

# Empowering Wetland Rice Farmers Through Strengthening Social Capital in Tomohon City

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**Abstract:** The role of government and related institutions in farmers' social capital through networks, norms, and trust, can affect farmers. One form of influence is to increase the empowerment of farming communities through empowerment programs carried out by extension to farmers. The purpose of this research is to formulate a model of strengthening social capital in empowering farmers in farmer groups. This research was designed descriptively using interview and survey methods. The sampling method is purposive sampling (Purposive Sampling Method). The research respondents were farmers in Tara-tara Village and Kayawu Village with a total of 100 respondents. Data collection methods were carried out by interviewing and surveying respondents. Primary data were obtained from respondent farmers through direct interviews, secondary data were obtained from various related agencies. The research data obtained were analyzed through three processes, namely reducing data, presenting data, and verifying data. Data verification was done by triangulating primary data sources, namely in-depth interviews, observation, and documentation with secondary data. Data reduction was done by writing a summary of interviews with respondents while in the field. Meanwhile, data presentation was done by tabulation to classify the data. Data verification is done by drawing conclusions. The results show that social capital involves three main aspects. These include trust, norms, and networks. Each aspect is assessed based on the indicators that make it up which are then used to measure the average strength of social capital of farmers in Tomohon City.

**Keywords:** Empowerment; Farmers; Social Capital; Tomohon

## Introduction

Agriculture is an important contributor to the economy and welfare of people in many countries, including Indonesia (Aryawati & Budhi, 2018). The role of agricultural extension workers can provide a major contribution to increasing agricultural productivity and empowerment of farmers in Indonesia (Budi, 2018; Rosada et al., 2024). Social capital and human capital are closely related (Bilan et al., 2017). Human capital includes knowledge, skills and also includes people's ability to relate to each other (Deming, 2022). This ability

is called social capital, which refers to people's ability to work together to achieve common goals within groups or between groups (Tulong et al., 2019). Social capital includes networks, norms and trust that enable farmers to work together in agricultural activities. Cooperation between farmers occurs because of the trust and norms applied in farmers' lives. The role of the government and related institutions in social capital can affect farmers. One form of influence is to increase empowerment through farmer empowerment programs (Kusnandar et al., 2019).

The dimensions of social capital are broad and complex, and differ from human capital which focuses

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more on individual abilities and skills. Social capital emphasizes the potential of groups and the pattern of relationships between individuals within groups or between groups. Social capital pays attention to social networks, norms and trust between group members, which then become group norms (Ngangi et al., 2021). There are three types of social capital according to (Cofré-Bravo et al., 2019), namely (1) Social Bonding is a relationship that binds individuals in a community with similar identities; (2) Social bridging is a relationship between or across communities that have different identities; (3) Social linking is a relationship between the community and financial and other public institutions. In this case, social capital can strengthen cooperation among individuals and groups in society by facilitating the creation of effective bonding, bridging and linking relationships (Ceci et al., 2020).

Social capital is a factor that strengthens the togetherness of each individual in a group, through various forms of norms, trust, and work networks. This brings mutually beneficial contributions in an effort to achieve common goals (Tohani, 2020). Three models of social capital according to (Castillo et al., 2021). 1) Groups that are formed based on common goals and orientations, and have modern organizational management, will have a better level of member participation and a wider network reach (Krishen et al., 2019); 2) Trust. Trust is an important part of social capital and can help strengthen relationships between community members. Trust is linked to the culture of a society which can shape the richness of social capital.; 3) Norms. The role of norms in regulating behavior that arises in society is very important. Norms are a set of rules that are expected to be obeyed and adhered to by individuals in a particular social entity. Norms can influence individual behavior in society and form social patterns that community members are expected to follow. Thus, norms can be considered as a means of social control that ensures individual behavior is in accordance with the values and procedures recognized by society (Hawkins et al., 2019).

Empowerment is a concept related to the concept of power (Laverack, 2005). Empowerment is a deliberate effort to assist local farmers in planning, deciding, and managing their local resources through collective cooperation and networking so that they ultimately have the ability and independence in social and economic aspects (Avelino et al., 2022). Empowerment has three aspects: (1) Enabling: creating an enabling environment for the development of farmers' potential; (2) Empowering: increasing the ability and power of farmers themselves; (3) Protecting: providing protection to farmers. The main inhibiting factors in empowerment innovation, namely (1) lack of precise planning or estimation in the process of spreading innovation; (2) the

existence of conflict and motivation, caused by personal problems such as conflicts between members of the implementation team, lack of motivation to work and various kinds of personal attitudes that interfere with the smooth process of innovation; (3) innovation does not develop; (4) financial problems, the fifth rejection of certain groups and the sixth lack of social relations. Empowerment activities can be divided into several stages (Mardikanto & Poerwoko, 2015): (a). Determination and introduction of the work area; (b) Socialization of Activities; (c) Farmer Awareness; (c) Farmer Organizing; (d) Activity Implementation; (e) Policy Advocacy; (f) Politicization. Strengthening social capital in rural development can be considered as a very important renewal of the approach (King et al., 2019)..

