

## Article

# Contested Dam Development in Iran: A Case Study of the Exercise of State Power over Local People

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**Abstract:** In this article, we address the interaction of the Iranian State, an agent of power, with affected village residents, as four dam projects are planned and implemented. Dams, recently positioned as a green energy source, are a central component to Iran's national development strategies; yet historically their construction has been a source of significant conflict and resistance around the world. We focus on ten villages facing displacement or partial loss of lands at the time of the research, and we answer the question: During dam building and resettlement processes, how have residents experienced their role in decision making and the exercise of state power over them? Through a lens of political ecology, we engage with Lukes' theory of power to interpret data from 18 focus group discussions and 20 in-depth interviews with residents, as well as from 10 interviews with local and state authorities. This case study illustrates how, from the perspectives of residents of rural communities, the Iranian State applies its power over them through multiple, simultaneous means. Coercion, non-decision making, and the withholding of information emerge from analysis as the primary successful mechanisms, while discursive consent-production emerges as largely unsuccessful. We demonstrate how lack of data or other information provision for natural resource development projects can be an important lever the state uses to exercise power, especially when combined with non-decision making. Although all Lukes' dimensions of power apply to this case, non-decision making was most severe in its experienced effects, as residents suffered from uncertainty and an inability to move forward with individual plans. Our research provides insight into how conflicts over state-sponsored dam building can embody the contest between a sustainable development centered on justice/equity and one centered on economic growth.

**Keywords:** power; dams; sustainability; local communities; Iran

## 1. Introduction

Dam projects are common, large-scale development projects to generate energy, increase urban water supplies, facilitate irrigation, and support agriculture and industries. More recently, they have received attention as sources of renewable energy and the role they might play in national sustainable development strategies [1–4]. However, potentially positive benefits of dam projects are offset by their numerous costs to local communities, local aquatic ecosystems, and the broader environment. In many cases around the world, dams have caused environmental degradation for nearby communities [5–7]. Importantly, dam construction also has resulted in the displacement of people from homes and lands. Associated resettlement is usually involuntary and unpleasant, especially for disadvantaged and politically voiceless peoples [8–14].

In Iran, large dam projects increased in number after 1979, in the name of development, to such an extent that Iran gained the dubious distinction of third in the world for dam construction in 2012 [15]. Dams as representations of modernization [16] were recognized in Iran as 'physical symbols of

advancement and “self-sufficiency” [17] (p. 27). With the high rate of dam construction in Iran, many communities have been displaced, and dams have caused conflicts between impacted communities and the state. This article addresses the interaction of the Iranian State, as an agent of power, and local community members, in dam project decision making. Research focusses on ten villages whose residents were scheduled to be displaced or to lose some part of their lands (at the time of the research) and seeks to answer the question: During dam building and resettlement processes, how have residents experienced their role in decision making and the exercise of state power over them?

The various costs of dam building have generated conflicts over dams as development projects, due to differences in the distribution of costs and benefits and in the valuations made by different actors. In his conceptualization of sustainable development, Campbell [18,19] identifies three types of conflicts that arise from clashes between generalized environmental, economic, and social justice interests—property conflicts (economic vs. social justice interests), resource conflicts (economic vs. environmental interests), and development conflicts (environmental vs. social justice interests). The case of dam building in Iran presents an excellent opportunity to explore these conflicts in a non-Western and non-liberal-democratic context. While sustainable development purports to achieve a balance between economic, environmental, and social interests [18,19], the weighing of often competing interests is fundamentally subject to the exercise of power by actors who experience the costs and benefits differently. For Campbell, although there are contradictions and tensions between economic, environmental, and social interests, sustainability results from technocrats engaging in an ongoing planning process to resolve these conflicts and balance the competing interests. Our study considers dam development in Iran in conversation with prevailing sustainable development conceptualization as represented by Campbell, with an eye trained firmly on the question of state power, its exercise, and how that power is experienced in communities negatively impacted by dam development.

The study also explicitly engages with Lukes’ theory of power [20,21] to examine how the Iranian State has applied different dimensions of power in its interactions with affected communities. Iran’s centralized statist system can easily lead to the assumption that coercive power is the only or primary form of power exercised in these interactions. But this case study demonstrates how different dimensions of power, not just coercion, have been applied to dam-related conflicts with local communities. It also makes evident the contest between a sustainable development centered on social justice and equity and one centered on economic growth and renewable energy development. This study therefore shows how Lukes’ theory can be applied to environmental and sustainability issues and how multiple dimensions of power are exercised in development and sustainability projects to counteract the interests or desires of less powerful actors. In this sense, this study presents an alternative view to Campbell’s view that planners can act in effect as adjudicators among conflicting interests to achieve balance, and instead sees the exercise of power among differently positioned actors leading to outcomes that preference the interests of the more powerful—in this case, the Iranian State. After reviewing the literature and theory, we introduce our research cases and qualitative methods. We then discuss our findings in terms of main themes emerging from our analysis to demonstrate how the Iranian State’s exercise of different dimensions of power has marginalized local people in different ways.

## **2. Dam-Building as (Sustainable) Development**

### *2.1. Dams as National Developmental Projects with Local Costs*

Dams are hydraulic projects frequently used as indicators for development [9,22–24], and they figure prominently in national narratives of development, including now in those of energy independence and sustainability. However, the narratives of local communities around these projects are often different from the national narratives of development and focus on bearing the costs while being excluded from the benefits. Negatively impacted residents suffer from what Collins [25] calls the price for progress or development. The World Commission on Dams [26] states that by the year 2000 about 40–80 million people had experienced forced resettlement and other millions of people

faced economic and social problems and the loss of their livelihoods. The number of people paying this ‘price for progress’ may be even higher. Hemadri [14] estimates that during 50 years in India alone about 50 million people were displaced due to construction of dams of various sizes. The empirical literature on the negative consequences of dams and associated displacement is extensive, and studies have emphasized a variety of dimensions, including economic/livelihood, social, psychological, physical health, cultural, and environmental problems (Table 1).

**Table 1.** Negative consequences of dams for local people, from the empirical literature.

Dimension	Identified Problems or Difficulties	Identifying Studies
Economic/livelihood	<ul style="list-style-type: none"> <li>• Limitation or loss of access to water resources</li> <li>• Landlessness and joblessness/loss livelihood</li> <li>• Food insecurity</li> <li>• Marginalization</li> <li>• Under valuing compensation to individuals and families, or not fair or no compensation</li> <li>• New poverty/impoverishment</li> </ul>	[9–14,26–31]
Social	<ul style="list-style-type: none"> <li>• Disruption of social networks</li> <li>• Lack of necessary information to and consultation of the people being displaced</li> <li>• Exclusion of individuals and communities involved, and local people must accept a passive role in the process</li> <li>• Lack of comprehensive plan for restoration and rehabilitation of communities</li> </ul>	[9–11,14,26,30]
Psychological and physical health	<ul style="list-style-type: none"> <li>• Increasing rate of stress</li> <li>• Increasing rates of various illnesses and increased mortality</li> </ul>	[9,12–14,26,27,29]
Cultural	<ul style="list-style-type: none"> <li>• Loss of identity</li> <li>• Loss of rural lifestyle</li> </ul>	[9,10,12–14,26,30]
Environmental	<ul style="list-style-type: none"> <li>• Negative impacts on environment and natural resources through environmental destruction</li> <li>• Instigation of new hazards and ecological risks</li> </ul>	[9,10,27,32]

Dams’ negative consequences lead to deprivation and wellbeing losses for impacted local people across these multiple dimensions, often without adequate compensation and participation in political processes. Jackson and Sleigh [29] document how in China, for instance, millions of people have been displaced and impoverished because of dam projects, with no serious effort to support them. Local people were not involved in the decision-making process, with socio-economic costs of dams imposed externally. About 40 percent of impacted farmers lost fertile lands without any reimbursement or land replacement. Other farmers received poor lands. Many people lost their jobs, and those who migrated to cities often could not find jobs. Psychological stress and diseases from ecological changes became serious threats to public health. People’s access to and control of water was limited or cut off. These impacts demonstrate how dams exposed affected communities to new suites of vulnerabilities.

