

Explaining the Good Governance of Agricultural Surface Water Resources in the Gawshan Watershed Basin, Kermanshah, Iran

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ABSTRACT

The purpose of this study was to explain the current water governance at Gawshan Watershed Basin in Kermanshah Province and then provide an alternative conceptual framework for good governance of water resources at the basin scale. Participants were selected purposefully among the representatives of rival groups. Participatory workshop technique was used to collect data with the aid of interviews and focus group discussions. Analysis of the interviews led to classification of the challenges of water governance into several categories. These include the lack of participation, fairness, accountability, responsiveness, legitimacy, transparency and consensus-oriented processes. Then, water governance solutions were extracted based on the consensus among the participants. These include farmers' contribution to decision-making processes regarding agricultural water consumption, empowering the local people to negotiate and manage conflicts, establishing a participatory mechanism to manage water conflict, holding training courses and workshops for staff to get acquainted with the principles of good governance, creating transparent and accessible information system by agricultural water section, and holding education-extension courses to increase information and awareness of the stakeholders in line with responsibility. Finally, a framework for good governance of water resources in the watershed basin was drawn up after linking the concepts.

Keywords: Water conflicts, Water governance, Water management.

INTRODUCTION

Local scale conflict over water access appears to be a growing threat (Gleick and Heberger, 2012), especially in water scarce regions. In Iran as well as other water stressed areas, there has been an increase in reported cases of water conflicts in recent years (Bijani and Hayati, 2011; 2015). Not addressing these conflicts may lead to adverse consequences such as loss of livelihoods, decrease in income, threat to stability, etc. (Kramer, 2004). However, the cause of these conflicts can be expressed in two ways. The first climatic dimension is marked by low precipitation and drought (Green, 2002;

Heidelberg Institute, 2007), and the second dimension, which now appears to be the main cause of conflict in areas stricken by water shortages, is the type of governance and management of water resources (Perlman *et al.*, 2017; Yazdanpanah *et al.*, 2013b). By "Governance", we refer to the processes through which the public decisions are made (Bundschuh, 2008). Thus, there is a two-way relationship between water conflict and water governance. Good water governance will reduce water conflicts among rival groups and, consequently, will provide the optimal use of water resources. This means that poor water governance leads to conflict, while good governance is dependent on conflict

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management. Therefore, interest in natural resources governance has significantly increased (Turner *et al.*, 2014).

On this basis, the present study aimed to explain good water governance through the management of conflicts, as the first and necessary step in building constructive interaction for the good governance. The paper also includes an analysis of the data regarding good governance of surface water resources in the Gawshan Watershed Basin, Kermanshah, Iran.

Good Water Governance

Recently, considerable research attention has been paid to governance of natural resources (Mahon *et al.*, 2009). Some called governance as a new paradigm in water management (Meissner, 2016; Yazdanpanah *et al.*, 2014) in global, national, institutional, and community contexts (Graham *et al.*, 2003). Contemporary thinking recognizes governance as broader than management (UNESCO, 2011), although both are important in the context of water. In fact, water management focuses on executive activities while water governance is about joint decision-making (UNESCO, 2011). However, it seems that the easier nature of understanding governance at the national level was thought to be responsible for the little attention that has been given to the local governance (Graham *et al.*, 2003). Although the history of local governance is as old as the humanity and civilization itself, only recently it contributes to the broad discourse in the academic and practice literature (Shah and Shah, 2007; Yazdanpanah *et al.*, 2013a). Local governance refers to the institutions, processes, and systems through which relations and communicative mechanisms and a variety of cross-border collective services and actions are formulated, developed, and executed at the local level (Pandy, 2018). In fact, due to the complexity, diverse nature of the social and environmental systems and their impacts on the determination of the objectives of governance, it is necessary that water 'local governance' be formulated in each region based on the context (environmental conditions, social, values, beliefs and stakeholder's needs and interests) (OECD, 2015). One thing to note is