## Method

This research was conducted for 8 months, from March to November 2023, with the research location in Tomohon City. This research uses a descriptive method. According to (Wirartha, 2006), descriptive research is research that describes and relates various conditions, situations or various variables. Then, analyze and present facts systematically so that they are easier to understand and conclude. The results of the research are more emphasized on providing an objective description of the actual situation of the object under study. However, in addition to revealing facts, a strong enough interpretation is needed to get wider benefits. This research is suitable for the survey method because the data studied in survey research is taken from the population so that relative events, distributions, and relationships between variables can be found. Survey research also emphasizes more on determining information about variables rather than information about individuals using interviews and survey methods.

The sampling method was purposive sampling. The research respondents were farmers in Tara-tara Village and Kayawu Village with a total of 100 respondents.

The variables observed in this study consist of: 1). Farmers' social capital includes: a). trust, namely: (1). Trust in group members: the level of trust in group members; (2). Communication and Information: Communication between members, mutual information and trust in the information received; (3). Trust in the government: the level of trust in the government; and (4). Mutual Aid Attitude: Actions or actions to help each other as well as responses in providing assistance. b) Norms, namely: (1). Honesty: Telling the truth, matching actions with words, and not cheating in participating in farmer group activities; (2). Compliance: Compliance with the rules that apply in the farmer group; (3).

Customs: Customary traditions prevailing in society that have become a cultural heritage from generation to generation; and (4). Sanctions: Punishment for violations committed by farmers in the group. c) Network, namely: (1). Cooperation: Cooperation between groups with other groups or groups with other agencies; (2). Participation: participation in resolving conflicts and programming; (3). Reciprocity: The reciprocal relationship between the group and other groups/agencies; and (4). Activeness in participating in activities: active in participating in activities inside and outside the group.

Data collection methods were carried out by interviewing and surveying respondents. Primary data were obtained from respondent farmers through direct interviews, secondary data were obtained from various related agencies.

The research data obtained was then analyzed through three processes, namely reducing data, presenting data, and verifying data. Data reduction is done by selecting and selecting every data that comes in from the results of documentation, interviews and observations then processing and focusing all data. In this study, the data that has been obtained and organized is then presented in the form of systematic description information in the form of tables and narratives. Data verification was carried out by triangulating primary data sources, namely in-depth interviews, observation, and documentation with secondary data. Meanwhile, data presentation was done by making tables to classify data. Data verification was done by drawing conclusions from the data analysis by testing its correctness, strength, and suitability. The final stage is modeling a framework for strengthening social capital in empowering farmers by analyzing social capital and empowerment using a Likert Scale. Likert scale is a scale used for measurement is as follows:

**Table 1.** Score Weight

Kriteria	Skor
Very low	1
Low	2
Quite	3
High	4
Very high	5

The results of the interpretation of the highest score (X) and the lowest score (Y) for the assessment:

$$Y = \text{Likert Highest Score} \times \text{Number of Respondents}$$

$$X = \text{Likert Lowest Score} \times \text{Number of Respondents}$$

Example:

$$\text{- Very high : } 5 \times 100 = 500$$

$$\text{- Very low : } 1 \times 100 = 100$$

$$\text{Rumus Rata-rata \%} = \frac{\text{High Score}}{Y} \times 100\% \quad (1)$$

**Table 2.** Category Score Weight

Category	Score	Average
Very low	1	0% - 19.99%
Low	2	20 - 39.99%
Quite	3	40% - 59.99%
High	4	60% - 79.99%
Very high	5	80% - 100%

## Result and Discussion

### Social Capital

Some study results show the use of social capital in agriculture, especially rice paddies, is in the role category and can increase rice paddy production (Kristi et al., 2018; Rumagit et al, 2019; Pandapotan & Silalahi, 2019; Sudirah et al, 2020).