Examining dam projects in Malaysia, researchers highlight various socio-economic and cultural costs for local people [9]: Social disintegration, poverty and expropriation of land and water, environmental degradation, and natural risks were identified consequences. Deprivation and powerlessness of local communities resulted either directly from the effects of dam projects, such as through the loss of water resource and land rights, or indirectly, from declines in fish caught, livelihood prospects, and water quality. Aiken and Leigh [9] assert that it is hard to say that the local people received the benefits of the constructed dams due to the suffering induced by the high socio-

economic costs. Huber and colleagues [32] emphasize the ecological risks of dams, arguing that the negative impacts of dams on environments and natural resources have been ignored due to power asymmetries and the accrual of benefits to specific groups. Indeed, there is widespread evidence in the literature that, worldwide, dams as iconic development projects have carried heavy local costs. Dam construction in Iran has followed the same, or an even more extreme, pattern, but little research is available.

Although many of the studies identifying heavy local costs have focused on larger dams, small hydropower projects may present similar questions of interest conflict. One study on conflicts over small run-of-river hydropower (SHP) developments in Turkey shows that while these water projects are supposed to follow principles of sustainability and are classified as renewable, climate-neutral, and environmentally friendly, SHP have caused serious negative impacts on water resources, ecosystem health, and social justice. Indeed, researchers found that SHP economic development interests took precedence over social and environmental ones [2].

## 2.2. State-Sponsored Mass Construction of Dams in Iran: Development or Destruction?

After 1979, the Iranian government increased dam construction [33]. Dam construction, as an indicator of progress or development, accelerated particularly after 1989, when the Iranian government moved to become part of the global market. In 2012, one of the consultants to the Minister of Energy proudly referenced Iran's third-place world rank in number of dams [15]. In that year, Iran had 316 dams, but by 2018, the number had risen to 647, and this number will soon reach 1330 dams [34].

This passion for dam construction has created many environmental and socioeconomic challenges, and even crises, for Iranian society. In Iran, dams are one of the main factors leading to environmental degradation of aquatic ecosystems and to the evaporation of about 5 billion cubic meters of renewable water [7]. Many lakes, including Lake Urmia, the third largest salt-water lake on earth, are drying up because of damming [6,35,36]. In contrast to the prevalent claim that dams are a solution to water crises, evidence suggests in Iran they are one of the reasons for water crisis [37]. Environmental experts argue that these dams are one of the main reasons for recent drought due to impacts on wetlands, groundwater, and forests [17,38,39]. For example, one official in Iran's Department of Environment relates that the construction of the Shafarood Dam in Gilan will destroy 93 hectares of forest [40]. Moreover, dams have imposed many social and economic costs on local people, including relocations and loss of agricultural lands, products, and jobs [33,41].

At the same time, electricity-generating dams are included in assessments of Iran's green energy infrastructure: "Iran already has the largest green energy footprint in the Middle East. ... Iran had 10,606 MW of renewable energy [including dams] generating capacity in place in 2016" [42]. However, there is no indication of a technocratic balancing of ecological, social equity, and economic interests in Iranian State narratives around dam construction. The focus is instead on a modernity equated with economic development that may in fact obscure the economic interests of very specific actors. Some environmental experts believe that the explosion of state-sponsored dam building results from the economic benefits these dams provide for government-owned companies that are involved in their construction [43–45]. In order to understand how the Iranian State has moved these dam projects forward, despite the heavy costs for affected local communities, examining the case through the lens of political ecology is helpful, as it focuses attention on the questions of power.

## 3. Three-Dimensional Power in a Political Ecology of Dams and Associated Resettlement

Scholarship on the relationship of power to dam building has a long history, dating at least back to Wittfogel's [46] thesis linking large-scale irrigation systems to the rise of autocratic and authoritarian states. A more recent focus on power can be found in the field of political ecology. Researchers applying this lens have focused on the impacts of dam construction on water rights and access, resource governance, land and livelihood loss [9–14,26–31]. A political ecology lens allows for the analysis of the complex interaction of society and power in control and management of natural resources. Political ecology research has explained the systematic power relationships that shape

decision-making processes related to environmental changes and has focused on the hegemony of the state in these relationships [9,47,48]. This research also has shown how the exercise of political power can create environmental risks and social vulnerability and how unequal power in access to resources can cause differential vulnerability along social lines of class, gender, and ethnicity [9,47]. Regarding dam projects and forced resettlement, research using a political ecology lens considers different dimensions of power in the control of water and dam projects and examines conflicting interests and the interactions of state actors, market conditions, and local communities [27,32,49,50].

Political ecology also emphasizes the question of winners and losers in the exercise of power in environmental governance [47]. Although the ability of the state to enact dam projects and the resulting further marginalization of the already-less-powerful, with clear winners and losers, come into clear relief in this research, this work often does not systematically unpack how this power is exercised by the state. This study starts from a consideration of three dimensions to the exercise of power, drawing on Lukes [20,21]. It explains the ways that power is exercised in state-sponsored dam construction, with specific attention to the interaction of the state with residents of negatively impacted communities. Lukes' theory, which both critiques and bridges work by others [51,52] to theorize three dimensions of power, can provide an initial conceptual framework for a more comprehensive consideration of how power is exercised in these interactions.

Lukes [21] reflects that one of the most visible ways power is exercised is when A affects B in a manner contrary to B's interests (following Dahl's [51] formulation). In this observable behavior, power is 'the making of decisions on issues over which there is an observable conflict of (subjective) interests seen as express policy preferences, revealed by political participation' [21] (p. 19). This first dimension of power 'is totally embodied and fully reflected in concrete decisions' [21] (p. 20) and is the dimension we most associate with coercive state power. Lukes emphasizes that in a second dimension of power (building on Bachrach & Baratz [52]), power is non-decision making and agenda setting. A non-decision refers to a decision designed to avoid the emergence of interests of groups that are not in power. Indeed, according to Lukes, the exercise of power in this case "involve[s] inaction rather than action" [21] (p. 50). In this dimension of power, as Bachrach and Baratz [52] argue, non-decision can be simply neglect or ignorance, when the agenda setters or decision makers do not act, and as a result, dissent cannot coalesce. This second dimension of power emphasizes how non-decision making has real potential for suppression of dissent and, therefore, can benefit the interests of the decision makers and control others.

In his discussion of a third dimension of power, Lukes [21] highlights the exercise of power beyond individual levels, using Marxist perspectives to show how power can be exercised through civil society, social forces, and institutional practices at structural levels. Lukes reflects on how this power can shape thoughts and desires and control preferences. He also illuminates the concept of domination and applies Gramsci's view [53] on how domination is secured through consent. In his later work, Lukes sees this dimension of power as domination as well, but, drawing on Bourdieu's work [54–56] on symbolic power, he believes power here is internalized and becomes part of people's habits; indeed, it comes to resemble a norm and hides the articulation of objective (or real) interests (In his second edition of *Power: A Radical View* [21], Lukes revisited his arguments from the 1974 first edition [20] and reflected on them in relation to more recent work by other social theorists like Bourdieu). As a result of this exercise of power, hegemonic social structures create 'false consciousness' that contrasts with real interests. However, determining real interests as different from expressed or perceived interests remains challenging for empirical research on power.

A number of researchers have engaged Lukes' conceptualization of three-dimensional power in the context of natural resource management/conflicts. Raik and colleagues [57] apply Lukes' theory by developing what they call a 'realist view' of the agent-structure relationship in natural resource management. First, they articulate an agent-centered view in which power has been understood as coercion and constraint; in this view, for example, coercion is when resource managers have power to make decisions regardless of local people's desires, and constraint is when resource managers use knowledge or discourse to control and limit negotiations and dialogue. In a second step, Raik and colleagues [57] identify a structural view of power in which power has been produced by a social

structure of consents and norms, and in some cases, these social structures do not let people perceive their objective interests. Raik and colleagues consider the practice of establishing avenues for local participation in natural resource management decision making:

The structural interpretation of power is present in the practice of natural resources management. Much of the justification for encouraging local participation in management of natural resources stems from the idea that local people are disadvantaged based on their social position. Social stratifications are such that government officials and nongovernmental organization (NGO) staff are more “powerful” than local, resource-dependent people [57] (p. 735).