that governing activities at all levels are becoming diffused over various societal actors whose relationship with each other is constantly changing (Silima, 2016). Hence, it is right to highlight the fact that local governance is broader than local government (Yazdanpanah *et al.*, 2013a), though these two appear to be overlapping concerning special issues (Hamedinger, 2004). The main difference between these two patterns lies in the issue that governance covers both formal and informal processes (Mahon *et al.*, 2009). In other words, local governance is not just about rule-making, it also involves the interactions between all stakeholders, including government, civil society and the private sector as well (Kooiman *et al.*, 2005). In fact, what determines the locality of governance is the extent to which local actors are effectively interacting in defining local aspirations and common efforts to fulfill these goals and demands (Dekker and Kempen, 2004). Obviously, where people and their concerns, views and perspectives were given appropriate weight and consideration in local decisions, higher levels of interests and outcome expectations are achieved (UNDP, 2003). It should be noted that local scale governance includes activities at a local level where the organizing body may not assume a legal form and where there may not be a formally constituted governing board, and the focus is on institutions or rules that are regulated locally (Graham *et al.*, 2003). With this description, the concept of governance may be applied to any form of collective action (Graham *et al.*, 2003). As noted earlier, water governance should be fitted to apply for current and future possible water challenges (OECD, 2015). Given the emergence and intensification of local conflicts and its adverse effects, water governance has faced a new challenge at the local level (Mirzaei *et al.*, 2017). Water conflict behavior has emerged from water stakeholders claiming their share of water (Gleik 2014). Indeed, poor water governance has been blamed for current water conflict (UNESCO, 2011). In response to this challenge, good water governance provides a mechanism through which conflicting or diverse interests may be accommodated and cooperative action may be undertaken (UN-HABITAT, 2002). It also addresses some of the fundamental obstacles to agricultural sustainable development

including the poor exclusion and social inequality. Therefore, in this research, water governance is regarded as the complex mechanisms, processes, and institutions through which rural citizens and groups articulate their interests, mediate their differences and exercise their legal rights and obligations (UNDP, 2000). It simply means that the government is not the only actor but it includes all the rival groups who strive to compete for water (Virtudes, 2016). However, since the number and diversity of stakeholder groups involved with diverse and sometimes conflicting interests and perhaps the need for their consensus at the local level clarifies the importance of explaining a good governance framework or model at the local level, there is not a one-size-fits-all solution to water challenges worldwide (OECD, 2015). Governance tailor-made responses should therefore be adapted to territorial specificities (OECD, 2015). However, wide varieties of frameworks informing the design of natural resource governance arrangements have been proposed (Turner *et al.*, 2014). Sometimes these frameworks as universal normative principles have been presented by international institutions (Table 1) and provide a normative basis to guide the processes through which governance goals are developed and achieved (Turner *et al.*, 2014). These principles seem to relate to a wide range of governance arrangements through which natural resources are managed (Graham *et al.*, 2003). Some of these principles are as follows:

1. Participation: Participation (building on capacities to participate constructively) by citizens either directly or through legitimate intermediate institutions is the cornerstone of good governance (Silima, 2016; UNDP, 2000).
2. Responsiveness: Responsiveness is based on

the belief that government intervention is the main source of fund that must be obtained in accordance to the public demand (Silima, 2016). Accordingly, good governance institutions and processes try to serve all stakeholders equally (UNDP, 2000).

3. Accountability: Decision-makers in government, the private sector and civil society organizations are accountable to the public, as well as to institutional stakeholders (UNDP, 2000).

4. Transparency: Transparency is built on the free flow of information. Processes, institutions, and information are directly accessible to those concerned with them, and enough information is provided to understand and monitor them (Graham *et al.*, 2003).

5. Rule of law: Legal frameworks as constitutive part of culture should be fair and enforced impartially, particularly the laws on human rights (Cernea, 1993).

6. Consensus-orientation: Consensus is an agreement in opinion of all group members (Hornby, 2005). Good governance requires that the government try to reach a broad consensus on the best interest and the way of achievement of it among the whole community members in society (Silima, 2016).

7. Equity: Equity is a situation where there is no unfair treatment of certain people based on various factors such as race, religion, tribe, point of view and others (Silima, 2016).

In this context, some empirical studies have been done that aimed to provide recommendations for structural characteristics of institutional arrangements (Turner *et al.*, 2014). As Perlman *et al.* (2017) discuss, improving cooperative frameworks can provide the opportunity for good governance. Sithirith

Table 1. Principles of good governance from the point of view of international institutions.

International institutions	Good governance indicators
OECD, 2015	Efficiency, Effectiveness, Trust and Participation
UNDP, 2003	Legitimacy, transparency, Responsiveness, Participation, Fairness and flexibility
UN-Habitat, 2002	Participation, Effectiveness, Fairness and Equality, Responsiveness, Security, Accountability
UNESCO, 2011	Participation, Accountability, Consensus orientation, Transparency, Rule of Law, Responsiveness, Efficiency, Effectiveness, and Fairness
UNDP, 2000	Accountability, Consensus orientation, Participation, Rule of Law, Fairness and Equality, Transparency, Responsiveness



