

Social Capital Analysis at The Citarum Harum Implementation Area

MUTHYA DIANA

Regional Research and Development Agency of West Java Province (Badan Penelitian dan Pengembangan Daerah Provinsi Jawa Barat) Jl. Kawalayaan Indah Raya No. 6, Bandung
email: muthyadiana@jabarprov.go.id

Abstract. The Citarum Harum is one of the government's efforts to revitalize the Citarum River Basin. This requires community participation, and one of the factors that correlate is social capital. This study aims to determine the condition of existing social capital in the area of implementation of the Citarum Harum Program. A quantitative approach with the survey is used in this study and a questionnaire becomes the instrument of data collection. Afterward, quantitative descriptive techniques are applied to analyze the collected data. The results show that the social capital of the studied community corresponding to the dimensions of groups and networks, collective action and cooperation, social cohesion, and inclusiveness are moderate; while the dimension of trust and solidarity is high. Based on typology, the study finds two types of social capital: Bonding Social Capital and Bridging Social Capital. Meanwhile, the Linking Social Capital characteristic is not identified. The optimization of social capital to support the Citarum Harum Program can be intervened through their village organizational/institutional empowerment with emphasis on capacity building focused on religious and youth leaders.

Keywords: citarum harum program, bonding social capital, bridging social capital

Introduction

The Citarum Harum program is a continuation of various efforts the Government of West Java and the Central Government have made to overcome various problems in Citarum River Basin (DAS). This program is a National Program and is under the coordination of the Coordinating Ministry for Maritime Affairs. Its existence is confirmed by the Presidential Regulation of the Republic of Indonesia Number 15 of 2018 concerning the Acceleration of Pollution Control and Damage to the Citarum River Basin and the Regulation of the Coordinating Minister for Maritime Affairs Number 8 of 2019 concerning the Steering Committee and Task Force of the Pollution and Damage Control Team of the Citarum River Basin. Within seven years since the program was launched, water in the Citarum watershed (DAS) which has an area of 721,945.66 hectares, was targeted by President Joko

Widodo to be used as a source of drinking water by the community.

Until 2021, the Citarum Harum Program has been implemented within three years of periods. The Commander of the Citarum Harum Task Force (*Dansatgas*), the Governor of West Java Province claimed that the status of the Citarum River had changed from heavily polluted to lightly polluted, as reported by Teguh and Fauziah (2021).

In the Two-Year Evaluation of the Harum Citarum Program, the Task Force also reported that 78.8% of the critical land area in the forest area had been rehabilitated by planting 9,525,367 tree trunks. From the aspect of water quality, it was reported that there was a decrease in organic pollutant levels at three out of seven observation points along the Citarum, namely after the Cisirung, Nanjung and Walahar dam. In addition, commitments and improvements have been made to the Waste Water Treatment Plant

(WWTP) with 27.6% of industries along the Citarum watershed. Furthermore, it was also reported that the coverage of waste services in eight regencies/cities in the Citarum watershed had reached 49.87%, with the managed waste generation of 1,717.10 tons/day and 37,301 floating net cages (KJA) have been brought under control in three reservoirs in the Citarum watershed area, namely Cirata, Jatiluhur and Saguling (Satgas Citarum Harum, 2019).

The Citarum Harum program aims to revitalize the Citarum watershed that is divided into three zones, namely upstream, middle and downstream. The upstream area has a vital role as a source for the flow of water below it. However, environmental damage in the upstream Citarum area is considered to have been very worrying by many parties. The damage is marked by the frequent occurrence of natural disasters, including floods, droughts and landslides. According to Imansyah (2012), the source of these problems is the low level of public and government awareness of environmental sustainability. The Indonesian Forum for the Environment (*Walhi*) in West Java also highlighted the lack of maximum participation and involvement of the public and communities around the river (Bagus, 2019).

For this reason, in the third year, one of the focuses of the Coordinating Ministry for Maritime Affairs is the development of human resources with efforts to change people's mindsets, in addition to five other issues which include handling critical land, industrial waste, floating net cages, domestic waste and law enforcement. This mindset change is expected to positively impact the level of community participation, which for two years of the implementation of the Citarum Harum Program was still in the low category, as reported by Diana & Kartasasmita (2019).

Low participation can indicate that the community is still placed as an object in this environmental program, which can then have implications for the delay of program sustainability. In this case, repositioning the community's role in environmental management is essential, not just being an object but the community as an integral and inseparable part of environmental development. The policy perspective states that the community is not only the policy's address but also an actor or policy actor.

