Science Shops were established as part of the Dutch science and society landscape in the 1970s (Mulder, 2010). They are university offices that are open to any civil society group or non-profit organization that wants to have research done for and in consultation with them. A Science Shop provides independent, participatory research support in response to concerns expressed by civil society.

The main characteristic that distinguishes the Science Shop from other forms of engagement is that its research is fully demand driven, starting from the problem that the Civil Society Organization (CSO) has articulated. The research aim and questions are then based on tackling this problem. The CSO is actively involved in the research project and can bring its knowledge and specific needs during the process. In the end, the output will be tailored to its needs as much as possible.

The level to which a CSO or its members are involved in the actual research process itself varies across projects. In some cases, the research is very specialized or the CSO specifically requests that the research is totally independent from them. In the latter case, the independent research design is strategic and concerns the potential impact of the research on policy. In other cases, when the CSO is, for example, interested in developing the services it provides, participatory action research may be an appropriate approach. In all cases the research is dedicated to supporting the CSO’s work.

In general, there is no financial cost for CSOs to have research carried out for and with them. In many cases, the research is conducted at very low cost or even for free. Since most research is integrated in student curricula, the additional costs for a university to provide this service are low. While students obtain course credits for their work and professors supervise them, the costs for this are already included in the higher education system. Only the topics, for example, for a practical experiment or a thesis come from ‘outside’.

Although they have been around for a long time already, the Science Shop approach is still seen as innovative in bridging the gap between science and civil society. The Dutch Science Shops are often taken as an example for similar activities.
abroad, and receive much support from the European Commission to share their experiences across Europe. More information on the whole movement is accessible through the Living Knowledge Network (www.livingknowledge.org).

In this case study we will highlight the work of two Dutch Science Shops within the context of their respective universities. We will illustrate their work with an overview of projects completed for various CSOs and conclude that the Science Shop approach is a proven way to establish connections between science and civil society.

**Policy Context**

**National**

The Netherlands’ Law on Higher Education states that next to supplying higher education and doing research, the third mission of universities is to “transfer knowledge on behalf of society” (Law on Higher Education, 1992). ‘Society’ is not defined in this clause and can be interpreted as ‘businesses’. The law does not define specific ways of knowledge transfer, nor is co-creation of knowledge the main objective. However, this law does offer a justification for the work of the Science Shops and for projects with community organizations to be included in the curriculum. In addition, internship coordinators can make connections to the non-profit sector if the content of the work fits their students’ programs.

There are currently no specific guidelines for engagement activities with community organizations. The Law on Higher Education allows for the universities to interpret how to implement it. Most universities have outreach activities focused on high schools, which are also meant to motivate potential new students. All universities have press officers, some operate Science Museums or Science Centers, even mobile ones, and others have a botanical garden. Most universities have a business liaison office and about half the universities in the Netherlands operate a Science Shop.

The Law does not give SMART (Specific, Measurable, Assignable, Realistic and Time-bound) objectives for monitoring programs. Universities, however are currently expected to develop indicators to measure their ‘valorization’, a term used in the Netherlands to denote the creation of added economic or societal value from research. The universities are expected to justify about 2.5% of their budget based on these indicators. By 2016 this exercise is expected to have been tested and implemented broadly.

In the coalition agreement that the Dutch association of universities (VSNU) signed with Deputy Minister of Research Zijlstra in December 2012, it was agreed that universities will develop indicators to measure their efforts or input in creating societal impact, or to directly measure the results and impact on society (“Valorisatie”, n.d.). The idea is that in the coming years, the universities will take responsibility to develop these indicators in an open and experimental form. This
will help to make ‘impact’ measurable and can provide legitimization and even incentives to engagement. However, many of the possible indicators are quantitative, and there is a risk that the real quality in engagement could be hidden. The development of valorization indicators is still in its experimental, set-up phase. It is also as yet unclear how the indicators will relate to budgets. Currently, universities can pick their own set of indicators from a long list. Some of them have chosen purely economic indicators, while others have chosen a more balanced set.

‘Societal impact’, whether economic or non-monetary, is already a criterion in the assessment of research in the Dutch research assessment (Rathenau, 2009; KNAW, 2015). Also, in the UK ‘societal impact’ has become important in evaluating ‘excellence’ of research at Higher Education Institutes (Research Excellence Framework, 2014). Engagement can help create and demonstrate this impact, which means that the scores of individual research programs are influenced. A recent report by Kun et al. (2014) describes many policy options to support different forms of engagement.

