Empowering Communities for Environmental Decision-Making: Innovative Partnerships in Cleveland (USA)

Published in: In Victor Bekkers, Hein van Duivenboden, Marcel Thaens (Eds) (2006). *Information and Communication Technology and Public Innovation: Assessing the ICT-Driven Modernization of Public Administration.* Amsterdam etc.: IOS Press, pp. 175-191.

Arthur Edwards
Erasmus University Rotterdam, The Netherlands, edwards@fsw.eur.nl

1. Introduction

In this chapter, we discuss the relation between public innovation and the empowerment of local communities. Specifically, we explore the significance of cooperative public innovation efforts for the capability of local communities to participate in environmental decision-making, focusing on the role of environmental information, and information and communication technologies (ICTs). Our case-study is the city of Cleveland (Ohio) in the United States of America where several citizen-government partnerships have emerged on environmental sustainability and in which the access to information is a major element. A case-study on environmental governance practices in the USA in order to study the role of ICTs in public innovation and community empowerment is very interesting for several reasons. First, in comparison with Europe, the USA is more advanced in public access to environmental information systems. There is a nation-wide information infrastructure in the USA encompassing regulatory agencies, businesses and civil society organizations. Second, civil society organizations fulfil key intermediary roles in this infrastructure. They also play an important empowerment role by assisting local communities in acquiring the capabilities to use this information in environmental problem-solving. Third, the innovation practices of the federal Environmental Protection Agency (EPA) and various state and local environmental health agencies provide us with interesting insights about how public agencies try to adapt to new challenges, and how they use ICTs in this. According to the chairman of EPA‘s Innovation Action Council, “EPA has had innovation as a mandate for over a decade” (Gibson, 2002).

We look at public innovations as processes of co-production between public agencies, nongovernmental organizations and community-based organizations. In Cleveland, several models of partnerships have emerged in which the innovation agendas of public agencies, the empowerment agendas of civil society organizations and the aspirations of community-based organizations have been linked to each other. The case-study will reveal how these

partnerships have helped to empower local communities, thereby facilitating new forms of environmental decision-making. We provide an assessment of these partnerships from an instrumental and institutional point of view and establish the major factors that may account for their success.

We also present a historical perspective on public innovation. The evolution of public administration is marked by a continuous succession of innovations. Current innovation programs that aim at a 'modernization' of the public sector cannot be viewed in isolation from this evolution. Furthermore, national factors have to be taken into account. In the recent history of environmental governance in the USA, innovations have been interwoven with various political agendas. In the 1980s, the Community Right-to-Know movement gave the impetus to several statutes in which the provision of significant amounts of data on environmental matters was established. In the 1990s, during the Clinton administration, the Environmental Justice debate resulted in policy initiatives that were intended to address the disproportionate public health burdens suffered by minority and low-income populations. Currently, the notion of 'voluntary compliance' has come to the fore. Despite their different political origins, two constant factors are present in all of these agendas: public access to environmental information and community participation.

We present the conceptual framework in the next section. In section 3, we discuss the innovation agenda of the Environmental Protection Agency in a historical perspective. We provide a preliminary characterization in terms of the 'innovation catalogue', which is the focus of this book: process innovation, product innovation, organizational innovation, conceptual innovation and institutional innovation. In section 4, we present a broad overview of the environmental information infrastructure in the USA. In sections 5 and 6, we turn to the case-study. In section 5, we look at the Sustainable Cleveland Partnership and the Cleveland Clean Air Century Campaign, partnerships between regulatory agencies at the federal, state and city level, civil society organizations and community-based organizations. In Section 6 we turn to the neighbourhood level where we describe the recent history of environmental problem-solving in one of the neighbourhoods in Cleveland in more detail. In section 7, we return to the conceptual framework and give an assessment of the innovations that have taken place. We present our conclusions in section 8.

2. The Conceptual Framework

We take an empowerment perspective on public innovation, focussing on how public innovation efforts affect the problem-solving capacities of local communities. Figure 1 depicts the basic conceptual framework.

[figure 1 about here]

As a starting-point, we adopt the World Banks' definition of empowerment: "the expansion of assets and capabilities of poor people to participate in, negotiate with, influence, control, and hold accountable institutions that affect their lives" (World Bank, 2002). Four key elements of empowerment can be distinguished:

- Access to information.
- Local organizational capacity
- Inclusion and participation
- Accountability

'Access to information' is broadly understood in this chapter, as including the use of information, the generation of new information, and the adoption of ICTs. Local organizational capacity refers "to the ability of people to work together, organize themselves, and mobilize resources to solve problems of common interest" (World Bank, 2002, p.17). Together, access to information and local organizational capacity affect the quality of public participation and the inclusion of communities in (environmental) decision-making. Access to information is also a key factor for insuring accountability.

Access to information (broadly understood) is dependent on various factors. Kellogg (1999) distinguishes technical, organizational and personal prerequisites. The presence or absence of these conditions will affect the degree to which community-based organizations will adopt ICTs in their usage of environmental information. Technical prerequisites are associated with (the availability of) hardware and software, capacity for data retrieval and data processing and related factors. Organizational prerequisites include various cultural, structural and functional factors of the organization, ranging from leadership support for ICT usage to presence of staff. Personal skills refer to human skills, knowledge and attitudes. In their discussion of the digital divide literature, Hacker and Van Dijk (2003) emphasize the importance of strategic skills in addition to instrumental and informational skills. Instrumental skills include the ability to operate hardware and software. Informational skills enable people

to search information using digital hardware and software. Strategic skills enable people to determine their information needs and to use information for one's own purposes, as, for instance, for collective goals in political participation.

