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**Institutional Design and Organization of the Civil
Protection National System in Mexico: The case
for a decentralized and participative policy network**

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Abstract

México established the Civil Protection National System (CPNS) following the disastrous 1985 earthquake that killed nearly 10,000 people and devastated large sections of Mexico City. The institutional design and structure of the CPNS embraced citizen demands for greater participation in the Federal government's disaster prevention and response programs. The authors examine the Federal government's response to disasters since 1985 and conclude that the CPNS operates in manner that is contrary to the precepts that shaped its design and structure. The authors conclude that orthodox beliefs and assumptions about disasters rationalize the current operation of the CPNS. They argue that a holistic perspective of disasters, rather than a change in institutional design and organization, is required in order to operationalize intergovernmental cooperation and citizen participation.

Resumen

En México se creó el Sistema Nacional de Protección Civil a partir de las experiencias dejadas por el terremoto de 1985 que generó aproximadamente 10 mil decesos y devastó amplias zonas de la Ciudad de México. El diseño institucional y la estructura del Sistema toma en cuenta formalmente las demandas de mayor participación ciudadana en la construcción de los programas federales de prevención y respuesta a los desastres. Los autores examinan la respuesta del gobierno federal a los desastres desde 1985 y concluyen que el Sistema opera de una manera contraria a los preceptos establecidos en su diseño y estructura. Los autores concluyen que creencias ortodoxas y ciertos supuestos técnicos sobre la manera en que se tratan los desastres influyen de manera clara en la percepción y acción actual del Sistema de prevención del desastre. Arguyen que una visión holística de los desastres más que una visión organizacional e institucional técnica aislada es requerida para operacionalizar una efectiva cooperación inter-gubernamental e incrementar la participación ciudadana.

*Introduction**

In 1985, a massive earthquake rocked central and southern México, killing more than 10,000 people. México City was devastated; large sections of the city were reduced to rubble. Federal secretaries and police departments were paralyzed by both the enormous size of the disaster and the immense numbers of citizens who took to the streets to rescue victims and care for neighbors. Despite orders from the military to wait for government agencies to take charge, citizens took action at the street-level to rescue victims and restore services. They also took action at the policy level. Some groups demanded that the government expropriate private estates to provide housing for the homeless. Other groups demanded that the government declare a moratorium on external debt payments in order to allocate greater financial resources to disaster recovery (Briceño & de Gortari, 1987). Citizens everywhere called for legal actions against the public officials and developers who colluded to construct the buildings that collapsed under their feet and around their heads. They recognized that the policies and practices of the Institutional Revolutionary Party (PRI) dominated government actually amplified the disastrous effects of the earthquake.

The PRI was faced with the dilemma of how to maintain control of the social, economic, and political norms that it had fostered over sixty years of governmental dominance and respond to citizen demands for greater participation in preventing and responding to disasters. The Federal government responded by designing a new innovative agency, the Civil Protection National System (CPNS), that embraced the participation of citizens and intergovernmental cooperation between Federal, State, and municipal governments (DOF, 1986). This purpose of this article is to examine the extent to which the precepts of participation and cooperation that shaped the CPNS's design actually influence its policy processes and operational procedures. This is important because the CPNS should serve as a model for the design and operation of decentralized, networked, organizations in an increasingly democratized Mexican governmental system.

CPNS Purpose

According to the General Manual of Civil Protection (DOF, 1992), a disaster is natural event that is concentrated in space and time. The role of the

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government is to restore order as quickly as possible. This is generally understood as protecting citizens from additional harm, returning them to their communities and homes, and restoring public services to their normal operation.

CPNS Design

The CPNS was established by the President of México under the Provisions of the National Law of Civil Protection. A description of the CPNS's organizational strategy and structure was first published in the *Official Newspaper of the Federation*, along with other decrees and proposals related to civil protection that became an important part of the six-year National Plan of Development (DOF, 1986). Several provisions of the Plan related to the organization and control of the CPNS were modified by the General Law of Civil Protection, passed in May 12th of 2000.

The President is the formal head of the CPNS but in practice authority is delegated to the Interior Ministry. The structural design of the CPNS includes functional, coordinative, and advisory relationships at the Federal, State, municipal, and citizen levels (see Figure 1). Functional relationships flow downward from the Interior Ministry to the Undersecretary for Civil Protection to the General Manager Civil Protection. Thereafter, the relationship between the CPNS and State and Municipal Level Systems is coordinative.