(2017) undertook a study to understand water governance in Cambodia and identified opportunities to improve it. Her result showed that participation is weak, so they believe that it is not their responsibility to take part in managing water resources. Ghaemi *et al.* (2017) presented conceptual model of sustainable water resource governance in Iran. This model emphasized the key role of participation, training and capacity building for all stakeholders in the decision-making process. Silima (2016) conducted a research about promoting good governance and conflict resolution in Africa and concluded that all levels of government should be involved in the educational process in order to promote vivid understanding amongst the stakeholders in good governance and a suitable mode or modes of conflict management should be selected. Rola *et al.* (2015) analyzed the state of water governance in the Philippines at various governance levels. They recommend to study and implement more participatory models of water governance fitted to the Philippine context. Sternlieb and Laituri (2015) investigated agricultural water governance in the Colorado River Basin. They founded that limited information may pose challenges to water governance. Therefore, they emphasized the salience of the data on water governance (Sternlieb and Laituri, 2015). Menatizadeh *et al.* (2015) studied farmers' responsibilities in Shiraz county. The results of this research have shown that farmers were responsible for local water resource management. Lienert *et al.* (2013) also showed how stakeholders' interaction in water decisions is important, hence resolving conflict between stakeholders is a key step in water governance. Hadi (2005) addressed the relationship between conflict management and local good governance in conflict affected regions in Indonesia. Their proposed framework encourages conflict sensitivity, building local participation in public decision-making process, empowering communities and local governments, while it is characterized by an inadequate policy articulation for decentralization and post conflict recovery. As the results of the literature review, it is concluded that there is no complete pattern of good governance that includes all principles of good governance. However, the principles can be

usefully applied to shape framework for good governance based on local challenges.

Given the above, this study aimed to understand the current water governance in Gawshan Dam Basin guided by two proposed frameworks illustrated above. Thus, the first step was to analyze the principles of good governance in the region and continue with the offering of options to move forward.

MATERIALS AND METHODS

Given the nature of the problem, the present research selected the qualitative method and the naturalistic paradigm as the main research strategy. This study was conducted in the Gawshan Dam Basin of Kermanshah Province in western Iran. Participatory workshop methods with interviews and focused group discussion tools were used to collect information from participants. Collaborative decision making often takes place in the context of stakeholder workshops. They, sometimes called "action-planning workshops", are used to bring stakeholders together to design development projects (World Bank, 1996). The purpose of such workshops is to begin and sustain stakeholders' collaboration. Some trained facilitators guide the stakeholders, who have diverse knowledge and interests, through a series of activities to build consensus upon (World Bank, 1996). For this purpose, a two-day workshop entitled consultation with beneficiaries group on local water governance was held in Department of Agricultural Extension and Rural Development of Razi University. Given that the main challenge facing the local water governance is the conflict management, participants at the workshop were selected among the representatives of the rival groups. Therefore, 16 representatives of the upstream and downstream farmers (rival groups) were invited to participate in the workshop. This process of selecting the samples is called *critical case sampling*. Moreover, since the state itself is one of the water conflict parties in the Gawshan Basin, seven staff members from the regional water company of Kermanshah Province were also selected as the state (government) representatives. That way, during the call to regional water company, they were asked to

introduce a group of experts as the state representatives to participate in the water governance consulting workshop. This sampling method is called *typical case sampling*. The participant groups included people with different interests, started discussions in the form of three centralized groups (upstream, downstream, and experts). The number of members in each group was between 8 and 10. Participants were asked to discuss the current water governance system in the region. Discussions began with general questions. The questions were related to issues discussed in the literature and designed to stimulate verbal reflection on the issue of water governance in the region: How are agricultural water decisions taken in the region? Will farmers participate in the decision-making process for agricultural water management? In the next step, the goal was a consensus evaluation on the structure of good governance in the region. For this purpose, discussions began on how to gain strength in water governance in the region, in the context of the same meeting and reorganization of the centralized groups. So, the discussion continued with general questions: What solution do you recommend to strengthen the current poor water governance? How can accountability, transparency and legitimacy be ensured through good governance?

After the process of data collection, the analysis began, in which coding and memo-writing occurred. As discussed, good governance has universal principles that have been derived from the literature on the subject, but these are general principles and require more explanation. Therefore, these principles were only used to show the initial coding and the relationship between the codes. This process is called direct approach. In qualitative studies, usually terms such as scientific accuracy (Rigour) are used instead of validity (Golafshani, 2003). Four criteria for judging scientific accuracy in qualitative studies include: credibility, transferability, dependability, and conformability (Guba and Lincoln, 1985). In this study, in order to improve the credibility of data, self-monitoring and member checks were also used to enhance transferability and provide sufficient detail of the context of the fieldwork (Bryman, 2001). To meet conformability, we kept raw

data, all notes, documents and records for the next review (Andreas, 2003).