While there is currently no indicator to reward the university as a whole, the new indicators for ‘valorization’ may change this.

**Funding Mechanisms**

Engagement activities between universities and communities are basically funded from universities’ budgets. All universities are public and obtain their core funding from the national government. Additional funds for research can be obtained from research councils and governments, companies and the European Union. Universities pay the salary and overhead costs for Science Shop and internship coordinators, and for supervising professors. The research that is facilitated by the Science Shops is mostly accomplished by students as part of their curriculum. Hence, they get course credits, and for the professors the supervision is part of their regular teaching obligation. These costs would be similarly incurred for curiosity driven research and learning, thus the only overhead costs are for managing the co-operation process, such as the salary of the Science Shop coordinators, and for non-salary budget items such as office costs.

For specific projects, a community contribution can be requested if the costs of the project are larger than a regular student project. This depends on the financial status of the organization. In some cases subsidies could be obtained either by the university or the community organization. If a paid researcher is to be employed, these funding sources become necessary. PhD students, for example, can only be employed if there is a budget for their salary and research costs. The community organization is required to co-operate in kind with their knowledge, data, time and networks.

The funding that Science Shops have at their home institutes suffices for the brokering of research requests from civil society organizations, as long as they can use Bachelor or Master student work, which is not paid other than with course
credits. However, the budget limits the possibilities to conduct larger (e.g., PhD) projects. Moreover, in working with students timing may be an issue. It is clear that with more funding, more can be done.

The engagement processes described above consist of commissioned or co-operative research. Universities also have other initiatives in public engagement, such as summer schools, courses for seniors, pupils, and various public lectures and dialogue events, such as Science Café’s. They are funded from university budgets, sometimes with contributions from participants. ‘Community development’ as such is not a core activity performed by universities in the Netherlands.

**Higher Education Institutions - University of Groningen**

**University of Groningen**

**Institutional structures**

The mission statement of the University of Groningen states that it provides high quality teaching and research, is internationally oriented, respects differences in ambition and talent, works actively with business, the government and citizens, and ranks among the best universities in Europe. There are various outreach structures to work with citizens, or ‘the public’, as it is translated on the English pages of the University at the University of Groningen. For co-operative research with and for community organizations, the university has six Science Shops at different faculties: Mathematics and Natural Sciences; Economics and Business Management; Languages, Culture and Communication; Educational Studies; Medicine and Public Health; and Applied Philosophy (“Science Shops”, n.d.). In addition, various study programs have internship coordinators.

For a less intensive form of engagement, there are also persons in charge of organizing public lectures under the umbrella of “Studium Generale” and Science Cafes are organized regularly to discuss more informally, topics relating to hot issues in science and/or society (www.sggroningen.nl/nl/programma). Finally, the university has a University Museum, a Science Center-Science LinX (“ScienceLinX”, n.d.) and a press office.

The key provision to enable community-based research (CBR) within the research carried out on the University premises are the Science Shops, though they mostly work with students and not with paid researchers. Some individual projects do have engagement built in, for example, some projects undertaken by the Science & Society Group and the Energy Academy Europe. Other disciplines, such as Spatial Planning, have engagement of stakeholders built in to their type of research.

The sustenance of the collaborative ventures with the community is guaranteed only by the goodwill of the university and faculty leadership, and the hard
work and motivation of the Science Shop coordinators. Despite its ups and downs, the Science Shop has been in place since 1979.

Although there is no obligation to work with community organizations, the Law on Higher Education, as mentioned above, is used as a justification for cooperative research. Moreover, the Dublin Criteria, which state the competencies of each graduate, support community-based research as part of the curricula. (“Dublin Descriptors”, n.d.)

Especially for Master’s degrees, the official requirements fit Science Shop projects nicely, since graduates need to have demonstrated that they “can apply their knowledge and understanding, and problem solving abilities in new or unfamiliar environments within broader or multidisciplinary contexts related to their field of study; have the ability to integrate knowledge and handle complexity, and formulate judgments with incomplete or limited information, but that include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgments; and can communicate their conclusions, and the knowledge and rationale underpinning these, to specialist and non-specialist audiences clearly and unambiguously” (“Dublin Descriptors”, p. 2, para. 2, n.d.).