### Trust

Factors shaping social capital of IPDMIP program rice paddy farmers are: trust (honesty and egalitarian attitude); norms (shared values and rules) and networks (participation, solidarity and cooperation) (Martadona et al., 2023). Trust is a trusting belief in a group or community that allows the community to unite with others and contributes to increasing social capital (Ngangi et al., 2021). Trust as an element of social capital, namely: Trust in Group Members, Communication and Information, Trust in Government, and mutual assistance.

**Table 3.** Trust Assessment

Indicator	Score	Avarage (%)	Category
Trust in Group Members	413	82.60	Very high
Communication and Information	401	80.20	Very high
Trust in the Government	383	76.60	High
Mutual Aid Attitude	404	80.80	Very high
Total	1601	80.05	Very high

Trust is related to the culture of a community that can shape the wealth of social capital. The total score of social capital for trust owned by farmers is 1,601 with an average of 80.05 percent which means it falls into a very high category. The score of trust in group members in this study was 413 or 82.6 percent in the very high category. The level of the category is very high in trust in group members to make farmers can work together well. The level of trust is implemented in the form of good communication. Communication and Information is in the high category with a score of 401. The very high category level is reflected in good communication between group members, sharing information, and trust in the information received. Forms of communication and information such as information on activities,

training, meetings, sharing experiences about agriculture that can be done through whatsapp groups, private messages, telephone calls, and when meeting each other.

The high value of trust also affects empathy and sympathy, so mutual assistance becomes easier to do. The score for helping each other is included in the sufficient category which obtained a score of 404 or 80.8 percent. Forms of mutual assistance such as helping group members when in trouble or difficulty, lending money, providing input and advice, and responding quickly when a group member is in trouble. Trust in the government scored 383 or 76.6 percent in the high category. As a maker of regulations and policies in agriculture, building infrastructure that can support agricultural businesses, and protecting from price fluctuations. The level of trust built towards the government is in the high category because farmers feel the even distribution of government programs that can be felt such as financial assistance, seed assistance and agricultural tools.

*Norms*

Norms have a very important role in controlling the forms of behavior that arise in groups. Norms contain consequences that can prevent individuals from taking actions that violate the norms that apply in the group. Norms as an element of social capital are the value of honesty, compliance, customs, sanctions.

**Table 4.** Norm Assessment

Indicator	Score	Avarage (%)	Category
Honesty	401	80.20	very high
Compliance	378	75.60	high
Customs	391	78.20	high
Sanctions	374	74.80	high
Total	1544	77.20	high

Table 4 shows that the norms obtained in this study fall into the sufficient category with a total number of norms of 1,544 or 77.20 percent. Honesty scored 401 or 80.2 with a very high category. The high value of honesty arises from the commitment of group members in appreciating honesty and honest attitude in participating in every activity of the farmer group. The compliance score is in the moderate category with a score of 378 or 75.6 percent. Compliance is measured on the attitude of obeying the rules that apply in the farmer group. Social norms regulate various prohibitions, obligations, responsibilities, prohibitions, and rights both individually and collectively.

Social norms related to customs scored 391 or an average of 78.2 percent. Farmers still maintain the customary traditions that apply in the community which have become a cultural heritage for generations.

Obeying customs is interpreted by maintaining the tradition of mutual cooperation, polite dress, non-abusive speech, and thanksgiving which is celebrated annually. Although there are farmers who are immigrants, they still try to maintain their culture and traditions while respecting the diversity that exists.

Farmer groups have agreements in the form of rules that have been agreed upon by all group members. These rules are binding on all members, either directly or indirectly. The decision that has been taken must be carried out by all group members, as well as parties related to the farmer group, the sanction score shows a value of 374 or 74.8 percent which is in the high category caused by group members who often violate the rules are subject to strict sanctions that can provide a deterrent effect to farmers who have violated the rules. Therefore, the existing sanctions are successful in overcoming violations that occur in the group. For the assessment of customs and habits, although customary sanctions are not written down, if there is a violation, the offending member will feel ashamed of his actions.

*Network*

Networks reflect the capacity of farmer groups to participate and engage in a network of social relationships, through various activities. One of the determinants of success in developing social capital is the ability of a group of individuals in a group to be actively involved in a social network. Networks as an element of social capital are: commonality, informative, voluntary, and initiative.

