Geography Papers
2015, 61
doi:http://dx.doi.org/10.6018/geografia/2015/218121 ISSN: 1989-4627

THE USE OF LONG-TERM STUDIES FOR THE ANALYSIS OF THE IMPACT OF IRRIGATION OVER SOCIAL ORGANIZATION. THE CASE OF THE DUTCH DRAINAGE AND DAMS ASSOCIATIONS CALLED *WATERSCHAPPEN*

Jacinta Palerm Viqueira
Colegio de Posgraduados de México

The debate on the link between civilization and irrigation, on the so called "hydraulic hypothesis" (understood as required State administrated irrigation), evidence documenting the existence of self-managed organizations was sufficient to overturn the hypothesis.

In this work, we take another look at the self-managed organizations so as to explore why strong, long-lasting self-managed organizations have developed in some world regions, but not in others. The answer, according to Sengupta (2002), lies on the existence of a consistent, long-lasting legislation that recognizes irrigators' organizations. This approach although promising, requires case studies with historical depth.

THE CHARACTERISTICS OF SELF-GOVERNED ORGANIZATIONS

The so called self-governance organizations have a spectrum of cases ranging from, at one end, cases characterized by a non-hierarchical (can also be named as heterarchy type or anarchistic) management as well as based on local knowledge; at the other, cases characterized by an management in the hands of an agro-managerial bureaucracy, and thus hierarchical.

There is an important, qualitative difference between small and large irrigation system organizations, irrigation systems over 15-20,000 hectares have an agro-managerial bureaucracy whereas smaller ones may have a non-bureaucratic and non-hierarchical organization.

SELF-GOVERNED ORGANIZATIONS AND THE STATE: SYNERGY, NEGOTIATION, RESISTANCE

In *"... and the desert shall rejoice*", Arthur Maass tackles the subject of negotiation and resistance of organizations vis-à-vis the State. He selects cases (from Spain and USA) in which the State had built a large work, to analyze whether it had led to a situation of control (authoritarian-despotic) by the State over the irrigators. What Maass found was that the governance of the irrigation systems in in the hands of the irrigators themselves, that their organizations were democratic and that the irrigator's successfully negotiated with the State.

However, in precisely both regions that Maass selected have had a long-term legislation in favor of self-governed organizations. In contrast, the bargaining power of irrigator organizations in Mexico has been was very limited, and the State suppressed water boards and expanded the management by the State. However recent studies show that irrigator organizations in Mexico persisted although as informal organizations.

THE DRAINAGE AND DAMS ASSOCIATIONS FROM NETHERLANDS CALLED *WATERSCHAPPEN*

The case study that follows, is an historic long-term case study based on a literature review, and belongs to the drainage and dams organizations of the Netherlands called *waterschappen*, whose history goes back to the medieval period and with of history of resistance vis-a-vis the State. However, since 1953, significant changes begin to take place, so that currently the organizations are governed by elected representatives, but the chairman of the executive committee is appointed by the State. The *waterschappen* through aggregation or consolidation, were reduced from 2,500-3,000 to 20 and also took over new tasks (e.g. treatment plants). The Netherlands's Constitution defines the *waterschappen* as a level of public administration with specific functions. In other words, they have been centralized in the State.

Centralization justification. The immediate story begins with the 1953 flood. The blow to the prestige of the *waterschappen* was great, and it broke the resistance of the so called farmers' republics to the State. To cope with the flood, the 'Rijkswaterstaat' (National Water Agency) implemented emergency measures. New investment towards repair of damaged infrastructure was paid by the State and by *watershappen* borrowing. The argument in favor of the increase in size was based on the financial capacity needed for maintenance, professionalism and coordination issues that supposedly failed, causing the flooding.

The size or scale of the *waterschappen* increased significantly after the flood of 1953. Since the 1970's, the *waterschappen* also took over new water-related tasks, which required of a larger scale. There do not seem to be major challenges to these changes, neither by farmers nor researchers.

Bureaucratization of maintenance and operation? Was the breakdown of the farmer's republics linked to a replacement by hired workers of direct participation of farmers in maintenance and operation tasks, thus whether there was a pre-consolidation bureaucratic management.

In this regard, the recruitment of personnel and specialists for maintenance seems to have been a long tradition. However, direct participation remained important in the early XIX century, in emergency situations and maintenance, as is evident from the following: "*On the 13th of January, 1811, the officers of the Dike Board (...) installed themselves in their headquarters (...) Melting river ice and high water on the river had called them there (...) They had already mustered their ''dike-army," composed of at least one able-bodied male between the ages of 16 and 60 from every household of the dike-district, including servants and field-hands. The men came armed with hoes, shovels, horses and wagons…"*

The same author suggests a high participation in maintenance, as in the following accounts: "*... to ensure equity in the burden of upkeep (...) a portion of the water board's total dike-length to the various landholders in proportion to the size of their landholdings."* The village of Hellouw on the Waal "*was responsible for some 3.5 km of mainline dikes along the Waal. Up to 1779 maintenance duties were reapportioned among the village property owners every 6 years; thereafter every 10–14 years.*"

Origins of self-governed organizations and relationship with the State. From the second half of the XX century, there is a rapid process of reconfiguration of the *waterschappen* making them a part of the State. This process is striking in light of a long history of resistance to centralization.

The dikes and drainage organizations made their appearance on the coast extending from Pas de Calais in France to the Friesland region in Germany around the XI century. The feudal lords granted their permission to settle and, from the beginning, the peasants were free.

In 1169, Count Philip of Alsace created the first Water Ring, and by the end of the XV century and beginnings of the XVI, broader regional associations, covering areas ranging from 10,000 to 40,000 hectares appeared. Although there is a strong association between princes and regional

associations, the peasant associations were typically autonomous, and had the capacity to protest and negotiate.

Both in 1581, when the Netherlands declared independence and formed the Republic of the Seven Provinces, and in the early eighteenth century, when the Netherlands were incorporated into the First French Empire under Napoleon Bonaparte, the *waterschappen* resisted centralization, despite the growing need for cooperation to achieve a coordinated management of the rivers.

On the other hand the "Rijkswaterstaat" (National Water Agency), created due to Napoleonic influence, gained relevance over time. In the nineteenth century, it was involved in very important activities to improve the rivers, and after the flood of 1953, it was in charge of the Delta Works to prevent flooding by storms from the sea.

CONCLUSION

A favorable legal framework towards the self-organization for the governance of dikes and drainage is present in Dutch history at least until 1953. The organizations are, initially, peasant led and had a non-bureaucratic management; the capacity of the peasants to team up and manage large geographical areas seems fascinating.

With this history, the changes devolving from the 1953 flood are surprising; the reduction in the number of *waterschappen* resembles the process in the province of Mendoza, were the *inspecciones de cauce* (irrigators' organizations) were unified. The trend is towards the substitution of vernacular local knowledge by academic knowledge, and the development of an agro-managerial bureaucracy. With this, the local knowledge systems, technical as well as organizational, are replaced.

The global context of preference of a professional staff for operation and management makes mandatory the analysis of governance, of decision-making, of strategies to avoid the concentration of power, and, particularly, of strategies to control the agro-managerial bureaucracy.