A functional relationship exists between the State Level System and State Units composed of various disaster response agencies that are coordinated by an Area Director (see Figure 1). The State Level System is governed by the State Council for Civil Protection, headed by the governor. The State Council is composed of State secretaries, Federal representatives, and representatives from civil or nongovernmental organizations. Its role is to give advice to the governor on disaster response policies and procedures.

Municipal Level Systems are coordinated by the CPNS in conjunction with the State Level System (see Figure 1). The Municipal Council for Civil Protection, headed by the Mayor, participates in the development of local disaster response policies and procedures. Municipal Units are administered by a collective decision making organization, the "Cabildo."

At the bottom of the CPNS organizational structure is the "Population" (see Figure 1). The population participates in the CPNS through civil and nongovernmental organizations that have been approved by and registered with the Ministry of the Interior. The Ministry requires approved participants to complete Federal training courses and cooperate in the dissemination of information about disaster programs and civil protection plans to citizens. These organizations are required to coordinate their actions with Federal authorities and comply with Federal directives during disaster-related operations.

CPNS Governance

The CPNS is governed by the Civil National Protection Council which was created May 11, 1990. The Council approves the policies, practices, and resources that are allocated to disaster research, public education through the educational system, and disaster prevention and response programs (DOF, 2000). In addition, the Council is active in efforts to reorganize relationships among public agencies (DOF, 1986; Mancilla, 1994) and influence State disaster laws (Vilchis, 1999).

The Council controls the disaster relief budget, known as the “Fondo revolvente.” It determines, on a case-by-case basis, the amount of aid allocated to the Municipal System of Civil Protection through the State System of Civil Protection once the President has declared a “zone of disaster” and published his decision in the *Official Newspaper of the Federation*.

The Council is directed by the Minister of the Interior who serves as its Executive Secretary. The Deputy Secretary of the CPNS also serves as the Technical Secretary of the Council. The Council is composed of leaders from the military, Federal Ministries, and representatives from State and local governments (see Figure 2). The National Operative Committee (Comité Nacional Operativo), headed by the Secretary of Defense and the Secretary of the Navy, ensures coordination between the CPNS and the military at the Federal and State levels. In fact, the specialized role of the armed forces allows the imposition of military rules and decision-making structures on everyone else because, once deployed by the President, the military is the final arbiter and enforcer of all field-level actions (DOF, 2000).

National Prevention Center

In 1988, the National Prevention Center (NPC, known in México as CENAPRED) was established within the CPNS to conduct research and produce technologies to prevent and respond to disasters (DOF, 1988) (see Figure 2). It has its own Board of Directors, a Systems Management Division, and three Coordinating Units: Research, Implementation and Training, and Information. The NPC Board is chaired by the Interior Minister and composed of representatives from the Federal Ministries. The Board determines the Center’s research agenda and appoints the NPC director and the unit coordinators.

Engineers and natural scientists represent the majority of the NPC’s professional employees. Research problems are defined as accidents or natural disasters. The objective research methods, instruments, and measures of the mathematical and physical sciences are employed to identify the technical causes of an accident or disaster.