In their realist view of power, they assert that ‘both the social structure and the agent emerge as units of analysis that interact and depend upon one another’ [57] (p. 736), and social relations of power are key to the exercise of power in decision-making processes for natural resources management. Moreover, Raik and colleagues include consideration of conflicts in natural resource management not only between the state and local people but also between different sets of local people. They additionally highlight the decentralization of power within natural resource management, with emphases on law enforcement, rule monitoring, etc. They stress that ‘power is thus the capacity to act within preconditioned, structured social relations ... [But] we do not have empirical evidence to describe how the realist view may be used to interpret professional practice in the natural resources field’ [57] (p. 736).

Brisbois and De Loe [58] use Lukes’ conceptualization of power in their systematic review of research addressing power in collaborative approaches to water governance. They show the important role of power in collaborative approaches but emphasize a lack of research clearly identifying the relationship between different types of power. Indeed, according to these authors, forms of structural and discursive power are not clear in the reviewed studies. In another study, Partzsch [59] examined environmental politics research for treatment of several topics, including the exercise of power. She shows that the research reflects an understanding of power more as coercion than any other aspect. These reviews illustrate the need for researchers to broaden treatment of power to further our understanding of the multidimensional exercise of power in environmental governance. Lukes’ three-dimensional conceptualization of power can help shed light on the different ways local people experience and understand the exercise of the state’s power and hegemony in water resource management, dam projects and their own resettlement. The research we report here explores how power, in its different dimensions, has been applied in ten Iranian communities in relation to dam building, compensation for villagers, and associated displacement and provides empirical evidence to extend Raik and colleagues’ application of Lukes’ theory to natural resource management and environmental concerns, including in non-Western and non-liberal-democratic contexts.

#### 4. Cases and Sites of Study

This article focuses on ten villages that have been affected by four different dams in Iran. The four dams are the Doosti Dam on the Hariroud River in East Iran, the Ardak Dam on the Ardak River in Northeastern Iran, the Namroud Dam on the Hableroud River in North Iran, and the Seimare Dam on Seimare River in West Iran. The location of the study dams is shown in Figure 1. These four dams share some characteristics but also are quite different in size and purpose (Table 2). Of the ten impacted communities in this study (Table 3), seven are affected by the Seimare Dam (the largest dam included in the study) and three, by each of the other three dams.



**Figure 1.** The location of the study dams in Iran.

**Table 2.** Features of the four dams.

Name	Location	Situation at Time of Study (Study Year in Parentheses)	Reservoir Volume	Dam Purpose
Seimare Dam	Ilam Province	Dam under construction (2012)	One billion and 500 million cubic meters (4th largest dam in Iran)	Generation of 480 megawatts of electricity/hydroelectric power generation
Doosti (Friendship) Dam	On the international border between Iran and Turkmenistan (shared project for the two countries)	Completed dam project (2008)	1250 million cubic meters	Drinking water for Mashhad City; irrigation water for agriculture in region
Ardak Dam	Near Mashhad City	Dam almost ready (2008)	30 million cubic meters	Drinking water for Mashhad City; industrial and agricultural uses in the area
Namrood Dam	Tehran Province	Dam under construction (2006)	11,905 million cubic meters	Drinking water, agricultural and industrial uses for Firuzkuh City and two other counties in northern Iran

**Table 3.** Situation and location for 10 villages impacted by the four study dams.

Name of Village	Affecting Dam	Impacts of Dam on Village	Population of Village	Location County	Economic and Livelihood Context
Zahir-e-Oulia	Seimare	Losing part of rural and agricultural land	160	Sirvan	Agriculture, gardening and animal husbandry

Zahir-e-Sofla	Seimare	Losing part of rural and agricultural land	490	Sirvan	Agriculture, gardening and rancho (animal husbandry)
Cham-e-Jangal	Seimare	Losing part of rural and agricultural land	300	Sirvan	Agriculture, gardening and rancho (animal husbandry)
Dar-e-Balut	Seimare	Resettlement	110	Sirvan	Agriculture, gardening and rancho (animal husbandry)
Cham-e-Rood	Seimare	Resettlement	565	Sirvan	Agriculture, gardening and rancho (animal husbandry)
Cham-e-Shir-e-Oulia	Seimare	Resettlement	130	Sirvan	Agriculture, gardening and rancho (animal husbandry)
Cham-e-Shir-e-Sofla	Seimare	Resettlement	570	Sirvan	Agriculture, gardening and rancho (animal husbandry)
Kalat-Gus Al-din	Doosti	Resettlement	76	Torbat-e-Jam	High levels of extreme poverty; most people receive charitable support from the state
Mian-Margh	Ardak	Resettlement	159	Mashhad	Animal husbandry/agriculture and livestock farming
Sole-Bon	Namrood	Resettlement	195 in winter/500 in summer <sup>1</sup>	Firuzkuh	Semi-subsistence farming

<sup>1</sup> People come to the village for agricultural activities in the summer, while during the winter they live and work elsewhere, like Firuzkuh City.

## 5. Research Methods

We used a phenomenological case study approach to reach an interpretation of the exercise of state power based on the experiences and interpretations of the local community residents with respect to the decision-making processes for the four different dams. Creswell [60] states, ‘a phenomenological study describes the common meaning for several individuals of their lived experiences of a concept or a phenomenon. Phenomenologists focus on describing what all participants have in common as they experience a phenomenon’ (p. 76). In this study, a phenomenological approach allows for focus on the narratives and perspectives of residents whose lives have been changed by the dam projects.

The data collection consisted of 18 focus group discussions (FGDs) in the ten villages. The number of FGDs varied among villages due to population differences (e.g., for Mian-Margh, only one FGD was conducted, but for Sole-Bon it was four FGDs). Some FGDs were held in the village mosque, either with women and men in the same group or, sometimes, with separate groups for women and men. Researchers asked the village council to invite adult residents to FGD meetings held in the local mosque, with public call by tribune (pulpit) of the mosque. A few FGDs were conducted in villagers’ houses. In each group, there were between 10 and 15 participants. Because higher numbers of participants can have a negative effect on discussion, researchers tried not to have more than 15 participants in each group. If more people came to the meeting, we asked them to participate in a second meeting. In addition to the FGDs, researchers conducted 20 in-depth interviews with people in Sole-Bon (n = 6) and the villages affected by Seimare Dam (n = 16) as well as from 10 interviews with local and state authorities. These interviews targeted informed individuals with knowledge of the processes of interest and specific experience with community-state interactions. Interview participants were selected through deliberate criterion snowball sampling, in which interviewees suggest other informed individuals for interview. Interviews continued until saturation [60]. Finally,



researchers had several informal meetings with the rural councils and several formal meetings with state authorities.

The topics discussed during FGDs and interviews included dam construction, resettlement, the decision-making process, and the role of local people in decision making. Participants were asked to express their own interpretation of the history of the dam's construction and its consequences for their community. They were asked to discuss their reactions to these consequences, benefits and costs of dams for their community, their access to information and related studies and plans, their compensation experience, their livelihood situation, their interactions or communications with authorities, meetings that they attended (if any), and their perspectives on the management of water resources or water rights after the dam's construction. The timing of data collection for each dam was different, with the Seimare Dam in spring of 2012, the Namrood Dam in summer of 2006, and the Ardak Dam and the Dossti Dam in winter 2008. The cases vary in terms of when research occurred relative to dam completion (see Table 2), with two dams already or nearly completed and two still undergoing construction. Data collection occurred in the context of the first author's nonacademic employment in Iran. As a result, no U.S. IRB protocol was submitted for this study. Data collection was instead conducted under uncodified professional research norms in Iran, with oral consent obtained from each research participant. In the analysis process, after transcription of collected data, researchers developed, coded, and interpreted classification themes [61,62] related to the objective of the study. The themes identified emerged from the common experiences, opinions, and discussions of research participants, as coded and categorized from FGDs, interviews, and meeting notes.