The term public innovation refers to efforts to innovate the institutions, forms of governance, organizational forms, processes or products within the public sector (this volume). In this chapter, we explore how public innovations affect the institutional relations and distribution of resources and skills that are related to community empowerment. Generally, in the modernization programs of public administration that have been drafted in the last decade in Western countries, goals have been formulated in terms of a shift toward a more citizen-centred mode of governance (Bekkers, Fenger and Korteland, 2005). Generally, however, these programs tend to *assume* that citizens are empowered, without addressing the question of whether this is really the case. Against this background, the notion of public innovation as co-production is important. In particular, we assume that nongovernmental organizations can play a key role in linking government-initiated public innovation efforts with community empowerment, especially by helping to provide and enhance the various conditions and prerequisites for empowerment: "Intermediate civil society organizations have critical roles to play in supporting and enhancing communities' capabilities, translating and interpreting information to them, and helping link them to the state and the private sector" (World Bank, 2002). Co-production can evolve more or less spontaneously, but in Cleveland co-production was achieved in various partnerships, in which the concerted efforts of the partners contributed to the emergence of new practices of environmental decision-making. With this addition, we closely align with the notion of 'conceptual innovation', which refers to "the introduction of new forms of governance, like interactive policy making, or the horizontalization of public control by empowered citizens" (see chapter xx, this volume). Figure 2 indicates the involvement of public agencies, civil society organizations and community-based organizations in relation to the components of the conceptual framework, and it relates these innovation efforts to environmental decision-making. Furthermore, it adds the success factors of public innovation efforts into the framework.

[Figure 2 about here]

We assume that the intermediary roles of non-governmental organizations are focused on two sorts of functions. As 'information intermediaries' they fulfil functions of selecting, integrating, interpreting and digesting information. As 'interaction intermediaries' they

facilitate co-operation between citizens, public and private actors. Innovations, in particular the innovative capacity of partnerships, depend on various success factors, of which we can only highlight a few:

- External pressure to improve results;
- An organizational culture that is conducive to innovation and learning;
- The development of trust.
- Participation of people with the willingness and skills to engage in innovative partnerships;
- The availability of knowledge and expertise.

3. Innovations in the United States Environmental Protection Agency

According to Thomas Gibson, Chairman of EPA's Innovation Action Council, the EPA has a legacy of progress in innovation, but that legacy "is challenged by a growing and increasingly complex set of problems", such as global climate change, the loss of biodiversity, by the influence of large and vital economic sectors, like agriculture, energy and transportation on environmental quality and by various societal trends, such as informatization and globalization. In the EPA strategy 'to guide the next generation of innovation' (EPA, 2002), a broader definition of environmental protection is advocated than just controlling pollution: "Environmental programs should address a broader range of issues than they typically do today. The goal should be greater environmental responsibility and natural resource stewardship across all of society, along with successful integration of environmental, economic and social objectives". In EPA environmental management, results should be emphasized more than the means to achieve them, using regulatory and non-regulatory tools. Specifically, more market-based financial incentives should be created. Furthermore, partnership and stakeholder collaboration are emphasized: "Businesses, government agencies, community groups and other interested stakeholders should become more involved in development of environmental solutions". The innovation strategy focuses on four elements:

- Strengthen the innovation partnership with states and tribes. EPA considers its partnerships with states and tribes as the most important ones. In 1998, EPA and the states signed an Innovations Agreement. This agreement addresses the development,

testing and implementation of regulatory innovations. In this agreement, one of the principles is Stakeholder Involvement

- Focus innovation efforts on priority environmental problems: reduce greenhouse gases, reduce smog, restore and maintain water quality and improve the water infrastructure.
- Diversify the agency's environmental protection tools and approaches. One of the priorities is to improve the use and deployment of information resources and technology. Specific goals include (1) providing better information to the public (as a tool for supporting public participation), (2) handling information exchanges with states and regulated communities more efficiently, and (3) linking information more directly with state and EPA decision-making processes.
- Foster a more innovative culture and organizational systems: "…innovation must become an attitude, and an integral part of EPA's daily work, management systems and culture".

In terms of the innovation catalogue developed in this book, we can conclude that EPA' s innovation strategy is a complex mixture of innovations, the core of which are *conceptual* innovations. They include the philosophy of performance enhancement, partnerships, stakeholder collaboration, and public participation. Other sorts of innovations can be regarded as supporting the conceptual innovations, namely *organizational* innovations, such as the development of better outcome-based performance measures, *product* innovations, such as market-based policy instruments, and *process* innovations, in which information resources and technology are prominent elements.[1] With its focus on stakeholder collaboration, performance and results, its orientation on a holistic systems approach of environmental management, its preference for market-based incentives and outcome-based performance measures, this innovation agenda can be clearly designated as a 'modernization agenda' (this volume; see also: Leroy and Tatenhove, 2000).