Several studies show that supporting the community's role in the implementation of development programs is related to social capital. Haridison (2013) explained that several dimensions of human development are strongly influenced by social capital, including the ability to solve the complexities of various joint problems, encourage rapid change in society, foster collective awareness to improve the quality of life and seek opportunities that can be utilized for prosperity. These are built on mutual trust, cohesiveness, proactive action, and internal-external relationships in building social networks, which will ultimately increase the possibility of accelerating the development of individuals and groups in society.

Yuanjaya (2015) reported that social capital can mobilize internal resources and build networks outside the community to maintain the sustainability of the Green Village Program in Gambiran Village, Yogyakarta City. Marbuah's research (2019) also shows that social capital affects individuals' willingness to contribute to environmental protection in Sweden. The results of Ng's research (2018) show that the use of social capital in the form of a strong sense of attachment and togetherness, creativity and entrepreneurial spirit and the ability to bridge various capitals from stakeholders can influence the Hong Kong Government's policy in revitalizing slum settlements. In addition, aspects of social capital can also be used as indicators in assessing the social index of the community, as was done by Essa (2018) in Bandung City.

Botetzagias & van Schuur (2012) further explained that social capital in the form of values and beliefs is a potential internal resource to mobilize environmental movements. This potential can encourage a shared identity, participation and expansion of networks that support environmental movements. According to Field (2014), social capital is also essential to be studied more deeply because it can be a stimulus to the success of a policy.

Thus, strengthening social capital can be an entry point for efforts to change people's mindsets in maintaining Citarum, as expected by the government. For this reason, an analysis of the condition of social capital in the implementation area of the Citarum Harum Program is vital for the government in determining the Citarum watershed revitalization strategy.

Many experts provide a definition of social capital, which is often cited, among others, is the opinion of Fukuyama as quoted by Myeong & Seo (2016), saying that social capital can be defined simply as the existence of a particular set of values or informal norms that are shared among group members which allows cooperation among them. Another definition is also given, among others, by Bourdieu (2018) that social capital is a resource based on family relationships and relationships within a social group that is governed by the principle of participation. Reyes et al. (2019) state, "Social capital refers to the many resources derived from the social interaction between individuals and groups". In essence, social capital theory is concerned with the values and networks that exist in a community.

Salewangang (2013), citing the Report of the Research Institute of Padjadjaran University in 2008, states that there are several instruments to measure social capital, including the World Value Survey developed by Ronald Inglehart, the Social Capital Assessment Tool compiled by Krishna and Shrader, and the Integrated Questionnaire for The Measurement of Social Capital (SC-IQ) developed by Grootaert et al. (2004).

This research focuses on identifying the community's social capital in the upstream area of Citarum by using the SC-IQ instrument. This model is more relevant to the research objective, namely to obtain quantitative data on various dimensions of social capital with the unit of analysis at the household level. This study uses four of the six indicators recommended by Grootaert et al. (2004), namely groups and networks; trust and solidarity; collective action and cooperation; social cohesion and inclusiveness.

Research Methodology

This study uses a quantitative approach with a survey method. According to Sugiyono (2015), a survey is a research method that uses and studies sample data from a population to find a mutually sustainable event. Data was collected through interviews with instruments in the form of a questionnaire. The research was conducted in 5 (five) villages/*kelurahan* that are included in the upstream area of Citarum by using random cluster sampling to represent five different types of problems

faced in the upstream area of the Citarum watershed. The five villages/*kelurahan* are the Official Village of Kertasari District, Bandung Regency (forest deforestation/ agricultural pollution and livestock/landslide clusters), Majalaya Village, Majalaya District, Bandung Regency (sedimentation and flooding cluster), Mekarmukti Village, Cihampelas District, West Bandung Regency (floating net cage cluster), Rancaekek Wetan Village, Rancaekek District, Bandung Regency (industrial pollution cluster) and Kelurahan Cibabat, North Cimahi District, Cimahi City (domestic waste cluster).

The study population was all households in the five villages/*kelurahan* totaling 32,702 families. The number of samples was determined using the Isaac and Michael Tables as many as 270 families. The amount is then divided proportionally based on the percentage for each village/*kelurahan*. After being distributed, it turned out that the Resmitingal Village only got a share of 16 families as a sample of respondents, so to fulfill the analysis requirements, the number of samples in this village was added by 14 families so that it became 30 families. With this addition, the total number of respondents is 284 people.