## 6. Research Findings

In relation to the research questions, the following five themes emerged from participants' common experiences and understandings. These themes illuminate the different forms of power that participants experienced in relation to the dam projects and their understanding of their role in decision making.

### 6.1. Local Residents' Exclusion from Access to Information

Information is a basic and important item for social action and interaction. Moreover, the information that flows in social networks and systems can enhance social trust and participation in society [63–65]. However, in all group discussions, participants strongly articulated the belief that they did not get basic information during the construction of the dam, about the plans for the dam project and the dam's anticipated consequences for local residents. Controlling information or presenting distorted information or knowledge can show an asymmetric distribution of power [66–68] or can be a form of exercising power. This theme can be divided into two subthemes: (1) exclusion from information on the dam project, its construction, and changes in rights to water resources; and (2) insufficient information on resettlement and compensation.

#### 6.1.1. Exclusion from Information on the Dam Project, Its Construction, and Changes in Rights to Water Resources

Participants mentioned that they did not have access to information on the dam that changed their lives. As one of them stated, 'We do not know anything about the project; just they told us this is something that government wants; that is only information that we have.' Residents argued that from the beginning of dam construction, they systematically were excluded from the decision-making process, meetings, and council sittings. One woman shared, 'Just one day, we heard that they [the state authorities] want to make this dam, but nobody cares about us; nobody asked us anything and they didn't tell us anything.' Local people did not have access to basic information and plans regarding the dam project, construction schedule, new management of water, benefits and costs of the project, and their role in this process. An elderly villager said, 'This is our ancestral land and water, but no one talks to us about the plans for this dam. We do not know what is happening to us' Research participants experienced this exclusion as intentional. In one of the FGDs, a villager said,

‘Some of our people were working in the construction of the dam project. We could get information from them, but the authorities did not want us to know anything about the dam, so our people were expelled from the project.’ The decision to not use labor from impacted communities deprived people of access to the benefits of the project, but more importantly, it cut off access to information.

In all groups, people stated that they did not know essential information about the dam. The dams have changed their lives and surrounding environment and have changed directly the control of water resources that villagers historically controlled. One of the main concerns that emerged relates to villagers’ share of water resources or their new water rights. They did not know what would happen to their traditional share of the river or their former water right. In an illustrative FGD, one participant shared, ‘We should know about our water; this water is for us. They [the dam’s authorities] say our water will be more after dams. But we have heard that they are sending this water to other places. How can it be more then?’ Another then said, ‘We need to get information about our water rights or at least the price that they want to pay to us for leaving here.’ Moreover, there was not any specific place where local people could access data and information about the dam. In response to our question on where they could go to get information about the project, local people agreed that there was ‘nowhere,’ ‘god knows that,’ and ‘nobody thinks we have a right for that.’ The only information local people were given was that the water would be for drinking and agriculture in other places. Residents wanted to know the timeline for dam construction or for their resettlement, potential benefits of the dam for local people, and its consequences for their own environment. Moreover, none of the participating villagers had access to expert evaluations of the projects or to social or environmental impact assessments, if there were any conducted.

#### 6.1.2. Insufficient Information on Resettlement and Compensation

In the cases with certain resettlement, participants expressed that they did not have enough information about these plans, even across spans of many years. In one village, a research participant related that, ‘It has been about 10 years that we do not know when, where and how we should go, and this is our nightmare.’ Participants shared that, for several years, they have been confused, because they do not have any information on when resettlement will occur, and they cannot see any sign of a coherent resettlement plan. At the time of the interviews, they were unaware of any relocation details at all, and, as a result, they were nervous, angry, and distrustful of the state, local institutions, and the company responsible for the dam. One participant said, ‘When you do not know what it will happen for you, you will get angry.’ Another stated, ‘Swear to God, this is a torture for us; we do not know what we should do.’ They explained that recently some locations had been proposed for the creation of a new or relocation village, but that people had not been informed about these locations, nor had they been part of the decision-making meetings. In general, participants broadly related that they did not have access to any information about dam resettlement or their compensation. In an FGD, one attendee discussed this failure to provide resettlement and compensation information: ‘We do not know how much would they pay to us? They should say to us how much and how they will pay us to leave our lands and water, but they have not done this.’ Others added, ‘If we should go to new village and they want to make that to us, they should have started this many years ago,’ and, ‘It seems that they just want to make us tired so that we leave here.’

#### 6.2. Local Residents’ Lack of Voice and Lack of Benefit

When the fieldwork was conducted, there had been no public meetings for these projects. In all the FGDs and interviews, participants relayed the feeling that the decisions were made without their input. A central idea was repeated over and over—that the dam would have many benefits for others but only misery for them. These two ideas were frequently linked, that they had no voice and that the dam would not serve their interests. In one group, a woman said, ‘Nobody let us be in this game. Government does not pay attention to our interests.’ In another FGD, one person said, ‘We cannot decide about our water, lands, and lives. We cannot be in any government meeting, for them we are nothing,’ and another added, ‘We cannot do anything, and others made decisions for us. Why does

nobody talk with us? What is happening to us? This is our right to know.’ Indeed, an experience of suffering political marginalization was widespread among all the interviewed residents.

In an investigation of social wellbeing in the village of Sole-Bon by Natural Disaster Research Institute [69], one of the ten villages in this study, a survey showed that 63.2% of participants believed Namrood Dam would not have any benefits for Sole-Bon and its residents. Interviewed authorities in our study, in contrast, believed that after the dam is constructed, the share of water for the village will increase and will go towards the agricultural needs of residents in the new (relocated) Sole-Bon. Authorities also believed the dam would increase tourism to the area, due to the reservoir and associated recreational opportunities, bringing economic benefits to local residents. However, the FDGs in Sole-Bon exhibited residents’ lack of trust with respect to authorities’ claims about their future. Likewise, villagers impacted by Seimare Dam mentioned that they would not have access to the benefits of the dam and, indeed, would lose existing water and agricultural lands. In one of the FDGs, participants made statements such as, ‘Yes, it is a good plan but not for us; we are losing everything, but maybe others get the benefits,’ ‘We are falling apart,’ and, ‘It doesn’t benefit us.’ They argued that people cannot trust the dam’s authorities. Participants believed that other cases in Iran demonstrate that dams just bring poverty and misery for local people. Several of them shared, ‘Look at other places; when they have resettlement, they have gone elsewhere to fall into misery,’ ‘You have dignity in your own land [not elsewhere],’ and, ‘You can’t build this house and life anywhere else.’ One participant said, ‘They [authorities] have come to rob our lands. They are liars.’ In the experience of the residents, first, dam authorities did not provide evidence that the dam would benefit residents, and second, local people were not involved in, or allowed to provide input for, any of the decision-making processes.

#### *6.3. Delays Eliminate Other Opportunities for Residents and Encourage Them to Leave without Compensation*

When villages are “under a dam project,” they cannot receive any budgetary support from the government for any programs or specific services, including for example permission to build new homes, receipt of new residential services like piped gas, or receipt of other infrastructural services or projects. Villagers also are not allowed to develop any personal business plans located in their village. Consequently, residents need the state to move forward quickly with dam construction. In reality, however, the process of dam construction and resettlement has taken a long time for the study villages, and the delays have caused high levels of stress and other problems for residents. Research participants expressed the belief that a slow, unorganized, and chaotic approach has been a deliberate strategy to force people to leave their village before receiving state support or compensation. One woman stated, ‘I could not get authorization for mushroom cultivation because of the dam. My neighbor could not get authorization for raising turkeys either. Nobody can have a business here just because of this damn dam.’ Another said, ‘When you cannot do anything here, you will accept everything that they want.’ In one FGD, people argued that this process was ‘a pressure on us to leave here.’ Participants stated, ‘We are completely confused [because] they [authorities] do not have any plan for us,’ and, ‘They do not make any decision until/so we get tired and leave our village.’