FIGURE 1
CIVIL PROTECTION NATIONAL SYSTEM ORGANIZATIONAL STRUCTURE

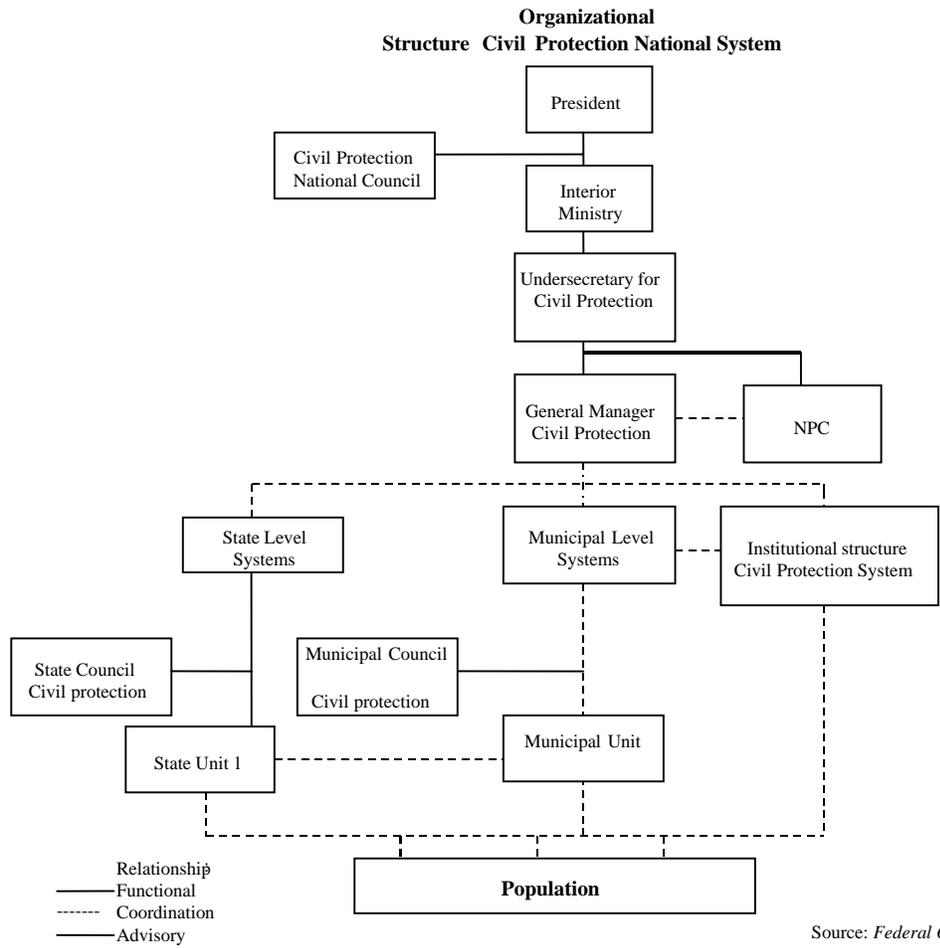
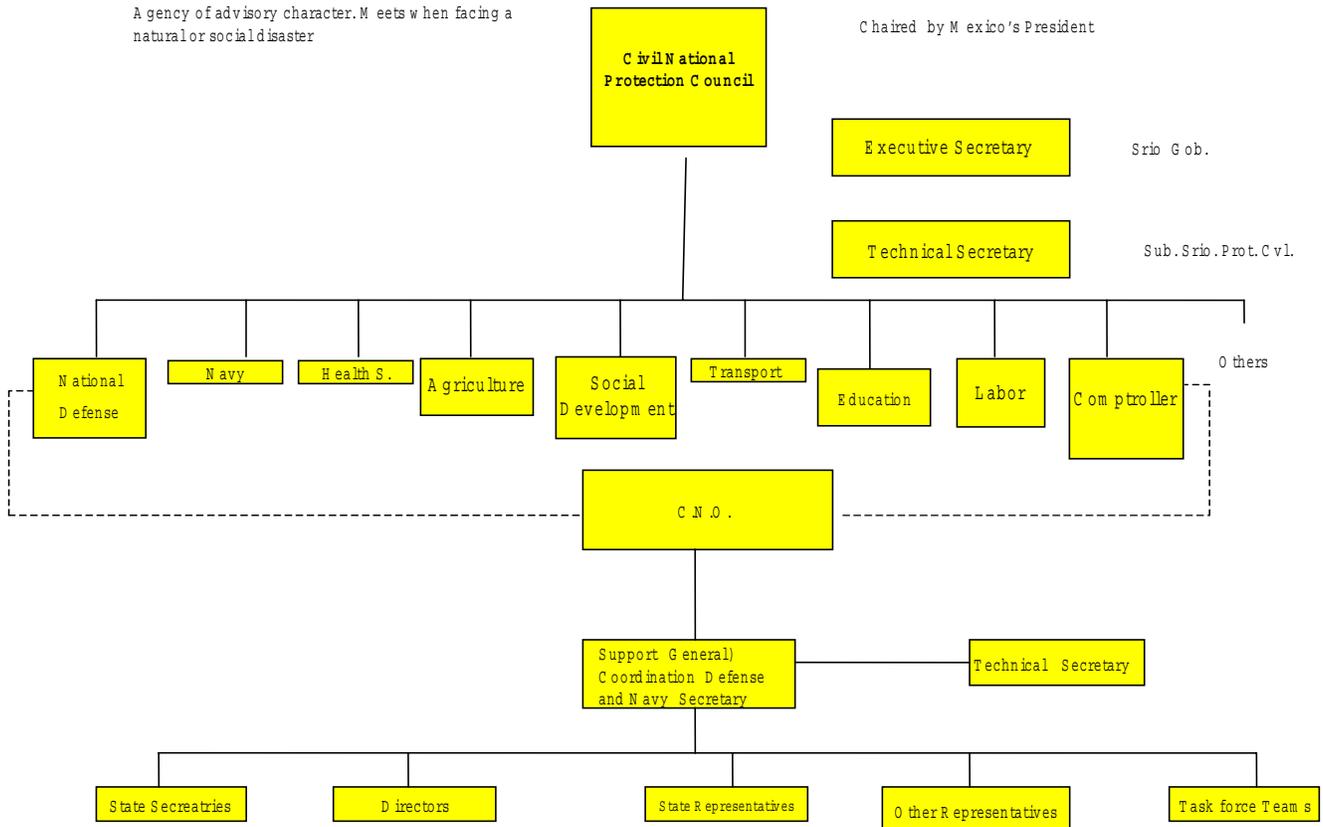