Institutional Incentives

Almost all projects of community-based research are included within the curricula. Thus, the students receive course credits for these projects. For professors, supervising these projects counts towards their teaching hours. They sign-off on the credits, and this is automatically incorporated in the university system to calculate teaching loads and budgets. With the new indicators for valorization, there may be a more direct link to scores that count towards promotion or tenure. However, most valuable for researchers is usually the inspiration for new angles to research and the access to knowledge, facilities and networks of the community partners. This will add to the value of their research output.

The institution does not encourage students to undertake this work specifically, apart from the regular course credits, though projects may be part of the honors college that does give extra credits to students involved.

Institutional Capacity

The university has allocated about 3 full-time equivalents of staff hours to the Science Shops. It also gives a small, non-salary budget to the individual Science Shops, and 50,000 Euro for common publicity and support. The Science Shops at U. Groningen do about 50 projects each year with and for community organizations. These projects involve about 193 students. This means that about 3.2% of all students, including those in departments without science shops, participate in a Science Shop project once during their studies.
The key research areas for the university are currently: Healthy Aging; Energy; and Sustainable Society. These key-areas are a good umbrella for many Science Shop projects.

Apart from the Science Shops, there are no specific provisions within the University structure that are in line with the theme of community university engagement in research, nor any means through which the University endorses such activity other than paying for the coordinators of the Science Shops, internships, and museums/science centres.

Wageningen University and Research Center (Wageningen UR)

Institutional Structures

There are various outreach structures at Wageningen UR which help facilitate the process of Community-University engagement: Science Shop; Academic Consultancy Training; ‘Onderwijsloket’; and other structures such as Internship coordinators, Press officers, Studium Generale, Centre for Development Innovation, and the Science Café (“Society”, n.d.).

For co-operative research with and for community organizations, the university has one central Science Shop which provides CSOs access to students, researchers and staff of the different sciences groups of Wageningen UR.

Students of nearly all masters programs at Wageningen University participate in the Academic Consultancy Training (ACT) (“Academic Consultancy Training”, n.d.). In multidisciplinary groups, students learn to carry out research projects commissioned by CSOs, government bodies or companies.

A third structure favoring CBR is the ‘Onderwijsloket’ (“Onderwijsloket,” n.d.) Onderwijsloket matches real-life projects with bachelor and master courses of Wageningen University. Onderwijsloket collaborates with multidisciplinary networks in different regions in the Netherlands. These networks consist of regional actors, education and research. They focus on collaboration, development of the region or sector and reducing the distance between education and labor market.

Most study programs have internship coordinators. For a less intensive form of engagement, there are also persons in charge of organizing public lectures under the umbrella of “Studium Generale”. And Science Cafes are organized regularly to discuss more informally on topics relating to hot issues in science and/or society.

The Centre for Development Innovation (CDI) works to inspire new forms of collaboration between citizens, governments, businesses, NGOs and the scientific community, mostly in an international setting (“Center for Development Innovation”, n.d.). Finally, Wageningen UR has a press office.

The key provision that enables CBR between CSO’s and Wageningen UR is the Science Shop. The Science Shop works with students, their supervisors and
CHAPTER 4  | Case Studies - Netherlands

with paid researchers. ACT and ‘Onderwijsloket’’s projects do have a provision for engagement, sometimes with CSOs, and sometimes with government organizations, companies, or private persons. Thus, the approach of Wageningen UR favors participation of CSOs and other societal partners in research projects realized by Wageningen UR researchers.

The sustenance of the collaborative ventures with the community is guaranteed only by the goodwill and the hard work and motivation of Wageningen UR staff, researchers and students, and of the coordinators of the Science Shop, ACT and ‘Onderwijsloket’. In this way, with ups and downs, the Science Shop system has been in place since 1985. The ACT has been in place for more than 10 years and the ‘Onderwijsloket’ for more than 5 years.

The Law on Higher Education as mentioned above is used as a justification for this cooperative research. Moreover, the Dublin Criteria, which state the competences of each graduate, also support community-based research as part of the curricula.

Institutional Incentives

Most community-based research student projects are included within the curricula. Sometimes it is not possible to find a student in the period the research should be done, in which case the Science Shop has a budget to pay professional Wageningen UR researchers. Sometimes recently graduated students contribute to CBR projects to gain some valuable research experience. In all community-based research student projects, students receive course credits for their contribution.