#### *6.4. Residents Resist and Contest the Discourse of National Interests and Development*

In our interviews of authorities, these individuals highlighted the national interests met by these projects. Regarding Namrood Dam, one authority stated, ‘This is for our country and the local people know that.’ Another authority for Seimare Dam argued that, ‘We need development, and it is fine if a few people [impacted villagers] get some problems in the short term. But in general, we pay attention to their rights. They will get the benefits from this development.’ These interviewed authorities also expressed the belief that dams can develop the affected regions, and that local residents thereby will receive both financial and non-financial benefits. They mentioned that each resident family additionally would receive compensation that they could then use to buy new lands in the village’s new location, or to establish lives elsewhere. Moreover, in the new location, villages would receive from the dam more water for agriculture. Some authorities also claimed that, for some

villages, the new location would be a tourist attraction due to the nearby dam, and that the associated revenues could help people improve their economic situations.

In the FGDs and interviews of residents, participants' comments make it clear that authorities have tried to convince people that the construction of the dam and their resettlement is desirable, or at least necessary, by deploying this discourse of national interests alongside a discourse of development with local benefits. For example, in all discussions, participants repeated that, 'They [dam authorities] say it is for our country,' 'It is for our area,' and, 'It is necessary for the country.' However, residents in the impacted communities had a different interpretation of these development projects. The interviews revealed that residents perceive the state discourse as concealing a set of other individual interests that conflict with local people's interests.

Residents had a counter narrative for their experiences, one which resisted and contested the authorities' narratives. They perceived their lands as *occupied* because of the dam. They communicated an experience of losing their sources of livelihood (as contrasted with the economic benefits of development), and they understood the situation as one where residents in other cities would benefit from the dam, not them. As one resident said, 'We are losing our lands, water, and our villages, but others get benefits' Another said, 'We cannot make this life in another place; they get our lands, gardens, and water, but we cannot make that in another place ... We should go to other cities and be in misery.' They expressed a collective idea that their portion of the dam is poverty, emigration, and marginalization in an urban area. This expectation for their own future was causing stress and anxiety for many people: 'After this disaster [the construction of the dam], my blood pressure has increased, and this is not just my problem, many people now have physical and psychological problems because of this situation.'

Residents thought the promised compensation from the state was not fair, even if it did materialize. According to them, any new lands would cost them more than what they would receive from the government, and the money they might receive would not be enough for them to begin a new life in another place. In one FGD, people angrily expressed, 'It is said this dam is for national development. So, we want to know if we do not need development? We are not a part of this nation?' 'Justice is not for us,' and, 'Who let them make this dam? Who let them destroy our life and our villages because the dam develops elsewhere?' In general, residents felt that the dams did not belong to them. Furthermore, they did not accept the interpretations of authorities with respect to development and that the benefits of the dams for the whole nation outweighed potential costs for them.

Although residents in these impacted villages did not accept the development discourse of dams, this is a hegemonic discourse in Iran as a whole. A linked nationally hegemonic idea is that the state can force people to leave their lands as a result of development projects. In one of the FGDs, participants discussed that, 'When they are done with the dam construction, we have to leave here; this is mandatory,' 'They will force us to leave; they said this is for the country, and we should not be opposed to the development of our country.' Authorities believe that dams are necessary for the country, and as a result, the villagers have to accept resettlement. According to one interviewed authority, 'Well, this is for our country. This is good for this region; they should accept this project and plan. We do not have any other solution.'

#### 6.5. Different Social Groups and Local Conflicts

Almost all Iranian villages have a rural council. One of the duties of the council is to encourage people to engage in development projects, and to review and understand the problems and needs of rural residents and communicate these to the state and its authorities. However, in many cases, rural councils do not represent the interests of all people in the villages and do not use democratic practices [70,71]. With respect to dam projects and resettlement processes, these rural councils do not have enough bargaining power with the state to negotiate successfully for residents' interests. Nevertheless, in the case of Seimare Dam, the rural councils for some villages did challenge the government on behalf of local interests. In other cases, local people rejected the strategy of having rural councils bargain with the state, and they instead wanted to have a specific democratic

committee support the interests of different social groups in the process of dam construction and resettlement. According to one villager, 'This [village] council is not for us [it does not support our interest]; we should work directly face-to-face with the state about our rights to this land and water.'

Indeed, not all local people were in the same situation, or held the same power, in relation to dam construction or resettlement. As such, their reactions to the projects were different. Members of the village councils are a case in point. In most villages, the council members do not live in the villages; they live in other cities, and they are powerful and wealthy. As a result, their interests are not in common with the interests of village residents. In some cases, council members were owners of the land where the new village was supposed to be located and would benefit economically through sale of their land. This issue caused numerous conflicts between residents and the rural councils in relation to the dam projects. Many participants (for example, in Sole-Bon) not only distrusted the rural council, but also thought that the council was using its power to further the personal interests of the council members and to lobby authorities. According to one interviewee, 'They are working for themselves; they do not transfer any information to us.' Council members, on the other hand, did not agree with this claim and said that if there was any information, they had given it to the people. One of the council members stated, 'We were not invited to the majority of their [the project's] meetings. The problem was that.'

As discussed, some particularly poor villagers believed that their economic situation after the dam's construction would be worse, and some of them stressed that, 'Our children should go to the slums of big cities to live in misery.' According to one, 'There are other people that can make new lives in other places. We cannot. We do not have enough money to make new lives until the government gives us our lands or enough money to make a business in the city. If I do not get the compensation, I cannot have relief anywhere.' These poorer village residents expressed that they were suffering more than other groups because of the dams.

Many of the interviewed women residents, specifically, communicated that they would have liked to have had a larger role in meetings and to have served on a specific committee for resettlement. These women expressed a desire to be involved in any meetings or plans directly, as opposed to being represented by others. Some women stated they would have liked to have had a more direct connection to the state and its authorities, without the intermediary role of the council, and some suggested the formation of a specific committee with members democratically selected by local people. They shared that, traditionally, the family is the owner of property and the impacts of the dams were on all of them, not just men. Some women related that they had some resources for making money in their own villages, but that they were not sure whether after resettlement they could continue these activities in the new village.

## 7. Discussion and Conclusions

The qualitative data from the interviews and FGDs demonstrate how residents in the studied villages experienced marginalization during the dam projects through the application of power in several different ways. First, the decision-making process was centralized; decisions related to construction of the dams and resettlement were concentrated in the state institutions, and the residents of affected communities were systematically excluded from any participation of any kind in that process. In fact, power was structured to ignore the local communities, defining a passive role for them and legitimating the decision-making authority of the state's institutions during the dam projects. At this level, with the first dimension of power [21], the state's actions affect rural people in a manner contrary to their interests, through direct coercion. There is an observable conflict of interests between the state's concrete decisions in the forms of plans and policies and local residents' preferences or interests. At this level, state resource planners and managers have the power to make and implement decisions, despite the desires of village residents. Although there was no sign of direct physical violence during this study, it was unnecessary in these cases; local people knew they had to comply with resettlement and the loss of water and/or lands. Moreover, power also was exercised at the local levels; according to people's perspectives in some villages, rural council members used their positions and influence for personal gain. The state did provide the appearance of local participation

through some meetings with the rural councils, but the nature of the rural councils meant that they were either completely ineffectual in the eyes of local residents, or even worse, did not represent their perceived interests at all.