FIGURE 2
CIVIL NATIONAL PROTECTION COUNCIL ORGANIZATIONAL STRUCTURE



Source: Plan D N -III-E, Secretaría de la Defensa Nacional.

(Source: Secretaría de la Defensa Nacional, 2000)

CPNS Responses to Disasters Since 1985

The following cases highlight the Federal response to human-caused and natural disasters since 1985: 1992 Guadalajara sewer explosion, 1992 Tijuana flood, 1994 Popocatepetl volcanic eruption, 1995 hurricane and earthquake, and 1996 Oaxaca hurricane.

1992 Guadalajara Sewer Explosion

In 1992, the Sector Reforma of Guadalajara was devastated by a series of sewer explosion that killed nearly 200 and injured over 1.400 people. Leaking gasoline from a Pemex refinery was identified as the cause of the explosions. The government was criticized for failing to evacuate the area after citizens reported the strong smell of gasoline fumes to public officials. Since Pemex is a government company, the Federal government faced a serious political problem. It attempted to diffuse the situation by removing its own party's governor from office and sending him to Guatemala to serve as ambassador instead of fulfilling his leadership and administrative responsibilities (New York Times, April 27, 1992; Macías and Calderón, 1994; Vera, 1994).

1993 Tijuana Flood

When disastrous floods hit Tijuana during the first week of January 1993, the National Action Party (PAN) was in control of the State. Mudslides devastated the squatter communities that had developed near the factories because there were no sewers or storm drains and garbage blocked streams. "'The soldiers came and asked us what happened, but nobody ever came back to help,' said Ruben Jimenez, 31, a bartender who was the only resident left on muddy C Street in the working-class neighborhood of Chula Vista" (Golden, 1993, January 22). Over 4,000 of the 5,000 displaced citizens remained in temporary shelters at the end of January as Governor Ernesto Ruffo Appel fought with the PRI President, Carlos Salinas de Gortari, over political control of disaster relief and the State. (Golden, 1993, January 22; Mancilla, 1994).

1994 Popocatepetl Volcanic Eruption

Ash spewing from the Popocatepetl volcano east of México City forces the government to evacuate 25,000 people in 16 communities. "Officials of the National Disaster Center said the decision to evacuate was a precautionary measure because it was impossible to predict how the volcano would react" (United Press International, 1994, December 22). Officials were not concerned

how people would react to being forcibly relocated by the military. Because local leaders were not included in the development of evacuation plans, government officials were unprepared for the massive pilgrimage to the volcano's edge, to the "living apostle of god," to leave gifts of food and ask the "angry 'Smoking Mountain' not to blow its top off" (CanWest Interactive, 1996, March 18).

1995 Hurricane and Earthquake

Hurricane *Roxane* struck the Yucatan Peninsula just two weeks after tropical storm *Opal* tore through the same region. The aftermath of these storms include over 30 people killed and 40 missing (Deutsche Presse-Agentur, 1995, October 17). On October 9, 1995, an earthquake measuring magnitude 7.6 on the Richter scale hit the western States of Jalisco and Colima killing nearly 40 people. In response, President Zedillo, who was on his way to the United States, sent the Secretary of Defense Cervantes to Jalisco to coordinate relief efforts (Dillon, 1995, October 10).