Study Sites

The Gawshan water resource management plan is located in two western provinces of Iran (Kermanshah and Kurdistan) and in two different river basins (Karkhe and Sirvan). This plan consists of a dam, water transmission tunnel, and series of diversion dams, and irrigation and drainage networks. Irrigation and drainage networks includes the networks of Bilevar Plain (upstream) covering an area of 10,974 hectares, and networks of Miandarband Plain (downstream) covering 19,678 hectares (Mahab Consulting Engineers Company, 2000). Gawshan Dam Basin has experienced major water conflict since 1999 that has had a devastating impact on people in the affected regions and challenged successive regional governments. Previous research has shown that the main source of conflict in the region has been poor water governance, while climate factors such as low rainfall and drought have also contributed to these conflicts.

RESULTS AND DISCUSSION

Content analysis of the data led to extraction of 27 concepts in open coding and then seven categories emerged from axial coding (Table 2). Frequency refers to how often a code has been applied. The frequency of each concept reflects its importance from the perspective of the participants. This process is called highlighting. On this basis, it can be concluded that from the perspective of the participants, the most important water governance principles in the region that need to be reformed include the participation, fairness, accountability, responsiveness, legitimacy, transparency, and consensus orientation. These will be discussed below.

Participation

According to Table 2, the public participation in water governance is the most important

**Table 2-** Semantic units, concepts and classes extracted from interviews.

Key phrase	Concept	Frequency	Class
Water distribution in the region is not fair	Inequalities in water distribution	12	Fairness
Government sends water to Kermanshah for urban domestic consumption	Inequalities in water allocation	3	
There is no agreement about the causes of the water crisis.	Lack of consensus on the causes of the water crisis	8	Consensus orientation
We need to find collaborative solutions to resolve conflicts rather than top-down ones.	Disagreements over conflict solutions	4	
Government and farmers have not agreed on the proposed farming pattern.	Disagreements over farming pattern	5	
There is no agreement about the timely payment of water right.	Lack of consensus on the timely payment of water right	8	
Direct access to regional water experts is impossible.	Impossibility of direct access to experts	3	Responsiveness
It is not possible to inform timely about the water-release time.	Lack of timely notification	2	
They plan no matter what the farmers' needs are.	Lack of attention to farmers' needs	2	
Experts do not have time to address the problems of farmers and are constantly expanding the network.	Failure to address the farmers' issues	2	
Failure to hold participatory meetings with farmers to explain their own actions.	Failure to explain their own actions	3	
Farmers do not feel any responsibility towards agricultural water.	Lack of responsibility among farmers	3	Accountability
Government has not implemented any plans to increase farmers' accountability.	Lack of encouragement of farmers to be accountable	2	Transparency
They did not talk with farmers about the water allocation priorities.	Lack of information about dam priorities	3	
Information on how contracts are made is not available for farmers.	Lack of information about contracts	2	
Farmers are not informed about the activities of the water users' cooperative.	Lack of information about water users' cooperative	2	
Information about water records is not available to farmers.	Lack of information about water records	6	
Water resources cannot be managed only by the government.	Lack of legitimacy in the administration of water	4	Legitimacy
The number of water users' cooperatives is very low relative to the land.	Inadequate number of water users' cooperative	6	Participation
Farmers are not involved in decision-making.	Lack of partnerships with the farmers	10	
Water users' cooperative has a formal role.	ineffectiveness of water users' cooperative	5	
Farmers have not been consulted at setting contracts dialogues.	Lack of consulting at setting contracts	3	
Farmers are reluctant to participate in water management.	Lack of voluntary participation of the people	7	
Farmers have not been involved in the implementation of dam project.	Lack of people participation in project implementation	4	
Farmers will not be considered in water distribution.	Lack of consultation about water distribution	4	
Farmers have not been involved in the water distribution.	Lack of farmers participation in water distribution	5	

challenge in relation to the current state of water governance in Gawshan Dam Basin. Summarizing the concepts of this class shows that the governance of the Gawshan Dam Basin is more top-down in structure, with no role for the farmers. The only concern was the supply of water through the construction of the dam. One participant said:

"Farmers have not been taken into account in any endeavor, from dam construction to exploitation. No one looked at us, no one asked us how we distributed or divided the water".