Data from the questionnaires were then analyzed descriptively quantitatively. The scoring is then divided into five categories: very high, high, medium, low, and very low. The interval between categories is calculated based on the following formula:

Highest Score – Lower Score

Interval = -----
Sum of categories

The following categories were obtained:

Very high = 4.21- 5.00

High = 3.41- 4.20

Moderate = 2.61- 3.40

Low = 1.81 – 2.60

Very low = 1.00 – 1.80

The operational definitions used in this study are described in Table 1

Table 1
Operational Definition

| Variables | Dimensions | Indicators | Reference |
|--|-----------------------------------|---|--------------------------|
| Social capital is the ability that arises from interactions between individuals in society that involves trust, norms, and networks that the community can utilize to solve everyday problems. | Groups and networks | - Membership at formal /informal organizations/groups - Level of activity within the organization - Number of close friends | (Grootaert et al., 2004) |
| | Trust and solidarity | - Trust in neighbors - Trust in the Citarum Task Force - Solidarity with the community | |
| | Collective action and cooperation | - The intensity of participating in community activities - Sanctions for non-participating members | |
| | Social cohesion and inclusiveness | - A sense of togetherness - Identify potential conflicts intensity of interaction with community members | |

Results and Discussion

Characteristics of Respondents

The majority of respondents have attained high school education level (43.7%). Only a small number of them have pursued higher education (5.2%), and there are still respondents who only completed junior high school/equivalent (28.2%) and primary education (17%) or did not even complete (5.9%). This means that public education in the implementation area of Citarum Harum is quite good and is above the average level of education for the new West Java population at the junior secondary level. This refers to BPS data in 2017, which shows the average length of schooling in West Java has only .reached 8 years

Based on the type of work, the majority of respondents are housewives (47.4%). Next are entrepreneurs and private employees (22.2%), day laborers (18.9%), farmers (2.6%), civil servants/*TNI/Polri* (0.7%) and other occupations (10.4%). This type of work can be related to the education level of the respondents, most of whom are only high school graduates/equivalent, so that job opportunities that provide a more .decent income are minimal

The Existing Condition of Community Social Capital in the Implementation Area of the Citarum Harum Program

The identification of social capital’s existing conditions in the implementation area of the Citarum Harum Program in this study is described through four dimensions: groups and networks, trust and solidarity, collective action and cooperation, and social cohesion and inclusiveness. The following is a description of the research findings for :each dimension

Groups and Networks

Grootaert et al. (2004) explain that groups and networks are a reflection of the structural dimension. This dimension consists of the structure and scope of institutions that exist in the community at the local level. This institution functions to facilitate and encourage the implementation of collective activities that are beneficial to the community. The structural dimension is critical because various economic development efforts to improve people’s welfare will be more successful if they are implemented through social institutions at .the local level

Table 2
Dimension Level of Groups and Networks

| Villages/ <i>Kelurahan</i> | N | Mean | Std. Dev | Categories |
|----------------------------|-----|------|----------|------------|
| Cibabat | 135 | 3.02 | 1.23 | Moderate |
| Mekarmukti | 31 | 3.34 | 1.16 | Moderate |
| Majalaya | 36 | 3.47 | 1.33 | High |
| Rancaekek Wetan | 52 | 3.44 | 1.18 | High |
| Resmitingal | 30 | 3.39 | 0.82 | Moderate |
| Total | 284 | 3.19 | 1.10 | Moderate |

Source: Questionnaire data

The results of this study indicate that the group's social capital and networks as a whole are in the moderate category, except for Majalaya Village and Rancaekek Wetan which are in the high category. This means that community institutions in the Citarum Harum Program implementation have developed sufficiently and have been able to act as a forum for community activities in carrying out activities that provide mutual benefits, in this case, related to Citarum Harum. The results of the analysis are presented in Table 2

The high category obtained by the villages of Majalaya and Rancaekek Wetan can be explained from the data of the organizations participated in by the people in the two villages. In Majalaya Village, several groups were not found in the other three villages, namely the Destana Group (Disaster Response Village), the Sasak Kondang (Nature Lover Group), and the Jaga Balai Group. These three organizations are groups engaged in the environment and disaster management. These organizations are under the coordination of the Bandung Regency Disaster Management Agency to form a more comprehensive network with various relevant stakeholders. Meanwhile, in Rancaekek Wetan Village, this was due to the high active participation of the community in organizations/institutions that reached 71%

It was found that the organizations/institutions that were most followed by the community in the five villages/*kelurahan* that became the research locus were religious organizations, either in the form of the ta'lim council or other religious study groups (21%). Other organizations that are quite widely followed are organizations in youth (*Karang Taruna*) by 13% and organizations in the field of the environment by 12%. The least followed organizations are political organizations (0.8%). However, there are

still many people (37%) who have not joined any groups in their area

The high level of community participation in religious organizations is an embodiment of the religious West Java community's values and shows that religious norms and their attributes are still crucial for the community. Meanwhile, public disinterest in political organizations is generally due to the lack of a correct understanding of politics. Some interviewees stigmatized that politics is complicated, dirty and is the work of "upper" people, and they show a reluctance to talk about politics. A survey conducted by Saiful Murjani Research and Consulting (SMRC) confirmed this condition. The survey results conducted in 2019 showed that 43% of Indonesians were afraid to talk about politics (Jayani, 2019)