Innovation agendas of public agencies are partly shaped by normative discourses in society and policy programs of national administrations. In the 1980s and 1990s, two normative discourses have been prominent in the domain of environmental governance in the USA, the Right-to-Know movement and the Environmental Justice debate. Current policy

[1] We do not identify any institutional innovations. However, the delegation of responsibilities in environmental governance from the federal level to the state and local level in the 1990s might be regarded as institutional changes facilitating the above-mentioned conceptual innovations.

practices still bear the legacy of these two discourses. The Right-to-Know movement urged for the right of employees and local communities to have access to information about the health hazards of industrial production processes. In 1986, the movement reached a 'limited' victory with the adoption of the federal Emergency Planning and Community Right-to-Know Act (Williams and Matheny, 1995:189-190). An underlying premise of legislation based on Right-to-Know principles is that expanding and improving upon the information provided to the public will improve the quality of public input into regulatory processes. Geographic Information Systems might have a great potential to strengthen the role of the public and their community organizations in environmental decision-making (Carver et al, 2000). Another aspect is that public information can be used as a tool to encourage voluntary improvements in environmental performance by the regulated facilities. This agenda was taken up during the Bush Sr. administration. In the Pollution Prevention Act (1990) the use of voluntary programs was made a national priority.

The Environmental Justice debate also began as a grass-roots movement in the USA. The term has been associated most commonly with concerns about distributional inequalities, in particular the disproportionate burden of environmental contaminants faced by many poor or minority residents (Illsley, 2002). In 1994, President Clinton issued an Executive Order to establish environmental justice as a priority for the administration's environmental policy. Each Federal agency was ordered to develop an agency-wide environmental justice strategy to (1) promote enforcement of all health and environmental statuses in areas with minority and low-income populations, (2) ensure greater public participation, (3) improve research and data collection relating to the health of and environment of minority populations and low-income populations and (4) identify differential patterns of consumption of natural resources among these populations.

Public participation and information are key elements in this strategy. Seven years later, a study conducted by the National Academy of Public Administration (2001) concluded that the EPA had not adequately integrated environmental justice and community participation into its permit process and that despite the EPA's efforts to disseminate environmental information, "disproportionately impacted community members want better access to technical information that will enable them to participate more effectively in negotiations about permit terms and conditions" (NAPA, 2001, p.4). In a memorandum signed in August 2004, EPA's Administrator Christine Todd Whitman confirmed the EPA's 'firm commitment' to the issue of environmental justice and its integration into the EPA's programs, policies and activities.

What we want to argue is that the innovation agendas that have emerged in the history of environmental governance in the USA are a legacy that still informs current practices of the EPA, including the implementation of its most recent innovation agenda. Put in theoretical terms, innovation efforts of public agencies are path dependent endeavours shaped by the succession of organizational choices made in the past. This idea of successive 'generations of innovations' is depicted in figure 3.

[figure 3 about here]

We return to these time lines in section 5 when we show how the two partnerships in Cleveland can be related to the history of EPA innovations.

4. The Environmental Information Infrastructure in the USA

Since the 1980s, a nation-wide infrastructure for the flow by electronic environmental information has emerged between regulated facilities, regulatory agencies and the public. Under the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986, the Toxic Release Inventory (TRI) was established. Manufacturing facilities must report their releases, transfers, and waste management activities to the federal EPA. This database is made available to the general public. The TRI can be seen as the 'first generation' of agencies' databases on the basis of right-to-know principles. TRI data have several limitations: (1) they are made available to the public two years after it is reported to the EPA, (2) the reports only provide raw data about emissions, (3) they do not reach to the neighbourhood level. Some large national NGOs have undertaken to digest and interpret the data for use by local communities. Furthermore, the EPA has developed 'second' and 'third generation' online resources.

[Figure 4 about here]

Two major resources provided by NGOs are the Right-to-Know Network and Scorecard. The *Right-to-Know Network* (RTK NET) was started in 1989 in support of the EPCRA. It is operated by OMB Watch, a non-profit 'government watchdog organization' dedicated to "open government, accountability and citizen participation" (www.rtknet.org). *Scorecard*

integrates various scientific and governmental databases in order to generate customized profiles of local environmental quality and toxic chemicals. Environmental Defense, one of the major national non-profit organisations on the environment, provides the Scorecard (www.scorecard.org)

New generation online resources provided by the EPA are Envirofacts and Window to my Environment. *Envirofacts* provides access to several EPA databases about environmental activities that may affect air, water and land. By entering his zip code, the user gets an overview of the relevant facilities and their emissions (www.epa.gov/enviro).

W*indow to My Environment* (WME) is a new website sponsored by the EPA in partnership with federal, state, and local partner organizations. WME represents an effort to develop a 'geographic portal' for integrating data and information that is shared among EPA, States, Tribes, localities and other data partners. Particular features of WME include state-of-the-art interactive mapping tools, data on 'ambient' environmental conditions, access to analytical and reporting tools and local governmental services and contacts (www.epa.gov/enviro/wme).

The EPA has also began working with the states on a new electronic exchange network: http://exchangenetwork.net. The main purpose of the Exchange Network is to overcome system incompatibility, allowing the partners (EPA, state agencies, tribes, territories and regulated facilities) to securely and automatically exchange environmental data.

5. Environmental Partnerships in the City of Cleveland

5.1 The Context

Cleveland is situated on the southern shore of Lake Erie, northeastern Ohio. The city has about 500,000 inhabitants. Greater Cleveland sprawls along the lake for about 145 km and runs 40 km inland, encompassing more than 70 suburban communities. The total population of the area, including the suburbs, is about 2.9 million, making it the 14th largest metropolitan area in the United States. Heavy industry is basic to the city's economy. Similar to many metropolitan areas, Cleveland experienced since the 1960s a decline in heavy manufacturing and population. Suburban living became more popular for those who could afford the lifestyle. With money leaving the city, the downtown neighbourhoods deteriorated. There were cutbacks in public services, and crime rates increased. However, today, Cleveland is gaining much recognition as a city experiencing a turnaround. Because of its environmental

problems and the presence of an active civil society sector, Cleveland is often chosen as a model city for several new initiatives in environmental governance, in particular for partnerships between the federal, state, local and neighbourhood level. The environmental justice agenda, in particular, is highly relevant for Ohio and the city of Cleveland. Ohio ranks 3rd in the nation with the highest number of commercial hazardous waste handling facilities located in communities with above the national average percent of colour.