Second, there is ample evidence of state exercise of power through non-decision making. Evidence suggests authorities actively applied a policy of non-decision making, leaving residents in a state of limbo for several years with regards to resettlement and other locally important issues. Local residents experienced this as an intentional way to create socioeconomic hardships and eventually to force them to leave their lands on their own. Lukes [21] highlights non-decision making as a key dimension of power with the potential to suppress local people's dissent. In this process of not making decisions around resettlement and compensation, the dam's authorities controlled local people (cutting off their access other state resources) in order to achieve government plans and interests. If a non-decision refers to a decision designed to avoid the emergence of interests of groups that are not in power, and if it can be simply a lack of action by decision makers, residents in this study have experienced this dimension of power strongly. As related in the interviews and FGDs, authorities in charge of project decisions did not define plans for resettlement and compensation over periods of many years. During this time, people experienced a concomitant inability to pursue their own plans related livelihood improvements, through curtailed access to development resources and the complete absence of permission for starting new businesses or construction in the villages. Residents related experiencing this as a double pressure to leave their lands and water under the government's terms, with no bargaining power. We can therefore see the long periods of no action and no decision as a targeted way for the state to apply power over local people, to enhance state interests, and not as simple state incompetence.

Third, connected to this same second dimension of power, the control of the information and findings of technical studies is another specific way the state exercised power over local communities. There was no center or branch of the state responsible for sharing information and related studies with citizens. Residents did not know if there had been any social or environmental assessments conducted for the dams or resettlement plans. In fact, local people were systematically denied access to basic information regarding the dam projects themselves, likely changes to water resources, and the associated resettlement requirements. Some residents believed that state authorities intentionally blocked their access to information by excluding them from meetings and dam construction jobs. This constrained the ability of residents to take counter action, as they did not have enough information for their own decisions or for the display of appropriate reactions. The state's failure to provide access to information, and even to impede any access, was a strong way to control local residents and limit their power.

Fourth, residents rejected state attempts to exercise power through an additional means of power as consent production, however, because the dam projects and associated resettlements directly threatened local people's livelihoods. Although residents did not have any role or voice in the decision-making process, or even access to information, they resisted the strong discourse of dam projects as in the nation's interests or the symbolic place for dams in the hegemonic discourse of development. Indeed, regarding this third dimension of power, the state agencies could not or did not need to be successful in creating consent through a hegemonic discourse for dams as in the interest of local people. Interview evidence shows no signs of a local false consciousness around water projects, the concept of development, or residents' own real interests. Although the state discourse of dams-as-development in Iran is strong, at the time of data collection, residents rejected this hegemonic discourse and emphasized their own competing interests.

Despite this discursive rejection, residents did not have any organized resistance. Although locals were marginalized in decision-making processes and were passive participants in the dam projects and resettlements, they were aware both of their own interests and of official lines of power inside and outside their village. Due to a lack of access to information, they were not fully aware of the environmental risks of dams, which they might otherwise have been able to deploy as a strategy of counter discourse. Nonetheless, they knew about many of the potential negative consequences of the dams on their local communities, especially with regards to their own livelihoods. They did not

accept the idea that the dams represented the nation's interests, whether that entailed a balancing of environmental, social, and economic interests or not; rather, they understood the dams to be serving someone else's interests at the cost of their own. However, because of their political situation, they did not perceive a way to resist beyond their refusal to provide consent through acceptance of state discourse.

The state applied power directly both as coercion and constraint (limiting knowledge and information on the dam project and resettlement) and through delayed action or inaction. Efforts to exercise power through consent production were not successful. The resistance of villagers indicates that they were trying to change this unequal equation, but because of the state's dominance (the law allows the state to take possession of land for development projects) and the hegemony of development, residents of affected communities did not have a clear plan or strategy for changing the equation to better serve their own interests.

Returning to Campbell's sustainability framework [18], we can say here that the social justice or equity pillar of sustainability is absent in these dams-as-development projects. Local community residents in this study perceive and relate the cost of dams to their economic livelihoods and to the environmental resources that support those livelihoods. This places into question Campbell's [18] focus on different types of conflict (i.e., economic vs. environmental vs. social) and instead re-focuses us on conflict between different types of actors with highly differentiated power within existing social structures. Striving for a sustainability, that purportedly seeks a balance between economic, environmental and social interests (the "planner's triangle" for Campbell), requires addressing conflict among different actors with different interests, and, arguably, the position of local community residents is essential in any decision making and power distribution to address these conflicts. Political ecology's lens, with its focus on power, can help us to see the exercise of this power in different forms and the positions of winners and losers in water development projects. Understanding the exercise of power is crucial to how we perceive the mechanisms of this sustainability "triangle" and to how we understand apparent conflict resolution in the context of different social and state structures.

This case study can contribute to a more comprehensive approach to power within political ecology, with the illustration of how the Iranian State applies its power over residents of rural communities through multiple, simultaneous means in a natural resource context. Coercion and non-decision making, including delays and the withholding of information, were primary and successful mechanisms. This case study also demonstrates how inaction (delays) and a lack of data or other information for natural resource development projects can be forms of non-decision, can serve as important levers the state uses to exercise power over local people, and can be severe in their experienced effects. Non-decision making as a targeted policy, can be seen as creating a set of constraints on the ability of residents to respond, and the result of these efforts is to fully politically marginalize people in the control of water and lands in relation to dam projects. Non-decisions have confused and tired residents, pushing them to accept the state's plans with minimal attempts at counter power or resistance.

Raik and colleagues [57] assert that, in the exercise of power in decision-making processes for natural resources management, "both the social structure and the agent emerge as units of analysis that interact and depend upon one another" (p. 736). In the process of interaction, in this case, both the action and inaction of the state mattered, but so did the structural relation between the Iranian State and village residents. Because of this structural relationship, residents' agency—expressed through discursive resistance—ultimately had little to no effect. Dam construction in Iran demonstrates the need to explicitly include questions around access to data and information, public meetings, and plans as key to understanding the exercise of power in a contested natural resource development context. It also demonstrates the importance of non-decision making as complementary to traditional coercive power in the context of Iranian state-society relations.