Similar to Groningen U, supervising these projects counts towards the teaching hours of professors and the credits are calculated into teaching loads and budgets. New valorization indicators may create a more direct link to scores that count towards promotion or tenure. Also similar to Groningen U, CBR projects provide inspiration for new angles to research and access to knowledge, facilities and networks of the community partners, which adds to the value of research output.

Institutional Capacity

Wageningen UR has allocated 1.2 full time equivalents (FTEs) to coordinate the Science Shop and a budget to pay for project managers, professional researchers and for transport, support and publicity. The ACT has 9.5 FTEs for coordination, the ‘Onderwijsloket’ 1.8 FTEs.

Every year, the Science Shop at Wageningen UR offers learning opportunities for students in forty projects. The ACT realizes approximately 160 projects per year and the ‘Onderwijsloket’ realizes thirty projects. The Science Shop limits itself to CSOs. The ACT and ‘Onderwijsloket’ also include projects for companies and government organizations. As science shop projects need more time, often more than a year, than ACT projects which usually require six to eight weeks, it is well
possible to incorporate ACT-projects within science shop projects. Every year ten to twenty ACT projects which can include sixty to 120 ACT students, contribute to science shop projects. Similarly ten to twenty ACT projects contribute every year to Onderwijsloket projects.

More than 200 students per year participate in Science Shop projects. In ACT projects this figure is 1000 students per year and for the ‘Onderwijsloket’ this is more than 300 (University of Wageningen colleagues, personal communication).

The domain of Wageningen UR consists of three related core areas: food and food production; living environment; and health, lifestyle and livelihood. These core areas are a good umbrella for many CBR projects.

Currently, a new education philosophy is being developed within Wageningen University. ‘Learning in Communities’ is one of the four pillars of this new approach favoring CBR and CBL.

Community/Civil Society

Networks

There are many umbrella organizations that are familiar with the Science Shop concept. These can guide smaller organizations to find their way. Some examples of these umbrella organizations are the Nature and Environment Foundation; the provincial federations for nature and environment; and PGO support, a non-profit organization that supports patient organizations.

The CSOs are not involved in lobbying for community-based research as such. They do lobby for research on their behalf in specific cases, or lobby for the implementation of recommendations derived from reports made through Science Shops.

CSOs facilitate community-based research engagement by making available their networks, their knowledge and their time to the HE-students. In return, the CSOs obtain research output that serves their needs. By showing the impact of the research projects, for example in national and local media, they strengthen the link between the CSO and the HEI, hence facilitating future CBR projects.

CSOs network with other organizations in various ways. Successful CBR projects may inspire CSOs in other networks, inviting them to engage as well.

Structures

The structures of CSOs can vary widely. There are many CSOs in The Netherlands, often well organized and networked through umbrella organizations, and many non-profit institutes as well, which makes working with HEIs relatively easy. There are no specific NGOs or similar purely focusing on supporting HEI-CSO co-operation. There are, however, some funders such as the charity KNHM
and the Doen foundation, a lottery charity, that provide financial support to HEI-CSO co-operation ("About KNHM", n.d.; “DOEN”, n.d.).

A special subsidy program of the Ministry for the Environment for environmental CSOs was abolished late 2010. This program, called Subsidy-regulation Societal Organizations and Environment (SMOM in Dutch, Subsidieregeling Maatschappelijke Organisaties en Milieu) was used to commission research and had existed for 30 years with an annual budget of 6-10 million Euro. It was cancelled by the first Rutte administration, a coalition of VVD (liberals), CDA (Christian democrats) and PVV (Geert Wilders’ party).

Other research subsidy structures, like innovation vouchers and strategic research initiatives are not aimed at the inclusion of CSOs, but geared towards industry and SMEs.

The presence of a strongly organized civil society and Science Shops means that these structures do not need to be created ad-hoc. Often the co-operation with established CSOs continues through the years. However, the Science Shop also collaborates with informal, less structured emerging interest groups, which are often not organized as a legal entity. Commissioning research projects to a Science Shop helps these groups to increase their influence, hence the Science Shop may play a role in empowering young, small or marginalized CSO’s.

If one looks at it as a system, Science Shops are open to the whole community. In one project they will work with one community organization, in the next project with another, even if these organizations have competing views on society.

Capacity

Many CSOs are quite well organized and some have professional staff. Over the past five years, because of the financial crisis, budget cuts have taken their toll: government subsidies have been lowered drastically, as has income from donations and memberships.