In this section, we discuss two environmental partnerships in Cleveland, (1) the Sustainable Cleveland Partnership that started in 1997 and (2) the Cleveland Clean Air Century Campaign that started in 2001.[2]

The following actors participated in these partnerships:

- The United States Environmental Protection Agency (Region 5 Office in Chicago/EPA Cleveland Office). The Cleveland Office of Region 5 focuses on a 'Community-Based Environmental Protection' approach.
- The Ohio Environmental Protection Agency (Northeast District Officer). The State of Ohio has laws and regulations that are at least as stringent as most of the federal laws and regulations enforced by the U.S.EPA. For most federal laws and regulations, U.S. EPA delegates to the state EPAs the responsibility for issuing permits and for monitoring and enforcing compliance.
- Agencies at the county and city level: Cuyahoga County Planning Commission and several departments of the City of Cleveland. A further devolution of tasks has taken place toward the local level. Ohio EPA has delegated several monitoring tasks to the city.
- Non-governmental organizations: The Sustainable Cleveland Partnership is administered by the Earth Day Coalition (EDC), a non-profit environmental education and advocacy organization. The American Lung Association of Ohio administers the Cleveland Clean Air Century Campaign. Other civil society organizations involved in these partnerships include Environmental Health Watch and Cleveland Green Building Association.
- Community-based organizations (CBOs): CBOs are non-profit organizations that operate in urban neighbourhoods to benefit residents and address their concerns. CBO's have a long history in the US, beginning in the later 19th century. They are

[2] For a discussion of sustainable cities programs: Warner (2002), Portney (2005).

characterized foremost by their close working relationships with neighbourhood residents and their block-based associations (Kellogg, 1999: 447). Participants in both partnerships are the St. Clair Superior Neighborhood Development Association and the Lee-Seville-Miles Citizens Council.

- Other societal actors, including the Center for Families and Children, the Neighborhood Centers Association and educational institutions (the Levin College of Urban Affairs at Cleveland State University and Cleveland Municipal School District). One element in the mission of Cleveland State University (CSU) is helping efforts to strengthen the empowerment of local communities in the city.
- Businesses: businesses that participate in the Cleveland Clean Air Century Campaign include Alcoa, BP Products North America Inc., Greater Cleveland Regional Transit Authority, RPM, Northeast Ohio Regional Sewer District, and Goodrich Landing Gear.

5.2 The Sustainable Cleveland Partnership

The Sustainable Cleveland Partnership (SCP) grew out of a common recognition of similar interests and emphases on community-based information access and environmental justice issues. It became clear that residents had rarely participated in the decision-making processes that had shaped environmental problems, and that inadequate access to environmental information resources and tools was a root cause of this (Kellogg and Mathur, 2003). Earth Day Coalition started the partnership, which began meeting in early 1997.

The partners adopted four programmatic goals (Kellogg and Mathur, 2003, p. 579): (1) enhance the availability and relevance of environmental information provided by government agencies and non-profit organisations to urban neighbourhoods; (2) improve the capacity of community leaders to use the Internet as an information access tool; (3) improve their capacity to use the information from the Internet (and other sources) effectively to address environmental problems these leaders identified as priorities; and (4) facilitate new and enhanced working relationships among neighbourhood-based organizations, regulatory agencies and the environmental advocacy community.

The first goal was addressed primarily through the development of an Environmental Health Action Guide (1997-1998). The issues covered in the Guide were based on solicited information about the environmental health issues that concerned neighbourhood leaders and residents. The second and third goals were accomplished through a series of workshops held

in various neighbourhoods in the city of Cleveland (1999-2000) and the Neighbourhood Audit Profile project (1999). The workshops addressed instrumental skills, informational and strategic skills. Apart from a basic Internet training, the workshops' topics included a review of the major environmental laws and the framework of regulatory agencies, urban sustainability and environmental justice issues, problem-solving and information management needs, and action strategies. In this way, a cadre of environmental leaders was created who could assist other organizations and residents in the community. The Neighbourhood Audit Profile project was designed to orient participants to the identification and collection of data specific to their neighbourhood. Community leaders, fellow residents and student assistants developed a profile of environmental attributes, collected data using the Internet, and created a GIS map to illustrate the location of these attributes. The maps generated considerable discussion among the participants, which shortly led to the discovery of a problem that had to be investigated by the neighbourhood leaders (Kellogg and Mathur, 2003). Furthermore, training modules were developed and delivered to neighbourhood groups about risk assessment and management (2001). The various projects have fostered networking and collaboration among divergent groups in Cleveland, thereby accomplishing the fourth goal of the SCP to facilitate new and enhanced working relations among Cleveland's neighbourhood-based organisations, regulatory agencies and environmental advocacy groups. At the outset of the project, the initiators found a deep mistrust of the agencies among the residents.
The SCP has gained regional and national recognition, a testament to its innovative approach and unique mix of partners. It has proven a replicable model in other cities. Residents and community leaders learned to access information about their own neighbourhood from environmental databases, such as Envirofacts and Scorecard. Most importantly, Kellogg and Mathur (2003: 581) conclude "the leadership team graduates have demonstrated an improved capacity for using information to address problems, both because of their enhanced understanding of environmental issues and of how information is generated and used in decision making". Among the first graduates were residents and leaders in the St. Clair-Superior neighbourhood to which we turn in section 6.