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## References

1. Mayor, B.; Rodríguez-Muñoz, I.; Villarroya, F.; Montero, E.; López-Gunn, E. The role of large- and small-scale hydropower for energy and water security in the Spanish Duero Basin. *Sustainability* **2017**, *9*, 1807. doi:10.3390/su9101807.
2. Konak, N.; Sungu-Eryilmaz, Y. Does small run-of-river hydro power development in Turkey deliver on its sustainability premise? *Soc. Nat. Resour.* **2016**, *29*, 807–821. doi:10.1080/08941920.2015.1086459.
3. Shaw, K. Climate deadlocks: The environmental politics of energy systems. *Environ. Politics* **2011**, *20*, 743–763. doi:10.1080/09644016.2011.608538.
4. Kosnik, L. The potential for small scale hydro-power development in the US. *Energy Policy* **2010**, *38*, 5512–5519.
5. Marchant, J.; Spinelli, V.; Hoseini, M. *Paradise Lost? Developing Solutions to Iran's Environmental Crisis*; Small Media and the Heinrich Böll Foundation: Berlin, Germany, 2017. Available online: [https://smallmedia.org.uk/media/projects/files/ParadiseLost\\_2016.pdf](https://smallmedia.org.uk/media/projects/files/ParadiseLost_2016.pdf) (accessed on 2 July 2020).
6. Mirchi, A.; Madani, K.; AghaKouchak, A. Lake Urmia: How Iran's Most Famous Lake is Disappearing. *The Guardian*, 23 January 2015. Available online: <https://www.theguardian.com/world/iran-blog/2015/jan/23/iran-lake-urmia-drying-up-new-research-scientists-urge-action> (accessed on 2 July 2020).
7. PurQiyomi, H.; Zaboli, M.; Andalibi, L. The problems of dams for the water resources of the country. In *Proceedings of the Second National Conference on Applied Research in Iranian Water Resources*, Zanjan, Iran, 19 May 2011.
8. Kirchherr, J.; Charles, K. The social impacts of dams: A new framework for scholarly analysis. *Environ. Impact Assess. Rev.* **2016**, *60*, 99–114.
9. Aiken, S.R.; Leigh, C.H. Dams and indigenous people in Malaysia: Development, displacement and resettlement. *Swed. Soc. Anthropol. Geogr.* **2015**, *97*, 69–93.
10. Oliver-Smith, A. Introduction: Development-forced displacement and resettlement: A global human rights crisis. In *Development and Dispossession: The Crisis of Forced Displacement and Resettlement*; Oliver-Smith, A., Ed.; School for Advanced Research Press: Santa Fe, NM, USA, 2009; pp. 3–25.
11. Clark, D. Power to the people: Moving towards a rights-respecting resettlement framework. In *Development and Dispossession: The Crisis of Forced Displacement and Resettlement*; Oliver-Smith, A., Ed.; School for Advanced Research Press: Santa Fe, NM, USA, 2009; pp. 181–200.
12. Cernea, M. Financing for development: Benefit-sharing mechanisms in population resettlement. *Econ. Political Wkly.* **2007**, *42*, 1033–1046.
13. Cernea, M. *Involuntary Resettlement in Development Projects: Policy Guidelines in World Bank-Financed Projects*; Technical Paper; World Bank: Washington, DC, USA, 1988. Available online: <http://elibrary.worldbank.org/doi/pdf/10.1596/0-8213-1036-4> (accessed on 2 July 2020).
14. Hemadri, R.; Mander, H.; Nagaraj, V. *Dams, Displacement, Policy and Law in India*; Working Paper; World Commission on Dams: Vlaeberg, Cape Town, South Africa, 1999. Available online: <https://archive.nyu.edu/handle/2451/37155> (accessed on 1 July 2020).
15. Mehr News Agency. Iran Reached to the Third Rank in the World for Dam Construction. 2012. Available online: <https://www.mehrnews.com/news/1779296/%D8%B1%D8%AA%D8%A8%D9%87-%D8%B3%D9%88%D9%85-%D8%B3%D8%AF%D8%B3%D8%A7%D8%B2%DB%8C-%D8%AC%D9%87%D8%A7%D9%86-%D8%A8%D9%87-%D8%A7%DB%8C%D8%B1%D8%A7%D9%86-%D8%B1%D8%B3%DB%8C%D8%AF> (accessed on 2 July 2020).
16. Kaika, M. Dams as symbols of modernization: The urbanization of nature between geographical imagination and materiality. *Ann. Assoc. Am. Geogr.* **2006**, *96*, 276–301. doi:10.1111/j.1467-8306.2006.00478.x.
17. Shahi, A. Drought: The Achilles heel of the Islamic Republic of Iran. *Asian Aff.* **2019**, *50*, 18–39.



18. Campbell, S. Green cities, growing cities, just cities? Urban planning and the contradictions of sustainable development. *J. Am. Plann. Assoc.* **1996**, *62*, 296–312. doi:10.1080/01944369608975696.
19. Campbell, S. The planner's triangle revisited: Sustainability and the evolution of a planning ideal that can't stand still. *J. Am. Plan. Assoc.* **2016**, *82*, 388–397. doi:10.1080/01944363.2016.1214080.
20. Lukes, S. *Power: A Radical View*, 1st ed.; Macmillan Press: New York, NY, USA, 1974.
21. Lukes, S. *Power: A Radical View*, 2nd ed.; Palgrave Macmillan: Houndmills, UK, 2005.
22. Hirsch, P. The changing political dynamics of dam building on the Mekong. *Water Altern.* **2010**, *3*, 312–323.
23. Briscoe, J. Overreach and response: The politics of the WCD and its aftermath. *Water Altern.* **2010**, *3*, 399–415.
24. Bakker, K. The politics of hydropower: Developing the Mekong. *Political Geogr.* **1999**, *18*, 209–232.
25. Collins, T. The political ecology of hazard vulnerability: Marginalization, facilitation and the production of differential risk to urban wildfires in Arizona's White Mountains. *J. Political Ecol.* **2008**, *15*, 21–43.
26. World Commission on Dams (WCD). *Dams and Development: A New Framework for Decision-Making*; Report of the World Commission on Dams; Earthscan: London, UK, 2000.
27. Baird, I.G.; Barney, K. The political ecology of cross sectoral cumulative impacts: Modern landscapes, large hydropower dams and industrial tree plantations in Laos and Cambodia. *J. Peasant Stud.* **2017**, *44*, 769–795. doi:10.1080/03066150.2017.1289921.
28. Wilmsen, B.; Webber, M.; Yuefang, D. Development for whom? Rural to urban resettlement at the Three Gorges Dam, China. *Asian Stud. Rev.* **2011**, *35*, 21–42. doi:10.1080/10357823.2011.552707.
29. Jackson, S.; Sleight, A. Resettlement for China's Three Gorges Dam: Socio-economic impact and institutional tensions. *Communist Post-Communist Stud.* **2000**, *33*, 223–241.
30. Moshiri, F. *Plan of Relocation of Villages in the Area of Kaaroon River, III*; Housing Foundation of Khuzestan: Khuzestan, Iran, 2000.
31. Scott, R. *The Experience with Dams and Resettlement in Mexico*; Working Paper; World Commission on Dams: Vlaeberg, Cape Town, South Africa, 2000.
32. Huber, A.; Gorostiza, S.; Kotsila, P.; Beltrán, M.J.; Armiero, M. Beyond "Socially constructed" disasters: Repoliticizing the debate on large dams through a political ecology of risk. *Capital. Nat. Soc.* **2017**, *28*, 48–68. doi:10.1080/10455752.2016.1225222.
33. Manouchehri, G.R.; Mahmoodian, S.A. Environmental impacts of dams constructed in Iran. *Int. J. Water Resour. Dev.* **2002**, *18*, 179–182. doi:10.1080/07900620220121738.
34. Iran Water Resources Management Company (IWRMC). 2018. Available online: <http://daminfo.wrm.ir/fa/dam/stats> (accessed on 2 July 2020).
35. Garousi, V.; Najafi, A.; Samadi, A.; Rasouli, K.; Khanaliloo, B. Environmental crisis in Lake Urmia, Iran: A systematic review of causes, negative consequences and possible solutions. In Proceedings of the 6th International Perspective on Water Resources & the Environment (IPWE), Izmir, Turkey, 7–9 January 2013.
36. Balali, M.R.; Keulartz, J.; Korthals, M. Reflexive Water Management in Arid Regions: The case of Iran. *Environ. Values* **2009**, *18*, 91–112. Available online: <http://www.environmentandsociety.org/sites/default/files/keydocs/ev181balalikeulartzkorthals.pdf> (accessed on 2 July 2020).
37. Foltz, R. Iran's water crisis: Cultural, political, and ethical dimensions. *J. Agric. Environ. Ethics* **2002**, *15*, 357–380. doi:10.1023/A:1021268621490.
38. Iran International. Dam Policy, Drought Penetration in Concrete Walls. 2018. Available online: <https://iranintl.com/%D8%A7%DB%8C%D8%B1%D8%A7%D9%86/%D8%B3%DB%8C%D8%A7%D8%B3%D8%AA-%D8%B3%D8%AF%D8%B3%D8%A7%D8%B2%DB%8C%D8%9B-%D8%B1%D8%AE%D9%86%D9%87-%D8%AE%D8%B4%DA%A9%D8%B3%D8%A7%D9%84%DB%8C-%D8%AF%D8%B1-%D8%AF%DB%8C%D9%88%D8%A7%D8%B1%D9%87%D8%A7%DB%8C-%D8%A8%D8%AA%D9%86%DB%8C?page=3> (accessed on 2 July 2020).
39. Deutsche Welle. Participation of All Factions of the Government in Unnecessary Dam Building in Iran. 2018. Available online: <https://www.dw.com/fa-ir/%D9%87%D9%85%D8%AF%D8%B3%D8%AA%DB%8C-%D9%87%D9%85%D9%87-%D8%AC%D9%86%D8%A7%D8%AD%D9%87%D8%A7%DB%8C-%D8%AD%DA%A9%D9%88%D9%85%D8%AA-%D8%AF%D8%B1-%D8%B3%D8%AF%D8%B3%D8%A7%D8%B2%DB%8C->