In this regard, participants also pointed to the inadequate number of water users' cooperatives, the ineffectiveness of water users' cooperatives, the lack of partnerships with the farmers, the lack of voluntary participation of the people, and so on. Participation has therefore become a key challenge of water governance in the region. Mirzaei *et al.* (2017) also indicated that farmers' involvement had been a major challenge to the local governance system in their research area. Local involvement in fact can spell the difference between the success and failure of governance efforts (Rola *et al.*, 2015). In fact, this problem is not limited to the area. Since the time of land reforms in the country, water has become a public rather than a private good, and all water related decisions are planned and implemented at the government scale (Yazdanpanah *et al.*, 2013b). The most striking problem in this governance is the full control of the state and the abandonment of other stakeholders who can help improve the governance alongside the state government system.

Fairness and Consensus Oriented Culture

Analysis of the interviews indicated that another challenge facing the decision-making system of agricultural water in the region is the inequality in water distribution and allocation. Participants believe that water distribution in the region is not fair, especially between upstream and downstream villages.

"Water distribution and allocation is not fair. Water is first shifted into upstream area, where the villages have plenty of water and villagers control discharge of water into downstream, when it is downstream turn"

In this regard, farmers also refer to the issue of water allocation for drinking use in Kermanshah City. They believe that the state allocates water to urban domestic consumption, while farmers in the region face water scarcity. The issue of inequality in the distribution and allocation of water, along with other factors such as lack of consensus among farmers in the timely payment of water right, the proposed cropping pattern, and the lack of consensus in the causes of the water crisis have led to conflicts and tensions in the region. For example, regarding the causes of water crisis, which is the source of conflict in the region, a group of upstream farmers perceived water crisis as a climatic phenomenon caused by low precipitation and drought. While their downstream rival counterparts perceived water crisis as a managerial phenomenon caused by mismanagement and poor governance. Disagreements over conflict management were the other concept that was frequently cited. One participant said:

"There is no mechanism for resolving local conflicts, while problems at the local level are more easily resolved than legal and judicial procedures that are time consuming and costly."

In fact, this problem is not limited to the research area but, in general, the government has reduced its control over water resources, while there is no legal and predictive mechanism for controlling water conflicts (Bijani and Hayati, 2011, 2015). This problem has also provided the ground for intensifying the agricultural water conflict in Iran.

Accountability

Analysis of the findings showed that non-accountability is one of the other weaknesses of the existing governance system. Participants pointed to the lack of responsibility among farmers in water governance and the lack of encouragement of the farmers by the government.

"Farmers don't consider themselves responsible for agricultural water instead, responsibility is typically assigned to someone else".

It is despite the findings of Menatizadeh *et al.* (2015) who showed that with increasing water stress, farmers are more responsible for



agricultural water resources. However, the lack of accountability leads to perceptions of corruption and injustice (Hadi, 2005).

Responsiveness

Impossibility of direct access to regional water experts, failure to inform timely about the water release time, failure to hold participatory meetings with farmers to explain their own actions, failure to address the farmers' issues, and ignoring the needs of farmers in water planning were among the concepts extracted from the respondents' statements. These concepts were classified as accountability. Accordingly, the system of governance in the present situation suffers from lack of accountability. In addition, what is argued from these statements is that much of the lack of accountability, especially among the experts, is caused by their lack of familiarity with the principles, tools and spirit of participation. However, in the good governance, all institutions and processes must work to serve stakeholders within a reasonable timeframe (UNDP, 2000).

Transparency

Another weakness of governance that has caused conflicts and tensions in the region is the issue of lack of transparency in water governance. Participants believe that the current governance is not sufficiently transparent, which has led to aggravated conflicts in the region. For example, one of the respondents referred to the lack of information and knowledge of rural communities' regarding dam priorities.

"They should first talk to us, about how the water was allocated. We would never sell our land for dam construction if we knew their priority is urban domestic water"

Regarding the water conflict records, another participant stated:

"The exact number of conflicts and the process of handling them are not published. This will clear the problem. All cases must be

presented in a transparent way so that practical decisions can be made'

In fact, the lack of transparency regarding water conflicts in cases where water resource management is governmental is common, which leads to an increase in the number of hidden conflicts in the region (Barli et al., 2006). If these conflicts are not promptly addressed, they will become open conflicts and violence (Blackman, 2003).

Legitimacy

Legitimacy is another principle extracted from participants' statements. At present, legitimate administration of affairs is one of the fundamental challenges in villages (Hesam et al., 2014). Administration of water affairs is also not an exception. Legitimacy means that the state supports the majority of users according to the rules and regulations (Barker, 2000). This legitimacy will be realized when participants believe that their interests, concerns, views and perspectives were included and given appropriate weight and consideration (Bundschuh, 2008). If good governance can be achieved, one can hope to protect the stakeholders' rights.