Despite the immensity of these disasters, not a single "zone of disaster" was declared by the President (Calderón, 1998). Apparently, the nationwide economic disaster that gripped México in 1995 took priority over Federal financial aid for natural disasters.

1997 Oaxaca Hurricane

Hurricane *Pauline* devastated much of the State of Oaxaca on October 8-9, 1997. Nearly 300 people were killed, 2,500 people were missing or displaced, and 10 people dead of starvation in the days that followed because disaster relief had not reached their villages (Agence France Presse - English, 1997, October 19; The News, October 20, 1997). By December 1997, the resort city of Acapulco was ready to receive tourists while over 2,000 people remained homeless in remote areas of the State (Deutsche Presse-Agentur, 1997, November 11; Teo, 1997, December 7). Months later, the social consequences of this disaster were still evident as people from diverse communities engaged in violent conflicts of scarce resources, including housing (Vera, 2004 forthcoming). Government intervention and support to resolve this situation was nonexistent because the CPNS had fulfilled its obligation to "restore order" immediately following this extraordinary storm.

Analysis & Discussion

The CPNS functions in a manner that gives the Federal government complete control over resources and their delivery. The extent of this control is evidenced by the President's sole discretion to decide whether a disaster exists (Rodríguez, 1999). The Interior Minister is the chief executive of the CPNS and NPC but the military exercises ultimate and immediate control of the Federal government's disaster responses. Its role is to restore order and all CPNS members, Federal, State, and municipal, take their orders from the military when disasters strike. Once order is restored to the satisfaction of the military, the various Federal ministries begin directing disaster responses that are appropriate to their functions.

The engineers and scientists that dominate the NPC take their orders from the mathematical and physical sciences and the military. They measured the level of gasoline in Guadalajara sewers and ignored local requests to evacuate the citizens. They measured the seismic activity on Popocatepetl while the military forcibly remove tens of thousands of citizens from their homes and communities without any regard for local customs and religious beliefs. They identified impassable roads and the lack of bridges as the cause of the starvation in Oaxaca.

The formal design of the CPNS originally embraced the ideas of citizen participation and intergovernmental cooperation through a network of Federal, State, and local government and civil organizations. Instead, the Federal government exercises centralized, technocratic, and bureaucratic control over disaster planning, responses, and resources. These observations reveal institutional and operational realities that deviate significantly from the design of the CPNS but are concomitant with the following beliefs and assumptions: (a) disasters are unpredictable events of limited duration and (b) disasters cause citizens to panic and engage in criminal behaviors. These beliefs and assumptions support an "orthodox" view of disasters and rationalize the current policies and practices of the CPNS. Opposing this view is a "holistic" perspective of disasters that would foster and support policies and practices more congruent with the participative and cooperative intent of CPNS's organizational design.

Disasters are Unpredictable Events of Limited Duration

The General Manual of Civil Protection (DOF, 1992) defines disasters as natural events concentrated in space and time, also known as the "orthodox" perspective. This perspective emerged during the Second World War, a time when the military produced and enforced the rules of civil protection and social

order (Dynes, 1999). This view holds that disasters are caused by external enemies who strike without warning.

Because authorities cannot predict when or where the next disaster may strike, they assume that centralized control over resources and centralized command structures ensure the most effective response. This belief supports the military's preeminent role as the first agency of government to respond to the "war-like" conditions of disasters. The military's command and control structures and its ability to deploy anywhere at anytime seem ideal for civil protection and the restoration of social order. Hewitt (1983) argues that the dominant view of disasters as unpredictable enemies rationalizes the government's militaristic response.

A "holistic" definition of disasters stands in stark contrast to the orthodox view: *Disasters* are the product of natural or man-caused triggering events and social relationships, political processes, and economic arrangements (Dynes, 1999; Lavell, 1994). This perspective holds that the so called normal conditions and arrangements that existed prior to a triggering event may either amplify or mitigate the adverse consequences of such events. Citizens in communities with greater political participation and access to resources are less adversely affected. Conversely, citizens in communities with less political participation and access to resources suffer more because they are more socially vulnerable (Blaikie, 1996; Hewitt, 1983; Wilches-Chaux, 1994.).