The organizations participated in by the community are not yet fully managed democratically, where only 50% of respondents stated that the process of selecting the chairman and decision making in the group had been carried out by deliberation, and only 47% stated that the decision-making process within the organization had been carried out based on a joint decision. In addition, related to cooperation networks, in interviews with several community leaders, information was also obtained that in general existing organizations/institutions have not yet formed cooperative networks with other organizations/institutions either within the scope of their village or in neighboring areas, except for a few groups in Majalaya Village

This condition will undoubtedly impact the effectiveness of the organization in conveying the aspirations and participation of its members. In addition, organizations/institutions that are not supported by democratic management and strong

networks will also affect the community's bargaining position against the government or other interested parties. Thus, in the end, the existence of existing institutions/organizations in the community has not been able to become a substantial social capital

Networks are also measured by the number of colleagues/friends who can be asked for help. This indicator shows a very positive value at the five research loci, where most of the respondents (76%) have more than 2 colleagues/friends who can be asked for help. That is, the individual community has a network that they can use in social relations. However, if it is related to the organizational/institutional network described earlier, it seems that this individual network has not been used effectively to support the progress of existing organizations/institutions in the village

The existence of these groups and networks provides an opportunity for the successful implementation of the Citarum Harum Program, if utilized optimally through community empowerment efforts, especially organizations with a large number of members such as the Ta'lim Council. Diana & Kartasasmita's research (2019) shows that religious groups, in this case, the Ta'lim Council, have not been optimally involved as evidenced by the level of participation of this group in the implementation of the Citarum Harum Program which is only at the information stage, and this is categorized as low

Long before, Fukuyama (2001) has said that religion is an external source that can increase people's social capital. According to him, religion has also historically been one of the most important sources of culture, and religion-inspired cultural change remains an immediate choice in many parts of the world. Thus, the strengthening of religious organizations/institutions and other

organizations/institutions that already exist in the community can be an entry point in efforts to change the mindset of the community to support the implementation of the Citarum Program

Trust and Solidarity

Trust and solidarity are part of social capital with a cognitive dimension. Ehlen (2015) calls this dimension a cultural dimension related to values, attitudes and beliefs that affect trust, solidarity and reciprocity that lead to the creation of cooperation in society to achieve common goals. Fukuyama (2001) explains that trust is a hope that grows in a society which is indicated by honest, organized, and cooperative behavior based on shared norms

The social capital of trust and solidarity owned by the community in the implementation area of the Citarum Harum Program in this study is in the high category. No categorical differences at all loci were observed as shown in Table 3

The questions asked in this dimension are related to trust in neighbors and fellow citizens, trust in the government, in this case, is the Citarum Harum Task Force and willingness to help each other among fellow citizens. The level of public trust in government officials, in this case, the Citarum Harum Task Force, is in the very high category (89%). In addition, the level of trust in fellow citizens is also in the high category (73%). This level of trust further encourages the formation of solidarity among citizens, which is marked by the high willingness to help each other among the community members (74%)

Cox in Kurniawan (2018) states that in a society that has a high level of trust, social rules tend to be positive and form cooperative relationships. However, in this

Table 3
Dimension Level of Trust and Solidarity

| Villages/ Kelurahan | N | Mean | Std. Dev | Categories |
|---------------------|-----|------|----------|------------|
| Cibabat | 135 | 3.69 | 0.40 | High |
| Mekarmukti | 31 | 3.86 | 0.52 | High |
| Majalaya | 36 | 3.76 | 0.50 | High |
| Rancaekek Wetan | 52 | 3.64 | 0.46 | High |
| Resmitingal | 30 | 3.74 | 0.47 | High |
| Total | 284 | 3.71 | 0.45 | High |

Source: Questionnaire data

study, the solidarity that appears is only at the internal level and between citizens personally. The values of trust have not been realized in collaboration and collective action concerning the communal solution of the .Citarum problem

This situation can also be related to the condition of the network that only exists at the individual level as explained earlier. This finding is in line with the research by Diana & Kartasmita (2019) where the high level of public trust in the military as the implementer of the Citarum Harum Task Force is not related to the level of community participation in the implementation of the .Citarum Harum Program

This means that a high level of trust has not been able to become social capital for the people affected by the Citarum Harum Program. According to Carpiano and Fittere (2014), the measure of trust may only capture the psychological aspects that are relevant to social capital but do not show .social capital itself