The Netherlands is a well-organized, small country with a high proliferation of internet access, which makes networking rather easy.

While some CSO’s have some funds available, most of these organizations are poorly funded. They can have access to subsidies from sources not available to universities, but these sources are lower nowadays because of the financial crisis, which has also affected political decisions and the funding climate.

Since there are no specific financial resources for university-CSO engagement, other than the universities’ own budgets, what makes a project work is the win-win situation achieved: the CSO will invest some time and knowledge, data, networks, and will get an academic, research- based answer to their question. The university will have obtained a valuable community-research based learning project for its student(s), and some new angles and knowledge to advance their research programs. Both sides cover their own costs and get a non-financial return from the
co-operation. Because of the integration in research-based teaching and learning, the costs of the system are low and even economically speaking Science Shops are a good way to facilitate research with and for society (Boere & Heijman, 2012).

Examples of Projects

Since the proof of the pudding is in the eating, we will give a number of examples of projects below. These examples are taken from the submissions to the biannual Dutch-Flemish Science Shop Award Competition. For this award, projects are assessed on their societal relevance and impact, their scientific quality and the learning experience for the student/researcher involved. For this, testimonials are invited from the CSO that commissioned the research, from the academic supervisor and from the Science Shop involved. These are handed to a jury with the original research reports and materials developed. The jury consists of an academic, a representative of a CSO, a student and a policy maker. The Chair is a well-known person, familiar with the interface of research and society, for example a former Minister, a Mayor, or an MP. On average, about fifteen to twenty projects of outstanding quality are submitted every two years.

Additional information was collected in a survey among the Dutch Science Shops, which was held in 2013-2014, to inform the Dutch Ministry of Education, Culture, and Research. It should be noted that we authors have insights into these projects through our own personal experience. Henk Mulder has been secretary to the jury three times and thus has access to the submissions of these years, while Gerard Straver made an overview of Science Shop activity in 2013-2014 to inform the Ministry of Culture, Research, and Education.

Groningen, Science Shop Mathematics and Natural Sciences

Project Stone-Break

**CSO:** Working Group Stone-Break, a coalition of nature protection organizations, municipalities and research institutes.

**Question:** More and more private gardens now have tiles instead of green. What are the consequences for nature and environment in the city? What are the motives and would it be possible to turn this development around?

**Student:** MSc environmental sciences

**Answer:** The student visualized the trend with data from the land registry. Especially rain water flow causes problems. The temperature rise because of the tiles is less of a problem, though it could be an issue for elderly people.

**Impact:** The municipality organized a conference to discuss the findings. Five other municipalities will use the method to make an inventory as well. A follow-up study into biodiversity is being prepared.
The thesis won the prize for the best thesis in environmental studies 2013-2014: the Rachel Carson Award, from the Dutch Association of Environmental Professionals.

**Comment of the CSO:** Through Operation Stone-Break, a broad counter-movement has started which seeks to replace the use of tiles in private gardens with environmentally sustainable alternatives. The work of this student provides an essential scientific foundation for this movement.

**Groningen, Science Shop Medicine and Public Health**

**Stable Love, Stable Life? The role of support and acceptance in relationship satisfaction of couples living with Meniere’s disease**

*CSO: Commission of Meniere of the Dutch Association for the Hearing Impaired (NVVS)*

**Question:** What is the influence of Meniere’s disease on the life of the patient? May acceptance of the disease contribute to the quality of life?

**Conclusion:** Meniere’s disease has a major impact on the life of the patient but also on that of their partner and the relationship. When both partners accept the disease, and can talk about it, the focus is on issues that are still possible and limitations have less impact on the relationship.

**Impact:** The NVVS uses the results of the survey in its information both on the website of the NVVS and through specific brochures. This information is aimed at both patients and otolaryngologists. The students presented the results of a nationwide day of NVVS and during ‘patient and partner weekends and on international conferences.

The Student graduated with honors.

**Groningen, Science Shop Medicine and Public Health**

**Evaluation of mindfulness training for lay-carers, a project requested by lay-carers**

A video interview with the student can be seen at http://www.unifocus.nl/site/pagina.php?id_item=486&tab=journaals&pag=1

This project won the first prize in the bi-annual Dutch-Flemish Science Shop Award 2014.