5.3 The Cleveland Clean Air Century Campaign and EMPACT

The Cleveland Clean Air Century Campaign is a voluntary, community-based initiative to reduce health and environmental risks from air toxics in Northeast Ohio. The CCACC began in 2001 with the establishment of a Working Group of community volunteers representing

Cleveland's neighbourhoods, businesses and environmental, educational, and governmental organizations. The projects are all targeting reductions in both indoor and outdoor air toxins through voluntary community efforts, ranging from the upgrade of school buses with new particulate filters to the reduction of exposure to harmful toxins emitted from mercury-containing devices in households. With its emphasis on concrete results (measurable emission reductions for specific pollutants), non-regulatory voluntary approaches and collaboration with stakeholders, the CCACC fits well with the recent modernization agenda of the EPA. The EPA has made an initial investment in the campaign and is mainly fulfilling an expert function in providing technical assistance. Some projects have been funded by money from local Ohio EPA enforcement settlements with businesses in the city. Instead of the traditional civil penalties for violations of hazardous waste laws, Ohio EPA negotiated innovated agreements in 2004 with two businesses to spend about three-quarter of the money to a CCACC project, allowing redirecting the rest of the penalty to investments that would reduce the amount of hazardous waste.

Before the start of CCACC, the EPA had initiated its EMPACT Project (Environmental Monitoring for Public Access and Community Tracking).[3] EMPACT funded proposals submitted by EPAs and local government applicants. Proposals were required to have three critical components: environmental monitoring, information management and communication. This project covered 39 states, under which Northeast Ohio (NEO EMPACT) was one of the successful projects.[4] The goal of the NEO EMPACT project was to build an improved air monitoring network and an ecological computer-modelling tool to bring people up-to-date (real-time) local information about air pollution and its effects on health via the Internet. Again, this project was implemented in a partnership with the Northeast Ohio community, including Earth Day Coalition, Eco City Cleveland, the Northeast Ohio Area-wide Coordinating Agency, Kent Sate University, University of Akron, and others.

6. Environmental Decision-Making: St. Clair Superior Neighbourhood

.

St. Clair Superior has about 40, 000 residents. Originally, St. Clair Superior was mainly populated by people from East-European origins who worked in the factories in the

[3] http://www.epa.gov/empact/index.htm

[4] http://empact.nhlink.net

neighbourhood. In the 1960s and 1970s, many businesses disappeared. East-Europeans moved to the suburbs; black people (from the southern states) came in and found jobs in service industries outside the neighbourhood. As a result of these developments, social trust in the neighbourhood disappeared. In 1976, the St. Clair Superior Coalition (SCSC) was formed. In 1999 the SCSC merged with the St. Clair Business Association to form the St. Clair Superior Neighborhood Development Association (SCSNDA).

The two major environmental concerns within the neighbourhood are air quality and hazardous waste. In 1996, the Environmental Committee was formed in response to resident concerns and to help residents organize around environment issues. Initially, the committee was educational in nature. In these years, the committee members participated in the projects of the Sustainable Cleveland Partnership. The committee became more action oriented with the pending review of the Title V (major source) air permits for the CEI Lakeshore Plant (1999) and Day Glo. With regards to CEI, the company sought to retain the ability to start up some old generation boilers that had been grandfathered under the Clean Air Act. These units, however, are several times more polluting than those with new source-pollution controls. With regards to Day Glo, the neighbourhood was concerned about odour and particulate emissions. The committee advocated for knowledge and experts sitting around the table, and made an environmental justice petition to the Ohio EPA. With the assistance of local NGO's, among which the Earth Day Coalition and the Sierra Club, a collaborative meeting process developed between the Environmental Committee and representatives from the Ohio EPA. The Environmental Committee chaired the Working Group, and Ohio EPA acted as facilitator and secretary. The U.S. EPA and the Cleveland Department of Air Quality were requested to participate in monthly meetings designed to address neighbourhood concerns. This may have been the first initiative in the United States to bring the state, federal and city environmental agencies into a monthly neighbourhood working group setting to address environmental justice concerns. Through the collaboration in this Working Group, the opportunity for more community input was secured, including an informal review and comment period. CEI was prevented from bringing the old boilers online without a full new source review.

The Environmental Committee also composed a list of 'companies of concern', based on community concerns, toxic release inventory data, visual behaviour indicators and type of business. Again, a collaborative process followed, in which the regulatory agencies provided information on permits and inspections. The committee received, when possible, copies of permits and the most recent inspection reports. Moreover, the state and city agencies used the community input to conduct several unannounced inspections in addition to the standard

inspections within the neighbourhood. Initially, the list of 'companies of concern' caused negative reactions from the businesses. It certainly contributed to the power position of the Environmental Committee. However, this in turn seems to have contributed to the emergence of more collaborative relations later on.