Collective Action and Cooperation

This dimension reflects the procedural dimension of social capital that explores how household members work with others in their community in a joint activity in response to crises in their community. In addition, the consequences of violating community expectations regarding participation are also considered. For the people of Indonesia, collective action is better known as *gotong royong*. In areas that become Citarum watersheds, this activity is usually carried out in the form of community service in riverbank cleanups, building temporary waste disposal facilities and so on. The key to the success of various joint action activities depends on the .active participation of community members

Collective action and community cooperation in the implementation area of

the Citarum Harum Program as a whole is at a moderate level (Table 4), as well as partially at each locus, except for Majalaya .Village which is in the high category

The questions asked in this dimension are related to the respondent's activity in activities held by residents, community activity involving common interests and sanctions against individuals/community .members who do not participate

The lack of resident's participation in joint activities can be related to applying sanctions or reprimands for residents who do not participate, where only 38% percent of respondents stated that someone would be reprimanded or sanctioned if they did not participate in community activities. Claridge (2020) stated that social sanctions which are social reactions of approval or rejection in response to someone's actions would be a factor in enforcing standards of behavior that are considered socially acceptable. Social cohesion and cooperation are dependent on social sanctions and are essential for organizations, social groups and .communities to work together effectively

In the field of investigation, no policy or regulation was found that formally regulates community participation and the consequences that accompany it. Thus, sanctions are generally given informally and are usually closely related to the norms adopted and applicable and become social control over these community groups. The weak application of social sanctions can be related to the lack of a strong sense of community, as found in the dimensions of social cohesion and inclusiveness. In the end, this collective action and cooperation is primarily determined by the personal .consciousness of the citizens

Majalaya showed a better category than the other four loci. Questionnaire data shows

Table 4
Dimension Level of Collective Action and Cooperation

| Villages/ Kelurahan | N | Mean | Std. Dev | Categories |
|---------------------|-----|------|----------|------------|
| Cibabat | 135 | 3.27 | 0.67 | Moderate |
| Mekarmukti | 31 | 3.40 | 0.88 | Moderate |
| Majalaya | 36 | 3.81 | 0.61 | High |
| Rancaekek Wetan | 52 | 3.25 | 0.54 | Moderate |
| Resmitingal | 30 | 3.38 | 0.61 | Moderate |
| Total | 284 | 3.40 | 0.68 | Moderate |

Source: Questionnaire data

Table 5
Percentage of Individual Attendance, Community Attendance, and Sanctions

| Villages/ <i>Kelurahan</i> | Individual Attendance (%) | Community Attendance (%) | Sanctions (%) |
|----------------------------|---------------------------|--------------------------|---------------|
| Resmitingal | 95 | 30 | 30 |
| Majalaya | 97 | 46 | 46 |
| Rancaekek Wetan | 72 | 15 | 46 |
| Mekarmukti | 72 | 34 | 31 |
| Cibabat | 62 | 27 | 36 |
| Mean | 80 | 30 | 38 |

Source: Questionnaire data

that the level of respondents' attendance at community events and community attendance at activities involving common interests is higher than in other villages/ *kelurahan*, as well as giving reprimands for .(residents who do not participate (Table 5

Majalaya Village as part of the Citarum watershed has flooding problems every year that makes the community face a common issue which then creates a sense of sharing the same fate. This is then supported by the organization of residents in disaster management groups such as Destana and Jaga Balai so that cooperation and collective action among residents becomes easier to .build

Social Cohesion and Inclusiveness

Social cohesion provides an overview of the community's ability to create a safe and conducive environment based on the ability to work together in an entity. In contrast, social inclusiveness refers to openness in inviting and involving many people with different backgrounds, social status, economy, ethnicity, and others to jointly take a role in development. Overall, the social cohesiveness and inclusiveness of the community at the five loci of this study were in the moderate category, except

for Majalaya Village which was in the high .(category (see Table 6

The indicators used are related to a sense of togetherness, the level of social differences, and the intensity of social interaction. On indicators of social difference, only 27% of respondents stated that there were significant social differences among residents, meaning that the social environment of the community in the area of the Citarum Harum Program implementation was relatively homogeneous (73%). Furthermore, 67% of respondents stated that they have close relationships with fellow residents as indicated by the intensity of gathering for coffee, eating and/or chatting with other residents at least once a month. This can indicate that the relationship between residents is relatively cohesive (see Table 7).