- %D8%A8%DB%8C%D8%B1%D9%88%DB%8C%D9%87-%D8%AF%D8%B1-%D8%A7%DB%8C%D8%B1%D8%A7%D9%86/a-42488746 (accessed 2 July 2020).
40. Deutsche Welle. Destruction of 93 Hectares of Forests of Northern Iran Because of Dam Construction. 2015. Available online: <http://www.dw.com/fa-ir/%D8%AA%D8%AE%D8%B1%DB%8C%D8%A8-%DB%B9%DB%B3-%D9%87%DA%A9%D8%AA%D8%A7%D8%B1-%D8%A7%D8%B2-%D8%AC%D9%86%DA%AF%D9%84%D9%87%D8%A7%DB%8C-%D8%B4%D9%85%D8%A7%D9%84-%D8%A7%DB%8C%D8%B1%D8%A7%D9%86-%D8%A8%D8%B1%D8%A7%DB%8C-%D8%B3%D8%AF%D8%B3%D8%A7%D8%B2%DB%8C/a-18803262> (accessed on 2 July 2020).
  41. Tajziehchi, S.; Monavari, S.M.; Karbassi, A.R.; Shariat, S.M.; Khorasani, N. Quantification of social impacts of large hydropower dams: A case study of Alborz Dam in Mazandaran Province, Northern Iran. *Int. J. Environ. Res.* **2013**, *7*, 377–382.
  42. Dudley, D. European Firms Pour Money into Iranian Renewable Energy Projects. *Forbes*, 24 October 2017. Available online: <https://www.forbes.com/sites/dominicdudley/2017/10/24/iran-renewable-energy/#fb996de4d004> (accessed on 2 July 2020).
  43. Hoominfar, E. Environmental Social Movements: A Comparative Study Across Two Political Economies. Ph.D. Dissertations, Sociology Department, Utah State University, Logan, UT, USA, 2020. Available online: <https://digitalcommons.usu.edu/etd/7752> (accessed on 2 July 2020).
  44. Papuli Yazdi, M.H. No One Dares Approach the Privacy of the Water Mafia. Tasnim News Agency 2018. Available online: <https://www.tasnimnews.com/fa/news/1396/11/07/1639190/%D9%81%DB%8C%D9%84%D9%85-%DA%A9%D8%B3%DB%8C-%D8%AC%D8%B1%D8%A3%D8%AA-%D9%86%D8%B2%D8%AF%DB%8C%DA%A9-%D8%B4%D8%AF%D9%86-%D8%A8%D9%87-%D8%AD%D8%B1%DB%8C%D9%85-%D9%85%D8%A7%D9%81%DB%8C%D8%A7%DB%8C-%D8%A2%D8%A8-%D8%B1%D8%A7-%D9%86%D8%AF%D8%A7%D8%B1%D8%AF> (accessed on 2 July 2020).
  45. Sobhanepress News Agency. How the Water Mafia Engulfs Iran. 21 July 2016. Available online: <http://arassnews.ir/fa/news/5141/%DA%86%DA%AF%D9%88%D9%86%D9%87-%D9%85%D8%A7%D9%81%DB%8C%D8%A7%DB%8C-%D8%A2%D8%A8-%D8%B3%D8%B1%D8%B2%D9%85%DB%8C%D9%86-%D8%A7%DB%8C%D8%B1%D8%A7%D9%86-%D8%B1%D8%A7-%D9%85%DB%8C-%D8%A8%D9%84%D8%B9%D8%AF> (accessed on 2 July 2020).
  46. Wittfogel, K.A. *Oriental Despotism: A Comparative Study of Total Power*; Yale University Press: New Haven, CT, USA, 1957.
  47. Robbins, P. *Political Ecology: A Critical Introduction*, 2nd ed.; J. Wiley & Sons: Chichester, UK, 2012.
  48. Ferguson, A.; Derman, B. Whose water? Political ecology of water reform in Zimbabwe. In *Political Ecology Across Spaces, Scales, and Social Group*; Paulson, S., Gezon, L., Eds.; Rutgers University Press: New Brunswick, NJ, USA, 2004; pp. 61–76.
  49. Johnston, B.R. The political ecology of water: An introduction. *Capital. Nat. Soc.* **2003**, *14*, 73–90.
  50. Nüsser, M. Political ecology of large dams: A critical review. *Petermanns Geogr. Mitt.* **2003**, *147*, 20–31.
  51. Dahl, R.A. *Who Governs? Democracy and Power in an American City*; Yale University Press: New Haven, CT, USA, 1961.
  52. Bachrach, P.; Baratz, M.S. *Power and Poverty: Theory and Practice*; Oxford University Press: New York, NY, USA, 1970.
  53. Gramsci, A. *Selections from the Prison Notebooks of Antonio Gramsci*; International Publishers: New York, NY, USA, 1971.
  54. Bourdieu, P. *Masculine Domination*; Nice, R., Translator; Stanford University Press: Stanford, CA, USA, 2001/1998.
  55. Bourdieu, P. *Language and Symbolic Power: The Economy of Linguistic Exchanges*; Introduced by J.B Thompson; Polity Press: Cambridge, UK, 1991.
  56. Bourdieu, P. Social space and symbolic power. *Sociol. Theory* **1989**, *7*, 14–25.
  57. Raik, D.B.; Wilson, A.L.; Decker, D.J. Power in natural resource management: An application of theory. *Soc. Nat. Resour.* **2008**, *21*, 729–739.
  58. Brisbois, M.C.; de Loë, R.C. Power in collaborative approaches to governance for water: A systematic review. *Soc. Nat. Resour.* **2016**, *29*, 775–790.
  59. Partzsch, L. ‘Power with’ and ‘power to’ in environmental politics and the transition to sustainability. *Environ. Politics* **2017**, *26*, 193–211. doi:10.1080/09644016.2016.125696.

60. Creswell, J.W. *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*, 3rd ed.; Sage: Los Angeles, CA, USA, 2013.
61. Denzin, N.K.; Lincoln, Y.S. Introduction: The discipline and practice of qualitative research. In *The SAGE Handbook of Qualitative Research*, 4th ed.; Denzin, N.K., Lincoln, Y.S., Eds.; SAGE: Thousand Oaks, CA, USA, 2011; pp. 1–32.
62. Maxwell, J.A. *Qualitative Research Design: An Interactive Approach*, 3rd ed.; SAGE: Los Angeles, CA, USA, 2013, ISBN 978-1-4129-8119-4.
63. Bourdieu, P. Forms of capital. In *Handbook of Theory and Research for the Sociology of Education*; Richardson, J.G., Ed.; Greenwood Press: New York, NY, USA, 1983; pp. 241–258.
64. Coleman, J.S. Social capital in the creation of human capital. *Am. J. Sociol.* **1988**, *94*, 95–120.
65. Putnam, R.D. *Bowling Alone: The Collapse and Revival of American Community*; Simon and Schuster: New York, NY, USA, 2000.
66. Agrawal, A.; Gibson, C. Enchantment and disenchantment: The role of community in natural resource conservation. *World Dev.* **1999**, *27*, 629–649.
67. Knight, J. *Institutions and Social Conflict*; Cambridge University Press: New York, NY, USA, 1992.
68. Ostrom, V. *The Meaning of Democracy and the Vulnerability of Democracies: A Response to Tocqueville's Challenge*; University of Michigan Press: Ann Arbor, MI, USA, 1997.
69. *Relocation of Sole-Bon Village*; Natural Disaster Research Institute: Tehran, Iran, 2006.
70. Moidfar, S.; Hoominfar, E. *Strategies to Increase the Participation of Villagers in Village Affairs*; Motahari: Qom, Iran, 2012.
71. Imani Jajarmi, H.; Karimi, A. Social challenges of rural councils in local governance. *Rural Dev.* **2009**, *1*, 89–114.



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