Current Water Governance

As noted, the current water governance has weaknesses that have led to conflicts and tensions in the region. Among the extracted factors, ignoring the principle of participation and then consensus are more important than any other factor. Therefore, current governance (Figure 1) should focus on strengthening the weaknesses and filling the gap between the current situation and the desired one.

Local Solution for Reinforcing Water Governance

After discussing the current state of water governance in the region, participants were asked to show us what they would like the situation to be. Therefore, they discussed their

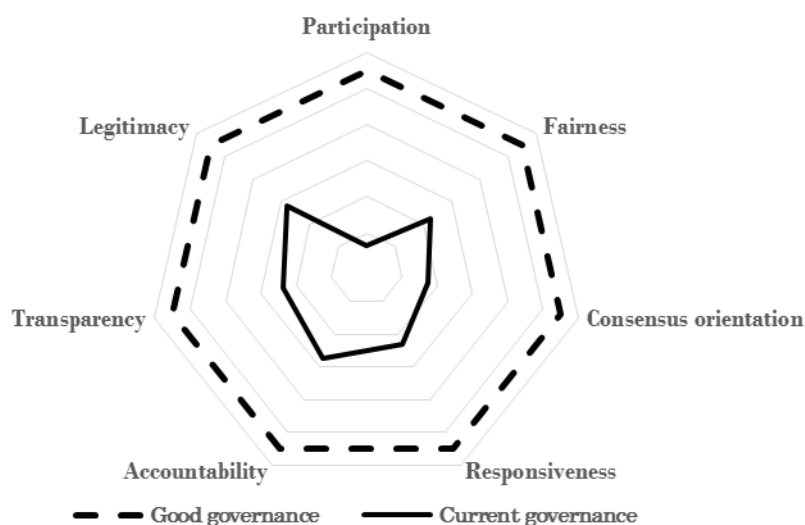


Figure1. Current governance compared to good governance

solutions for improving and reinforcing water governance in the region. Then, the output of this phase was formulated into solutions for the water governance challenge (Table 3).

As mentioned, the main challenge facing water governance in the region is the lack of farmers' involvement in water administration. The suggested solution in this field is to involve farmers in water management decisions. Local participation in the water administration has already been proposed to strengthen the governance (Hadi, 2005; Rola *et al.*, 2015; Ghaemi *et al.*, 2017). Such a solution, if properly implemented, will be the cornerstone of good water governance in the region (UNDP, 2000). Good governance determines whom they involve in the process and how they render account (Graham *et al.*,

2003). The principle of participation in the Iranian water governance has a long history and, in terms of the structure and mechanism of participation, research has confirmed the existence of traditional cooperatives in the collective activities of the villages in ancient Iran (Balali *et al.*, 2011). Therefore, participation in its true meaning in the Iranians water governance is not a new concept and has a long history. However, with the land reform program, the increase in the number of owners due to inheritance rules, and collapse of some Qanats, this participatory system has also ceased (Balali *et al.*, 2011). After the land reform, attempts made to develop rural institutions, such as water users' cooperative, to create a platform for the stakeholder's participation in managing water which, of

Table 3. Local solutions suggested by participants

N	Solutions	Frequency
1	Farmers' contribution to agricultural water decision- making processes	8
2	Empowering the local farmers/people to negotiate and manage conflicts	7
3	Establishing a participatory mechanism to manage water conflict	7
4	Holding training courses and workshops for staff to get acquainted with the principles of good governance	6
5	Creating transparent and accessible information system by agricultural water section	4
6	Holding education-extension courses to increase the stakeholders' knowledge and awareness in line with responsibility	4



course, never achieved the success of the Boneh (traditional cooperatives) in the organization of collective activities (Yazdanpanah *et al.*, 2013b). Therefore, with these considerations, the mechanisms of the water users' cooperatives should be such that to facilitate the process of stakeholder participation in water decision making. Facilitating the participation and strengthening of these institutions is, on the one hand, a function of the institutionalization of voluntary stakeholder participation and, on the other hand, is dependent on legal frameworks that provide the ground for stakeholders' participation (Balali *et al.*, 2011). Creating grounds for participation or capacity building for participation is often linked to the empowerment of local communities (Peeters and Ateljevic, 2009). Therefore, in order to realize participation in the water governance, special attention should be given to the empowerment of local communities, especially the farmers, so that farmers can make practical decisions about water and how to govern it. As discussed in the current situation, the main challenge in farmers' involvement and in general, water governance, is the issue of conflict and its management. Hence, a major part of this empowerment is to increase farmers' ability to negotiate and conflict management. Such solution will also promote governance legitimacy, which allows users to be satisfied that their interests have been taken into account and that the process has been a fair one (Bundschuh, 2008). In this way, government as the owner and manager of the water will be able to restore its legitimacy in the field of water. Therefore, people will accept the authority of those in power and the existence of a sanctioned set of rules, processes and procedures (Bundschuh, 2008).