On the other hand, residents have not been able to build an inclusive social relationship, and it can be seen from the low indicators of social interaction carried out by residents with individuals or groups with different entities in terms of religion, ethnicity, economic status or social status (28 %). A good level of cohesiveness will help maintain the values or norms owned by the

Table 6
Dimension Level of Social Cohesion and Inclusiveness

| Villages/ <i>Kelurahan</i> | N | Mean | Std. Dev | Categories |
|----------------------------|-----|------|----------|------------|
| Cibabat | 135 | 3.56 | 0.68 | High |
| Mekarmukti | 31 | 2.88 | 0.70 | Moderate |
| Majalaya | 36 | 3.41 | 0.67 | High |
| Rancaekek Wetan | 52 | 3.10 | 0.68 | Moderate |
| Resmitingal | 30 | 3.40 | 0.60 | Moderate |
| Total | 284 | 3.40 | 0.72 | Moderate |

Source: Questionnaire data

Table 7
Percentage of Sense of Togetherness, Social Difference, and Social Interaction

| Villages/ Kelurahan | Sense of Togetherness (%) | Social Difference (%) | Social Interaction (%) |
|---------------------|---------------------------|-----------------------|------------------------|
| Resmitingal | 67 | 33 | 3 |
| Majalaya | 75 | 36 | 39 |
| Rancaekek Wetan | 54 | 7 | 37 |
| Mekarmukti | 67 | 13 | 10 |
| Cibabat | 59 | 47 | 51 |
| Mean | 64 | 27 | 28 |

Source: Questionnaire data

community, while inclusiveness is needed to accept novelties (Wardyaningrum, 2016). The low level of community inclusiveness needs to be a concern in determining the implementation strategy of the Citarum Harum Program at the community level.

In Kelurahan Cibabat, it was found that social interaction was relatively higher than in other villages/kelurahan (51%), as well as the level of social differences among residents (47%). This means that when compared to other villages/kelurahan, the community in Kelurahan Cibabat has interacted with more heterogeneous entities.

This condition provides an overview of the characteristics of urban areas, where Kelurahan Cibabat is the economic center of Cimahi City with most shops, markets, mini markets, and other public areas located in this area, so that citizens interaction is more comprehensive and diverse. However, this condition does not indicate a strong enough inclusiveness because the interaction is not deep and does not manifest in collective action and cooperation as found in the dimensions of collective action and cooperation.

Overall, the community's social capital in the Citarum Harum Program implementation area is at a moderate level

as presented in Table 8.

Woolcock, as quoted in Fathy (2019), explains that three forms of social capital can be distinguished based on the type of social ties that exist in society, namely bonding social capital, bridging social capital, and linking social capital. Bonding social capital is the relationship between individuals in the same situation, such as the relationship between close family members, friends and residents in one neighborhood. Putnam (2001) explained that binding social capital tends to be exclusive, its membership is usually based on various similarities (ethnicity, ethnicity and religion), and relationships between individuals are closed and prioritize solidarity and group interests. It was also added by (Kusumastuti, 2016) that this form of bonding social capital sees the relationship between individuals in a group with an inward-looking orientation.

Bridging social capital is social capital that connects social, racial, religious, or other demographic and economic groups (Claridge, 2018a). The ties in social relations are looser and open (inclusive) with heterogeneous member backgrounds, such as colleagues and distant friends. This group emphasizes its orientation on joint efforts in

Table 8
Level of Community Social Capital in the Implementation Area of the Citarum Harum Program

| Dimensions | Categories |
|--------------------------------------|------------|
| 1. Group and network | Moderate |
| 2. Trust and solidarity | High |
| 3. Collective Action and Cooperation | Moderate |
| 4. Social Cohesion and Inclusiveness | Moderate |
| The whole Social Capital | Moderate |

Source: Questionnaire data

Table 9
The Category of Social Capital in the Areas of Implementation of Citarum Harum Program

| No | Villages/Kelurahan | Characteristic | Categories | |
|----|--------------------|---|------------|----------------|
| 1. | Resmitingal | - Existing groups/organizations are still internal, do not have a network with other groups | | |
| 2. | Rancaekek Wetan | - High level of trust in the internal group | Bonding | Social Capital |
| 3. | Mekarmukti | - High solidarity with group members - Social interaction is relatively homogeneous | | |
| 4. | Cibabat | | | |
| 5. | Majalaya | - Organizations/groups already have networks with other groups and from other regions | Bridging | Social Capital |

Source: Questionnaire Data

finding answers to common problems. The perspective of this group is outward-looking (Kusumastuti, 2016).

Furthermore, linking social capital is social relations between individuals and groups in hierarchically different social strata (Kearns, cited by Abdullah, 2013). According to Claridge (2018b) linking social capital involves social relationships with rulers that can access resources or power, but it is also helpful for connecting with people who provide knowledge and skills. Based on the explanation above, in the Citarum Harum Program implementation area, we found areas with the bonding type of social capital and bridging type of social capital, while the linking social capital was not found in the five observation areas. These categories are presented in Table 9.