**Question:** Can you evaluate how mindfulness training helps lay-carers cope with all the demands placed upon them.

**Conclusion:** The main outcome of the study is that the quality of life of lay-carers has clearly improved after the training. Impact: One of the large health insurance companies of Netherlands announced during the final symposium that
it would take up mindfulness training for lay carers in its supplementary package. In addition, new groups started in which carers receive training, and another student commenced a research project on the longer-term value for lay-carers.

The lay-carer who initiated this project states that “the study, described in the thesis and presented at the final symposium, really contributes to the wellbeing of carers. The student could connect existing knowledge and theories about human welfare, and changing perspectives in that, to practices and policies that will make it possible for people to improve their wellbeing” (A. Brunner, written recommendation for Science Shop Award, 2014).

Groningen Science Shop for Languages, Culture and Communication

Project: Close to home, the childhood memories of the Groningen illustrator Cornelis Jetses (1873-1955)

This project won the second prize in the bi-annual Dutch-Flemish Science Shop Award 2014.

*Question:* The Cornelis Jetses Foundation, a non-profit organization that curates the legacy the Groningen illustrator of textbooks and literature, wanted to put a newly discovered manuscript of Jetses in historical perspective.

*Results:* A Master student in History made the manuscript accessible to a broad audience. He puts Jetses’ youth in historical perspective, creating value far beyond the usual nostalgic associations with Jetses, and offers an insight into the modernization of the Dutch education system.

*Impact:* Apart from creating a book on Jetses’ youth, the student also organized a temporary exhibition. The Foundation is very happy with the efforts of the student, which led to the creation of a book and an exhibition based on the childhood memories of Jetses; “two products that we are proud of and which many people will enjoy” (Corelis Jetses Foundation, written recommendation for Science Shop Award, 2014).

More Groningen examples in brief

In 2009, The Science Shop for Economics and Business Management did a project for the CSO Foundation *Zorg op Maat* (Tailor Made-Care) called “The judgment of the client”. They investigated the quality of the care provided by the Foundation from a client perspective. The Foundation stated that “in other investigations of the quality of the care provided, usually up to 15% of the clients are interviewed. In this study, 80% of the clients participated. That provides enough reliable results and an in-depth look at the situation” (Foundation “Zorg op Maat”, written recommendation for Science Shop Award, 2010) which can be used as a basis for changes where needed.
In another project that was started at the request of an environmental organization, the Wadden Sea Protection Foundation, as participant in the project *North Sea Ballast Water Opportunity Project*, the Science Shop for Mathematics and Natural Sciences won the first prize in the bi-annual Dutch-Flemish Science Shop Award 2012. It concerned the transport of ballast water from ships, which is one of the main causes of pest invasions. Soon, ships will be internationally required to treat ballast water. However, they can be exempted from these obligations when navigating in a restricted area or between specific ports. A student did a risk analysis of this and showed that, for example, the North Sea cannot be seen as a restricted area since there are many sub-ecosystems. The student concluded that exemptions to the obligatory treatment of ballast water should not be given automatically.

**Wageningen Science Shop**

**Project Allotment Garden Complex De Koekelt in Ede – a multifunctional neighborhood park**

*CSO: Association of Amateur Allotment Gardeners (VAT) in Ede*

**Question:** The question posed by the VAT asked how they could develop a new design for their garden complex to increase the involvement of garden members and other inhabitants of the surrounding area.

**Result:** A design was made in an interactive process with various stakeholders. Investigations into the engagement of members and local residents have contributed to create a beautiful and multifunctional integrated garden park in the neighbourhood.

**Impact:** The design has been implemented and the garden complex refurbished. The project has contributed to the policy on allotment gardens of the municipality of Ede. The Garden Park De Koekelt was nominated for the provincial Prize for Spatial Quality 2014. The Office International du Coin de Terre et des Jardins familiaux decided to issue the international certificate for innovative projects to De Koekelt in 2014.

The park serves as an example project for the AVVN, the Dutch association of hobby gardeners. In total, sixteen students have earned credits and Wageningen researchers developed new contacts in the field of urban agriculture thanks to this experience. More information about this project can be found at [http://www.wageningenur.nl/en/Education-Programmes/science-shop/Testimonials/Show/Allotment-complex-turned-into-multifunctional-neighbourhood-park.htm](http://www.wageningenur.nl/en/Education-Programmes/science-shop/Testimonials/Show/Allotment-complex-turned-into-multifunctional-neighbourhood-park.htm)

**The Touch Table as a Way to Discuss a Village Energy Plan**

*CSO: A residents organization and a municipality*

In a project that was nominated by the ‘Onderwijsloket’ of Wageningen
University for the Dutch-Flemish Science Shop Award 2014, five students, (from The Netherlands, Russia, Uzbekistan and Ethiopia), created an interactive tool to discuss local energy plans. In their seven weeks for this assignment they created a touch table. The students held two sessions with different stakeholders, in which the touch table was used to facilitate the discussion on a Village Energy Plan in which the aim was to reach consensus. With the touch table, participants could make individual plans, and then combine these with others. The touch table used GIS (Geographic Information Systems) data which consisted of landscapes and spatial characteristics of different types of energy supply.