In 2003, the Committee and the Working Group were consolidated. The merger of the two groups marked a new phase in environmental problem solving in St. Clair Superior, a transition from a confrontational style to a more collaborative style toward the companies in the neighbourhood. A turning point was the Phillips Electric case. This company was found to be in violation of hazardous waste regulations. When a fine was imposed that would absorb its complete annual profit, the company approached the committee for consultation. The two parties found a solution that would not put the business in financial peril but still address the desired health and safety concerns of the community. The committee decided to support Phillips Electric in its dealings with the Ohio EPA. Because of the relationship that developed between the committee and the Ohio EPA, the agency clearly considered the committee's recommendation in its penalty decision. The company's director even joined the environmental committee. Another 'company of concern' that received a Notice of Violation from EPA Hazardous Waste inspectors agreed to pay $ 30,000 to a 'Supplemental Environmental Project' (SEP) to have neighbourhood school buses retrofitted with particulate filters, a project of the Cleveland Clean Air Century Campaign. The neighbourhood's new policy line was the outcome of intense discussions between SCNDA board members and the committee. Community leaders in the former residents-based committee only reluctantly agreed with the agreement with Phillips Electric. The committee embarked on an ongoing dialogue with Day-Glo Color Corporation to create an informal "Good Neighbour" relationship. The committee hopes that it can be used as a template for similar relationships with other companies in the neighbourhood. This new line is in congruence with the federal policy of 'voluntary compliance'. We may conclude that community leaders within the SCNDA are shifting their policies toward voluntary approaches, which aligns with the U.S. EPA's current modernization agenda.

The combined Committee now focuses on five areas: 1) regulatory and enforcement action; 2) voluntary pollution reduction and good neighbour relationships, 3) monitoring and information gathering; 4) advocacy and education and 5) replication of the model in other neighbourhoods. The goal of the SCNDA is to build a community for all stakeholders. Efforts have to be directed at "mending fences, building connections, and producing positive energy" (interview). It is acknowledged that sustainability requires a broader approach than regulatory

measures. It is a step-by-step process, in which ‘economy’ and ‘ecology’ have to go together. Education efforts have to be directed to residents and small businesses that do not have the resources to acquire the necessary environmental knowledge themselves. Ohio EPA looks at SCSNDA as a model to conduct small business assistance on a local neighbourhood level. Moreover, through the collaborative meetings, U.S. EPA and Ohio EPA have further strengthened the partnerships between themselves, local agencies and with the neighbourhoods they serve. Ohio EPA is replicating the same process in some other neighbourhoods in Cleveland. For the regulatory agencies, collaboration with active citizens may yield efficiency benefits.

7. Analysis

In the two partnerships we looked at in this chapter, three sorts of agendas are linked with each other:

1. The innovation agenda of the EPAs.
2. The empowerment agenda of the environmental advocacy community.
3. The aspirations of community-based organizations with regard to environmental decision-making.

In the Sustainable Cleveland Partnership (SCP), the agenda of the EPAs and the environmental advocacy community were marked by a combination of right-to-know and environmental justice concerns. Linchpins in both are public access to environmental information and community-based public participation. However, (online) information provision and public participation are also key elements in the U.S.EPA’s (as well as Ohio EPA’s) current modernization agenda with its emphasis on performance, results and voluntary approaches. This is highlighted in the Cleveland Clean Air Century Campaign (CCACC). The partnerships had a clear impact on the history of environmental decision-making in the St. Clair Superior neighbourhood, which was marked by a gradual transition from a confrontational to a more collaborative style of action.

Against this background, we first present an instrumental assessment of the innovation projects, in terms of its goal achievement, and then proceed to an institutional assessment focused on the project’s impact on practices, positions and relations in environmental

decision-making. For the U.S. EPA and the Ohio EPA, the SCP, the SCSNDA Environmental Committee, and CCACC accomplished the following:

- A model for addressing environmental justice issues.
- A model for voluntary approaches of environmental problems at the community level.
- (A model for) improved partnerships between regulatory agencies at the federal, state and city level, and with the stakeholders.

For the non-governmental organizations, such as Earth Day Coalition, the partnerships enhanced their knowledge and experience with regard to their empowerment agenda. For the involved communities the projects resulted in improved access to information as well as enhanced community control over environmental problem-solving. This brings us to an institutional assessment of the innovation projects. First, the projects fostered networking and new working relations among neighbourhood-based organizations, regulatory agencies and environmental advocacy groups. Second, improved access to information contributed to the leverage of local communities in environmental decision-making. Third, this helped to set the stage for the emergence of voluntary and collaborative approaches. Public access to information has in itself a potential to encourage voluntary improvements in environmental performance by companies, away from traditional enforcement practices. This also means that enhanced community empowerment that has been the outcome of innovation efforts that started on the basis of right-to-know and environmental justice concerns may contribute to the success of the EPA's modernization agenda in the future.

If we look at the success factors specified in the conceptual model, we conclude the following. The first instrumental success factor is the already existing nationwide infrastructure for environmental information, build up by regulatory agencies and civil society organizations. A second factor is the availability of knowledge and expertise from universities, regulatory agencies and non-governmental organizations. Another important success factor is the availability of staff and activists ('leaders'), both within the agencies and the communities. However, within the U.S. EPA's local offices and state EPAs, 'reaching out' may be dependent on a few people with the attitude, skills and willingness to do this work. Self-sustaining communities that are fully dependent on volunteers may face a serious succession problem when the former activists retire. From an institutional point of view, the following factors come to the fore. A commonly felt urgency to combat the environmental problems in the city of Cleveland formed the basis of the partnerships. It must be noted that this urgency was previously less felt at the municipal level. The city administration had given