The level of social capital, which is still in the moderate category and mainly of the social bonding type, is an opportunity and a challenge for efforts to change people's mindsets which will become one of the focuses in managing the Citarum watershed in the future. The findings of Arnott et al. (2021) in a group of farmers in the UK showed that a high level of social bonding but a low level of social bridging could inhibit adopting agricultural policies. This explains what Putnam stated that Yuanjaya (2015) quoted as "the dark side of social capital". This is a picture of the negative side of binding social capital, where trust and existing networks actually lead to social exclusivity in a community.

Several other studies also show that bonding social capital does not affect or can even harm the economy. In contrast,

social capital bridging can increase economic development, growth, and employment (Claridge, 2021). For this reason, it is vital for policymakers to pay attention to and assess social capital and create a balance between the three types of social capital (bonding, bridging, and linking) of a community in setting strategies for various policies related to Citarum Harum.

Policy interventions for optimizing social capital to support the Citarum Harum Program in areas with a bonding social capital can be carried out by strengthening existing community groups or institutions in the village, especially recitation groups, youth groups, and environmental activists groups and building networks in an integrated manner wider. In addition, it is necessary to optimize the group's active participation in various Citarum management activities through various coaching by utilizing the high level of public trust in the government. The emphasis on capacity building can be focused on religious leaders and youth, which is expected to be a driver of change in social capital. For areas with a bridging type of social capital, policies are needed to develop organizational networks that have been built by providing encouragement and facilitation for the growth of independent and non-governmental activities to create autonomous participation.

Conclusions

From the analysis above, the key is that the social capital of the community in the implementation area of the Citarum Harum Program is in the moderate category, which is built on the dimensions of groups and

networks; collective action and cooperation; as well as social cohesion and inclusiveness with each category being moderate. At the same time, the dimensions of trust and solidarity are in the high category.

Based on the typology, the social capital found was the bonding type and the bridging type, while the characteristics of linking social capital type were not found. Optimization of social capital to support the Citarum Harum Program can be intervened by empowering organizations/institutions in the village and emphasizing capacity building focused on religious leaders and youth leaders.

Acknowledgments

The authors would like to thank the Head of the Regional Research and Development Agency of West Java Province that has provided funding support for this research.

References

- Abdullah, S. (2013). Potensi dan Kekuatan Modal Sosial dalam Suatu Komunitas. *SOCIUS : Jurnal Sosiologi*, 12, 15–21. <http://journal.unhas.ac.id/index.php/socius/article/view/381>
- Arnott D, Chadwick D, Wynne-Jones S., & Dandy N.J.D. (2021). Importance of building bridging and linking social capital in adapting to changes in UK agricultural policy. *Journal of Rural Studies*, 83, 1–10. <https://doi.org/https://doi.org/10.1016/j.jrurstud.2021.02.001>
- Bagus. (2019, October 11). Ini Catatan Walhi Jabar Terkait Dua Tahun Program Citarum Harum. <https://Jabar.Idntimes.Com/>.
- Botetzagias, I., & van Schuur, W. (2012). Active Greens: An Analysis of the Determinants of Green Party Members' Activism in Environmental Movements. *Environment and Behavior*, 44(4), 509–544. <https://doi.org/10.1177/0013916510393278>
- Bourdieu, P. (2018). The forms of capital. In *The Sociology of Economic Life, Third Edition*. <https://doi.org/10.4324/9780429494338>
- Carpiano R.M., & Fittere L.M. (2014). Questions of trust in health research on social capital: What aspects of personal network social capital do they measure? *Social Science & Medicine*, 116, 225–234. <https://doi.org/https://doi.org/10.1016/j.socscimed.2014.03.017>
- Claridge, T. (2018a). Functions of social capital—bonding, bridging, linking. *Social Capital Research, January*, 1–7.
- Claridge, T. (2018b). *What is Linking Social Capital?* <https://www.Socialcapitalresearch.com/>.
- Claridge, T. (2020). *Social sanctions—overview, meaning, examples, types and importance*. <https://www.socialcapitalresearch.com/social-sanctions>
- Claridge, T. (2021). *What is Bonding Social Capital*. <https://www.socialcapitalresearch.com/what-is-bonding-social-capital/>
- Diana, M., & Kartasasmita, P. S. (2019). Modal Sosial, Persepsi tentang Keterlibatan Militer dan Partisipasi Masyarakat dalam Implementasi Program Citarum Harum. *CR Journal*, 5(2), 63–74. <https://doi.org/http://dx.doi.org/10.34147/crj.v5i2>
- Ehlen, C. (2015). Co-Creation of Innovation : Investment with and in Social Capital education - industry - government. *Open Universiteit Heerlen*, 210. http://www.cocreatanl/documenten/Dissertation_Co-creation_of_Innovation_Investment_with_and_in_Social_Capital.pdf
- Essa, W. Y. (2018). Capturing Social Capital Through Bandung City Community Index Arrangement and Development. *Jurnal Bina Praja*, 10(2), 169–181. <https://doi.org/10.21787/jbp.10.2018.169-181>
- Fathy, R. (2019). Modal Sosial: Konsep, Inklusivitas dan Pemberdayaan Masyarakat. *Jurnal Pemikiran Sosiologi*, 6(1), 1. <https://doi.org/10.22146/jps.v6i1.47463>
- Field, J. (2014). *Modal Sosial*. Kreasi Wacana. Yogyakarta.
- Fukuyama, F. (2001). Social Capital, Civil Society and Development. *Third World Quarterly*, 22(1994), 7–20. <https://doi.org/10.1080/0143659002002254>
- Grootaert, C., Narayan, D., Jones, V. N., & Woolcock, M. (2004). Measuring social capital: An integrated questionnaire. In World Bank Working Paper (Issue 18). (No. 18; 28110).
- Haridison, A. (2013). Modal Sosial Dalam Pembangunan. *JISPAR*, 2(2), 35–43. <https://doi.org/ISSN2089-6123>
- Imansyah, M. F. (2012). Studi Umum Permasalahan Dan Solusi Das Citarum Serta Analisis Kebijakan Pemerintah. *Jurnal Sioteknologi*, 11(25), 18–33.
- Jayani, D. H. (2019). *Survei SMRC : 43*