**Impact:** After the project, an ‘info, learn, and do’ day was organized by the commissioning organizations, “Village Energy Plan Gasselternijveenschemond” and the Municipality Aa en Hunze, who stated: “the students influenced the increase in the participation of the residents with their input during this day. The possibilities to bring down energy use were shown, and the gains were made clear. Although studies on the opportunities to save energy and the preparation of the village energy plan are one-time activities, actions taken based on these studies will have a long-term impact” (written recommendation for Science Shop Award 2014).

**Other brief examples from the Wageningen Science Shop**

Another example from the Wageningen Science shop included the provision of dietary advice for persons with HFE hemochromatosis, on behalf of the Hemochromatosis Association in The Netherlands. Persons with iron overload disease (hemochromatosis) have a genetic defect which causes them to take in too much iron from their food. This causes all sorts of complaints such as fatigue, joint problems; in severe cases it can lead to liver cirrhosis and diabetes. The treatment of hemochromatosis consists of blood draining. Another solution would be the ingestion of less iron by a suitable diet. The central question of the project was: “What nutritional advice can be given at HFE hemochromatosis?” where HFE stands for one of the genetic variants of hemochromatosis. The question was answered through a literature review and interviews with experts and patients. The results showed that with a suitable diet, the number of blood drains can be reduced by one or two per year, depending on the individual (“Concrete Dietary Advice”, n.d.).

A final example from Wageningen is the project “Welcome to Rotterdam”, which investigated whether and how policy interventions aimed at fostering intercultural encounters contribute to social cohesion in an immigration society. This was done on request of a foundation that supports immigrants. Based on the research findings, it was concluded that the social networks of ‘old’ and ‘new’ Rotterdam are strongly separated, which increases the risk of alienation and lack of social trust. The respondents stated they indeed needed bridging contacts, which can be seen as a contemporary form of solidarity in an immigration society. The encounters that occur during the project meetings are often short-lived, but help avoid alienation and promote rapprochement. The stranger becomes less strange and the distinction between ‘us’ and ‘them’ becomes blurred. The involvement of
people in meetings is a form of social capital and thus has a modest but undeniable influence on the social cohesion of a city. This project won the third prize in the Dutch-Flemish Science Shop Award 2012.

Conclusion

New developments in European research policy may advance the inclusion of CSOs in research. In Horizon 2020, the European Commission’s research funding scheme for 2013-2020, there is a lot of emphasis on engagement. The Commission has deemed that engagement is necessary to solve the societal challenges of our time, for both democratic and instrumental reasons. This means that citizens should have a say in how societal issues are tackled not only because much research is funded from tax-money, but also because the inclusion of their knowledge and ideas are essential to creating the best solutions to these challenges. Thus, the whole idea behind the Science Shops remains highly relevant and for many countries is new and innovative.

To further advance this way of doing research with and for society, the work of Science Shops can be connected to other forms of engagement that currently have a lot of momentum. For example, informal discussions take place in the Science Cafes on new scientific developments or on the role of science in societal issues. Usually these discussions have no strings attached—there is no impact on the wider society, policy or research expected. Now what if during these sessions the question was posed: ‘what do we not yet know that is still important to know’? We could then start to develop small parts of a research agenda. Similarly, many projects now involve citizens in data collection and analysis. This is not yet common practice in Science Shops, which are used to discuss and set up research with citizens’ organizations. Combining both approaches could help increase the engagement of citizens over the research cycle, which would move the work of both the Science Shops and Citizen Science projects closer to participatory action research.

In conclusion, it can be stated that the Science Shop approach that was developed in the 1970s is still a good way to establish connections between science and civil society, and to create new knowledge together based on societal needs. It is also clear that for universities this is not a form of charity, but brings them valuable data and educational benefits as well.

References


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