priority to economic concerns above the environmental burdens felt in poor neighbourhoods. For the federal EPA, the Sustainable Cleveland Partnership was an opportunity to implement the national guidelines on community involvement. However, the regulatory agencies had to develop a culture of innovation in partnerships. As one interviewee put it, "They had to learn to think in terms of how neighbourhoods feel and perceive problems. They had to 're-invent' their way of communication" (see also Boyte, 2004: 168). Trust has been a major success factor of the partnerships. According to all the interviewees there was, initially, a great mistrust and a lot of tension between the regulatory agencies and the communities. Furthermore, residents had to get acquainted with regulatory culture and language. They had to understand what agencies can do and what they cannot do. Building individual relationships with community leaders and creating room for communication in informal settings have been essential. A major success factor from both an instrumental and institutional perspective is the prominent role of non-governmental organizations as experienced 'intermediaries' in the public domain. At the national level, non-governmental organizations have a key role as 'information intermediaries' in the national information infrastructure; in Cleveland, non-governmental organizations fulfilled initiating and facilitating roles as 'interaction intermediaries' in the emergent partnerships. In sum, non-governmental organizations were crucial for accomplishing the empowerment goals for local communities in Cleveland.

8. Conclusions

In this chapter, we took an empowerment perspective on public innovation, focused on how public innovation efforts affect the problem-solving capacity of local communities. We looked at these public innovations as processes of co-production between public agencies, non-governmental organizations and community-based organizations. Two environmental partnerships in Cleveland were studied, the Cleveland Sustainable Partnership that started in 1997 and the Cleveland Clean Air Century Campaign that started in 2001. By taking a historical perspective on public innovations, we were able to relate these two partnerships to the history of successive innovations in environmental governance in the USA. Community empowerment by improved access to information was the focus of the SCP; stakeholder collaboration and voluntary approaches were in the forefront of the CCACC. Clearly, the latter program closely aligns with EPA's current modernization agenda. The basis for the

leverage of empowered communities in this program was laid down in the SCP with its framework of Right-to-Know and Environmental Justice concerns.

A key factor in the success of both partnerships has been the broker roles played by non-governmental organizations. Apart from the role of national NGOs in the environmental information infrastructure, NGOs had a major initiating and facilitating role in Cleveland's partnerships. This underlines that public innovations that have the pretension to modernize public administration, in terms of a shift toward a more citizen-centred mode of governance, are dependent on the empowerment efforts of NGOs.

Acknowledgements

The author wishes to thank Wendy Kellogg, Chris Kious, Lyn Luttner, Anjali Mathur, Bill Skowronski, Diane Swander, Chris Trepal and Elvin Vauss for their time and attention.

References

Bekkers, V.J.J.M., H.J.M. Fenger and E.H. Korteland (2005). Governance, Democracy and the Modernizing Agenda. Paper presented to the EGPA conference, Bern September 2005

Boyte, H.C. (2004). *Everyday Politics. Reconnecting Citizens and Public Life.* University of Pennsylvania Press: Philadelphia.

Carver, S., A. Evans, R. Kingston and I. Turton. Accessing Geographical Information Systems over the World Wide Web: Improving public participation in environmental decision-making. *Information Infrastructure and Policy* (6) 2000, pp. 157-170.

Dijk, J. van and K. Hacker (2003). The Digital Divide as a Complex and Dynamic Phenomenon. *The Information Society*, *19*: 315-326.

Environmental Protection Agency, *EPA Strategic Plan 2003-2008.*

Environmental Protection Agency (2002), *Innovating for Better Environmental Results: A Strategy To Guide The Next Generation of Innovation at EPA.*

Gibson, Th. (2002). The Innovation Imperative. *The Environmental Forum, March/April*, 23-32.

Illsley, B.M. (2002). Good Neighbour Agreements: the first step to environmental justice? *Local Environment, 7 (1),* 69-79.

Kellogg, W.A. (1999). Community-based Organizations and Neighbourhood Environmental Problem-Solving: A Framework for Adoption of Information Technologies. *Journal of Environmental Planning and Management, 42(4), 445-469.*

Kellogg, W.A. and A. Mathur (2003). Environmental Justice and Information Technologies: Overcoming the Information-Access Paradox in Urban Communities. *Public Administration Review, 63(5),* 573-585.

Leroy, P. and J. van Tatenhove (2000). Political Modernization Theory and Environmental Politics. G. Spaargaren, A.P.J. Mol and F.H. Buttel (Eds.). *Environment and Global Modernity.* London: Sage, pp. 187-208.

National Academy of Public Administration (2001). *Environmental Justice in EPA Permitting: Reducing Polluttion in HighRisk Communities is Integral to the Agency's Mission.* Washington DC: NAPA.

Portney, K. (2005). Civic Engagement and Sustainable Cities in the United States. *Public Administration Review, 65 (5)*: 579-591.

Putnam (1993). *Making Democracy Work.* Princeton: Princeton University Press.

Warner, K. (2002). Linking Local Sustainability Initiatives with Environmental Justice. *Local Environment, Vol. 7, No. 1*: pp. 35-47.

Williams, B.A. and Albert R. Matheny (1995). *Democracy, Dialogue, and Environmental Disputes.* New Haven and London: Yale University Press.

World Bank (2002). *Empowerment Sourcebook,* Washington DC.