Establishing a participatory mechanism to manage water conflict

Injustice in water governance and lack of consensus among key stakeholders have caused water related conflict at local level. In this regard, participants proposed a local mechanism for conflict management in the region. Such mechanisms can mediate

competing claims for water access. Previous research also has introduced such mechanisms, including building institutional capacity, through signing agreements (treaties) and creating water users' organizations, as a successful strategy in resolving and preventing water conflicts (Perlman *et al.*, 2017; Silima, 2016; Lienert *et al.*, 2013; Hadi, 2005). In terms of structure in previous research, this task has often been undertaken by water users' cooperative (for example Perlman *et al.*, 2017) but since the experiences of the water users' cooperative has been disappointing in negotiating and managing the conflict, it is suggested that this task be taken up by agricultural extension. This institution should have transparency in decision making as the basis of conflict management that may allow equitable distribution of benefits by having the precise mechanisms to manage conflicts in the region. In this case, not only will the conflicts be addressed in the form of a conceptual framework (Perlman *et al.*, 2017) but also the likelihood of capacity building appears to be very high for establishing fairness and consensus which are the pivotal principles of good governance.

According to interviews with participants, lack of accountability among farmers was one of the challenges confronting water governance and water service delivery in the region. The proposed solution was holding education-extension courses to increase knowledge and awareness of the beneficiaries in line with responsibility. Water crisis in the region, its causes and effects, and water conservation behaviors should be addressed in these courses, which are held by agricultural extension. Probably, more knowledge of water crisis among beneficiaries will increase their accountability and get them ready for participation (Sundbland *et al.*, 2009).

Water governance at local level is confronted with little responsiveness. Thus, holding training courses for the experts will familiarize the staff with the principles of good governance that is essential to improve responsiveness and strengthening good governance. Ghaemi *et al.* (2017) also have emphasized the role of education and capacity building in governance. For this purpose, agricultural extension could act as a broker

and coordinator of the training courses. Moreover, to enhance the staff participation and promote their responsiveness, it is vital for them to become trained in and familiar with the participatory techniques.

Lack of information for all beneficiaries would make poor governance. The proposed solution for this problem is creating transparent and accessible information system for all beneficiaries to enable them to make informed decisions about agricultural water in the region. Such a mechanism has also been considered in previous research (for example, Sternlieb and Laituri, 2015). This structure should include detailed information about progress of the water networks, the number of submitted complaints and complaint handling processes, the number of water users' cooperatives and their activity reports, and the results of reports on the assessment of social, economic, and environmental impacts. Beneficiaries have the right of free access to these data. As people tend to put more trust in the views of the information sources, the suggested alternative is to delegate this task to agriculture extension agents.

New Water Governance Framework at Local Level

Considering the aforementioned principles,

the framework for good water governance in the Gawshan Basin can be established. This framework is a conceptual structure to set the principles of good governance, and the arrangements for implementing these principles and key actors at local level. This framework (Figure 2) is developed with the participation of the main actors and based on the existing context (based on the conflict resolution).

CONCLUSIONS

In recent years, many efforts have been taken to define the principle and dimensions of good water governance. Many authors have discussed national or international water governance but there is a lack of study on the local scale. It seems that, it's not possible to prescribe a general good governance framework for every region. It should be done in the context of the region and its challenges. This study was conducted in a conflict-affected rural area of Kermanshah Province in western Iran. The site has been blamed for poor governance challenges. Reviewing the structure of water governance in the region highlights the fact that the issue of participation is the main challenge in the current situation - along with factors such as fairness, consensus, responsiveness,