The holistic perspective proposes greater citizen participation in the development and implementation of disaster prevention and response policies and practices as a means of reducing social vulnerability. Pliego (1994) observes that under normal conditions governments respond to citizen complaints using standard procedures that have been established through social and political processes. However, to return conditions to their pre-existing normal state after a significant disruption, such as a natural or human-caused disaster, may be problematic because prior conditions may have contributed to the catastrophic consequences of the disaster. In such cases, society may demand new and innovative responses from government and oppose a return to the status quo. This was the case following the 1985 earthquake. In addition, long-term recovery programs may be required to deal with the psychological stresses, as well as, the physical consequences of a disaster (Bolin, 1985).

Disasters Cause Citizens to Panic and Engage in Criminal Behaviors

The orthodox view of disasters fosters a belief that citizens panic when attacked by a disaster and begin to engage in criminal behaviors, such as looting (Mancilla, 1993). This belief supports the military's preeminent role as the agency of choice to restore order. Again, its command and control

structures and its power to use deadly force seems perfect to deal with the inevitable disorder that accompanies disasters.

It is obvious that disasters disrupt the normal daily lives of citizens and cause them pain, suffering, and grief. It is less obvious why public authorities believe and assume that citizens will panic and engage in criminal behaviors following a disaster. Despite evidence to the contrary, for example, the citizens' response to the 1985 earthquake and decades of social scientific research (Nilson, 1985), government authorities send the military into disaster areas to prevent crime and restore order.

The beliefs and assumptions that underpin these two perspectives of disasters produce completely different public policy responses and require different institutional designs and structures to implement those policies. The Mexican government has demonstrated a belief in the orthodox view of disasters and has imposed centralized command and control policies and procedures on a decentralized, networked, organization design and structure. This perspective rationalizes the status quo and subordinates State and municipal governments and citizens to a technocratic Federal bureaucracy led by an all powerful and controlling military.

It is obvious that the institutional design and organization of the CPNS is incapable of changing this situation. What is needed is the adoption of a holistic perspective of disasters. Then, the design and organization of the CPNS can begin to function in the manner envisioned at its inception. A holistic view of disasters explicitly acknowledges the importance of social and political relationships and economic arrangements in mitigating the adverse consequences of natural and human-caused triggering events and embracing community-based responses to disasters. It explicitly acknowledges that the social sciences are as important as the engineering and physical science in disaster research, education, and prevention.

Conclusion

We have described what we believe is the crux of the conflict between the institutional design and organization of the CPNS and its policies and practices in action. The CPNS was created in response to citizen demands for greater participation in disaster prevention and response. The potential for intergovernmental cooperation and citizen is evident in the organizational charts of the CPNS and NPC. Yet, in practice, as demonstrated in the disaster case studies, there is a clear disconnect between design and actions.

The democratic impulses that shaped the decentralized policy network and implementation structure of the CPNS continue to transform México's political culture and institutions. The CPNS, unlike many Federal agencies, does not need to reorganize or restructure in order to accommodate greater democratization. The must overcome a more difficult challenge: Transform the beliefs and assumptions upon which it operates. The CPNS is uniquely structured to lead a national dialogue on holistic disaster planning and prevention between government and social organizations at all levels. The networked world¹ makes it possible, as never before, to foster and support an ongoing national conversation. The CPNS is uniquely positioned within the Federal structure to serve as a model for citizen participation and intergovernmental cooperation that can inform changes in the institutional design and organization of other Federal agencies.

¹ The networked world refers to the internet-based information and communication technology infrastructure that can support the exchange of information, ideas, and knowledge between people who share common interests, responsibilities, problems, etc. The idea here is that the Federal government through the CPNS can organize all of the members into online communities that discuss general and specialized topics. These communities can exist for short- and long-term periods and can be led by experts in government, universities, and other sectors that can facilitate conversations, conduct surveys, and report to the President and/or his representatives. Some face-to-face interactions between community members should be part of the process but most of the interactions can take place online. Using the networked word metaphor may provide a rationale for the administration to take action because the idea of online communities of interest and practice in this context is new. It is plausible to argue that the original network design of the CPNS can now be realized in a way that was not possible in the past.

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