project's final report is useful to a wider public than the immediate clients						
3.	The project's final report represents significant academic research						
4.	The project's final report is likely to influence the direction of future research						
5.	The project's final report is readable for a non-specialist public						
6.	Student(s) involved in the project improved their ability to perform research						
7.	The project outputs were consistent with overall objectives						

Experience		Strongly disagree	Disagree	Agree	Strongly agree	Does not apply	Don't Know
8.	Participants in the project were satisfied with how it ran						
9.	Students on the project received good supervision						
10.	Overall, the expectations of the project partners have been met						
Resources							
11.	Personnel resources available for the project were appropriate for the project						
12.	Financial resources available for the project were appropriate for the project needs						
13.	Facilities available for the project (e.g. equipment, meeting spaces) were appropriate for the project needs						
Involvement							
14.	Participants in the project developed a common understanding of the problem area						
15.	Forming a partnership between the organisations involved was beneficial to all of them						
16.	The partnership was conducted efficiently						
17.	The student(s) involved showed satisfactory commitment to the project						
18.	The academic supervisor(s) involved showed satisfactory commitment to the project						
19.	The civil society organisation(s) involved showed satisfactory commitment to the project						
20.	The Science Shop staff involved showed satisfactory commitment to the project						

Most valuable aspect	
In my opinion the most valuable aspect of the project was:	
Looking back	
Based on my experience of the project I think the initial project should have been changed in the following way:	
Further comments	

Annexe to End-of-Project survey

This table is offered as a template for recording in summary the resources used in the project. It may be useful for the internal audit of the project. The Science Shop and its academic partner(s) should complete this questionnaire jointly.

Project statistics	Number
Students or other project assistants involved in the project	
Total credits, e.g. ECTS, obtained by students for participation in project	
Average grade for student assignments with this project	
Academics involved in the project	
Total personnel involved (paid and volunteer), including student assistants	
Value of contract research in cash	
Days from first contact to delivery of final product	
Civil society organisations contributing to the project	
Private enterprises contributing to the project	
Local government agencies contributing to the project	
State agencies contributing to the project	

POST-PROJECT EVALUATION

This survey is proposed to be conducted one year after the delivery of the final report. It aims to establish longer-term impacts of the project both through retrospective assessments of the outcomes and through the detail of research outputs. It may be especially useful for longer-term planning by Science Shops. The main responsibility for ensuring that partners complete the survey rests with the organisation at the centre of the project, that is, the Science Shop.

Please state your role in the project (mark X):

Science Shop personnel: _____

Civil society organisation: _____

Student researcher:_____ _____

Academic supervisor: _____

Other (specify): _____

Project name:

Processes and relations		Strongly disagree	Disagree	Agree	Strongly agree	Does not apply	Don't Know
1.	The project increased the clients' knowledge of how research is done						
2.	The project increased the students' interest in societal issues						
3.	The project increased the academics' interest in community-based research						
4.	The project helped develop continuing relations between academics and civil society organisations						
5.	The project influenced the direction of further research in the subject area						
6.	The project increased the partners' capacity to get project funding						

Longer-term impacts							
7.	The project led to the development of new research collaborations						
8.	Publication of the project results raised awareness of the issue(s) more widely						
9.	Publication of the project results caused alternative policy options to be considered						
10.	Publication of the project results led to improvements in an existing policy, programme or service						
11.	Publication of the project results led to new research in the subject area						
12.	This project helped the development of the Science Shop involved						

Comments	
The most important impact of the project was:	
The most disappointing aspect of the project was:	

Annexe to post-project survey

The following table is offered as a template for recording in summary the outputs from the project. It may be useful for the internal audit especially of larger-scale projects. The Science Shop (or similar unit) and its academic partner(s) should complete this questionnaire jointly.

Project outputs	Number
Academic publications produced arising from this project	
Non-academic publications/documents produced (e.g. policy reports, guidelines)	
Citations in academic publications	
Mentions, appearances or contributions in public media (e.g. radio, TV, newspapers)	
Mentions in non-academic publications/documents (e.g. policy reports, guidelines)	
Participations in academic conferences where the project was presented	
Participations in non-academic conferences where the project was presented	
New in-house research projects on same or related theme	
Requests for advice on policy or legal issues relating to the project topic	