Figure 1: The Relation Between Public Innovation and Community Empowerment

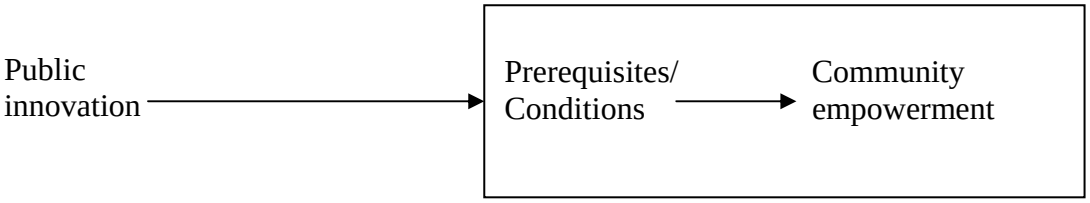

Figure 2: Public Innovation and Community Empowerment as Coproduction

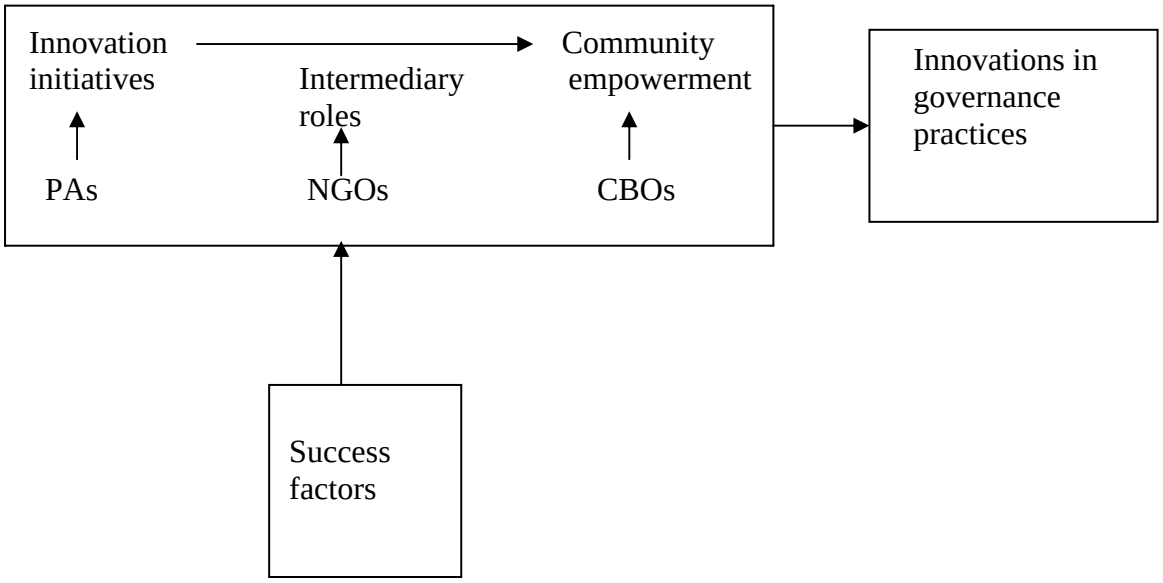

Figure 3: EPA's Innovation Agendas and Their Interconnections

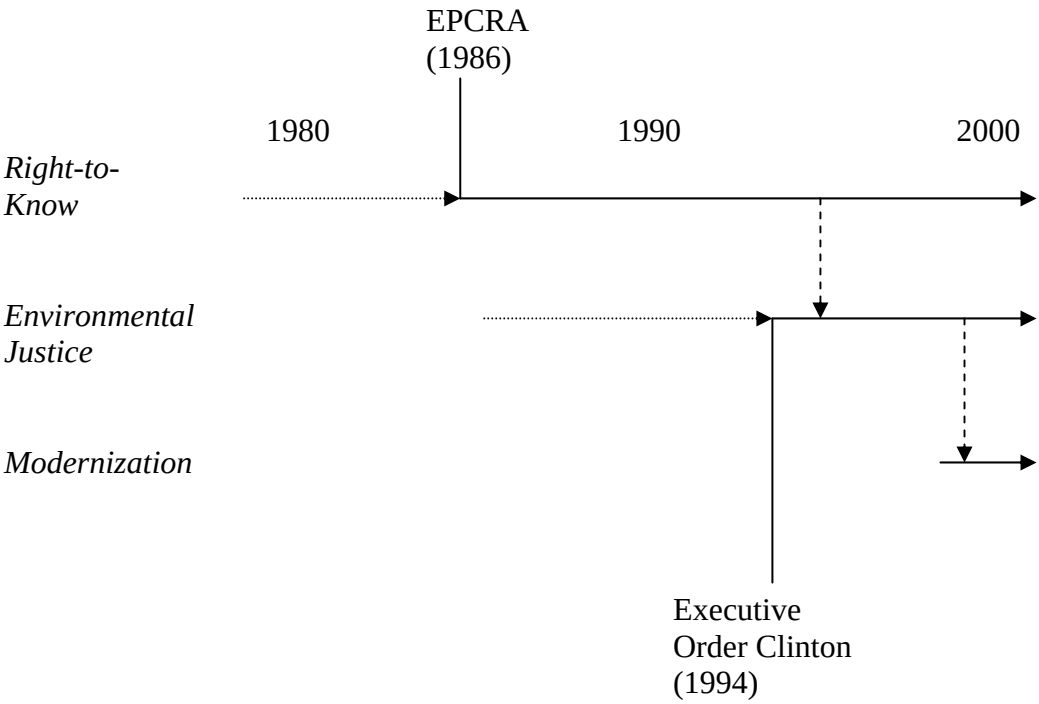

Figure 4: The Infrastructure of Environmental Information Flows in the USA