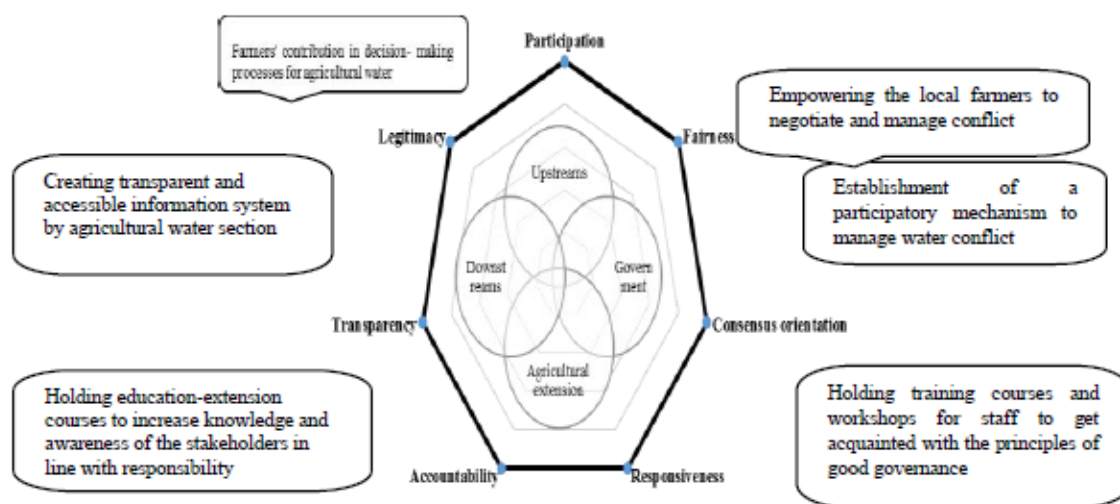


Figure 2. Good water governance framework at the local scale



accountability, transparency, and legitimacy. Obviously, such a governance structure is unable to resolve the conflicts in the region and contributes to maintaining them unchanged. Therefore, with the premise that the “one-size-fits-all” models of governance do not work (OECD, 2015), a good water governance framework was developed in line with its related principles. This framework is based on the regional context and includes seven fundamental principles consisting of participation, consensus building, fairness, legitimacy, responsiveness, transparency, and accountability. According to the proposed framework, there will be various actors and stakeholders in local water governance whose diverse and, sometimes, conflicting interests are rooted in water governance in the region. These conflicts must be considered from the outset in explaining the governance structure. In the meantime, the agricultural extension is of particular importance due to its well-known ability and crucial role in conflict management context. Among all the factors contributing to building good governance, reforming the water delivery mechanism to farmers will be the key to the success of the water governance, as perceived by the community members.

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تبیین حکمرانی خوب منابع آب سطحی کشاورزی در حوضه آبخیز گاوشان، استان کرمانشاه، ایران

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چکیده

طی دهه‌ی گذشته، حکمرانی آب در ایران تضاد فزاینده آب کشاورزی را به‌ویژه در سطح محلی تجربه نموده است. به‌منظور مواجهه با چنین چالشی بازننگری و تقویت حکمرانی آب موجود و تبیین حکمرانی خوب ضروری به نظر می‌رسد. از این رو، این تحقیق به‌منظور درک نظام حکمرانی آب در حوضه آبخیز گاوشان در استان کرمانشاه و ارائه‌ی یک چارچوب مفهومی بدیل به‌منظور حکمرانی خوب آب در سطح محلی انجام شده است. مشارکت کنندگان در تحقیق به‌صورت هدفمند و از بین نمایندگان گروه‌های رقیب انتخاب شدند. به‌منظور جمع‌آوری داده‌ها از روش کارگاه مشارکتی همراه با بحث گروهی متمرکز و مصاحبه استفاده شده است. تجزیه و تحلیل داده‌ها منجر به استخراج چالش‌های حکمرانی آب در چند طبقه شد که عبارتند از: کمبود مشارکت، عدالت، پاسخگویی، مسئولیت‌پذیری، مشروعیت، شفافیت و اجماع محوری. در نهایت بر اساس اجماع شرکت کنندگان تعدادی راه حل در جهت دستیابی به حکمرانی خوب آب استخراج شد که عبارتند از: مشارکت کشاورزان در فرایند تصمیم‌گیری در مورد آب کشاورزی، توانمندسازی مردم محلی در جهت مذاکره و مدیریت

تضاد، ایجاد سازوکار مشارکتی به منظور مدیریت تضاد آب کشاورزی، برگزاری دوره‌ها و کارگاه‌های آموزشی بمنظور آشنایی کارمندان آب منطقه‌ای با اصول حکمرانی خوب، ایجاد نظام اطلاعاتی شفاف و در دسترس، برگزاری دوره‌های آموزشی، ترویجی به منظور افزایش دانش و آگاهی ذینفعان در راستای افزایش مسئولیت پذیری. در نهایت پس از ایجاد ارتباط بین مفاهیم استخراج شده چارچوب حکمرانی خوب آب در منطقه طراحی شد.