- % Masyarakat Takut Berbicara Politik. <https://Databoks.Katadata.Co.Id/>.
- Kusumastuti, A. (2016). Modal Sosial dan Mekanisme Adaptasi Masyarakat Pedesaan dalam Pengelolaan dan Pembangunan Infrastruktur. *MASYARAKAT: Jurnal Sosiologi*, 20(1). <https://doi.org/10.7454/mjs.v20i1.4740>
- Marbuah, G. (2019). Is willingness to contribute for environmental protection in Sweden affected by social capital? *Environmental Economics and Policy Studies*, 21(3), 451–475. <https://doi.org/10.1007/s10018-019-00238-6>
- Myeong, S., & Seo, H. (2016). Which type of social capital matters for building trust in government? Looking for a new type of social capital in the governance era. *Sustainability (Switzerland)*, 8(4). <https://doi.org/10.3390/su8040322>
- Ng, M. K. (2018). Urban Renewal, Sense of Community and Social Capital: A Case Study of Two Neighbourhoods in Hong Kong. In J. Clark & V. Wright (Eds.), *Urban Renewal, Community and Participation* (pp. 45–70). Springer International Publishing AG. <https://doi.org/10.1007/978-3-319-72311-2>
- Putnam, R. D. (2001). Social Capital: Measurement and Consequences. *Canadian Journal of Policy Research*. <https://doi.org/10.1017/S1474746403001052>
- Reyes, S., Giovannoni, G., & Thomson, A. (2019). Social capital: Implications for neurology. *Brain and Behavior*, 9(1), 1–10. <https://doi.org/10.1002/brb3.1169>
- Salewangang, M. (2013). Modal Sosial dalam Pembangunan TNI (Studi Pemetaan dan Pemanfaatan Modal Sosial Di Batalyon Infanteri 712 Wiratama – Manado). *Governance*, 5(1), 70–82.
- Satgas Citarum Harum. (2019). *Citarum Harum, Evaluasi 2 Tahun*.
- Sugiyono. (2015). *Metode Penelitian Kuantitatif, Kualitatif dan Kombinasi (Mix Methods)*. CV. Alfabeta, Bandung.
- Teguh & Fauziah. (2021). Kondisi Air Sungai Citarum Terus Membaik. Website Resmi Pemprov Jawa Barat. https://jabarprov.go.id/index.php/news/40920/Kondisi_Air_Sungai_Citarum_Terus_Membaik
- Wardyaningrum, D. (2016). Modal Sosial Inklusif dalam Jaringan Komunikasi Bencana. *Jurnal ASPIKOM*, 3(1), 33. <https://doi.org/10.24329/aspikom.v3i1.97>
- Yuanjaya, P. (2015). Modal Sosial Dalam Gerakan Lingkungan: Studi Kasus Di Kampung Gambiran Dan Gondolayu Lor, Kota Yogyakarta. *Natapraja*, 3(1), 57–72. <https://doi.org/10.21831/jnp.v3i1.11958>