**Table 5.** Network Assessment

Indicator	Score	Avarage (%)	Category
Cooperation	413	82.60	Very high
Participation	406	81.20	Very high
Reciprocity	398	79.60	high
Activeness in participating in activities	403	80.80	Very high
Total	1620	81.05	Very high

The total score of the social capital assessment in the network was 1620 or 81.05 per cent in the very high category. The assessment of cooperation only reached a score of 413 or 82.5 percent in the very high category. The high value of cooperation is reflected in the cooperation between groups and other groups/agencies as well as activeness in participating in activities. The participation score reached 406 with an average of 81.2 percent. The high social network is due to farmers actively participating in activities outside the group and within the group. Networks require cooperation and participation among farmer groups, because a strong network will function as an adhesive that forms the social structure of farmers. Social interaction results in a



good reciprocal relationship. High participation and high cooperation resulted in a reciprocity score of 398 or 79.6 percent.

*Farmer empowerment.*

*Revitalization of Farmer Group Institutions*

Empowerment is carried out at the group and individual levels tailored to existing needs. Empowerment at the individual and farmer group levels can have an impact on institutional strengthening and motivation for group members. This can be achieved through individual and group participation in empowerment activities. Empowerment involves farmer groups as an effort to empower farmers that can have an impact on strengthening farmer group organizations. Based on research results from (Pranadji, 2006), the rural community empowerment model in the management of Dryland Agroecosystems (ALK), includes strengthening social capital, and will be effective if it starts from strengthening local community leadership, social management, and dukuh level community organization.

This program is provided to encourage interaction between members as well as between other farmer groups. This communication development leads to the creation of close cooperation between group members and also with other farmer groups. The existence of communication can produce mutual trust, openness, and dependence on one another. Thus, the strength of social capital in the group increases with the trust and ties that are established.

**Table 6.** Assessment of Revitalization of Farmer Group Institutions

Result	Yes	No
Individual Capacity Development	88	12
Network Expansion	86	14
Increased Trust Between Stakeholders	81	19
Social Concern	85	15

Table 6 shows that there is individual capacity development for 88 farmers. Individual capacity development such as knowledge and skills and mental attitude to be able to develop themselves. Institutions are able to play a role in encouraging and contributing to sustainable development. Network expansion has an impact on 86 farmers. Farmer groups are agricultural institutions that play a role in expanding networks for agricultural development. Group members already understand the objectives of the farmer group so as to increase trust between stakeholders such as the government, the community, related agencies, and other farmer groups. Revitalization of farmer group institutions is able to increase the sense of concern for 85

farmers to care and provide assistance in group and community life.

*Appropriate Technology Transfer*

Appropriate technology transfer can foster skills and the ability to utilize and find resources. In the face of all limitations, farmer groups are given training to process and utilize resources, this training includes economic and technical aspects. Efforts to develop a superior agricultural product program aim to provide added value from an economic perspective. Efforts to develop superior agricultural products begin with providing training in commodity cultivation starting from seed preparation to further management to achieve quality and abundant agricultural products. All efforts to apply appropriate technology to support the process of transforming new knowledge to farmer groups.

**Table 7.** Assessment of Appropriate Technology Transfer

Result	Yes	No
Individual Capacity Building	91	9
Network Expansion	87	13
Increased Trust Between Stakeholders	85	15
Social Concern	82	18

Table 7 shows the development of individual capacity in the transfer of appropriate technology perceived by 91 farmers. The transfer of appropriate technology is tailored to the cultural, economic and social conditions of the farmer group. The technology developed is for land preparation and management, seed selection, proper planting, harvesting and marketing of agricultural products. Appropriate technology can answer the needs of farmers, because through the transfer of appropriate technology there is an increase in knowledge, abilities and skills of farmers in groups. A total of 87 farmers felt that there was an expansion of the network through a partnership pattern from production to marketing. The application of appropriate technology provides added product value and quality improvements that affect 85 farmers in increasing stakeholder confidence. The transfer of appropriate technology in groups ultimately builds synergized responsibilities in generating social care for group members in 82 farmers.

*Social Change*

Social change involves farmer group members participating in the planning, implementation, and evaluation of empowerment programs. Social change encourages courage, confidence and the courage to propose new ideas that are their own initiatives in finding solutions and dealing with problems.

Development of discussions in response to new ideas and then selecting ideas that are in accordance with the common interest by paying attention to mutual respect for other people's ideas.

Conducting the preparation and implementation of empowerment programs through farmer groups not only strengthens the role and function of the organization, but also strengthens the bond between farmers. Farmers can feel the benefits of the program, hopes and aspirations that can be realized together through farmer groups. Thus, empowerment can shape social change. These changes have a deep impact and build resources that can ultimately support farmers' resilience in the future.

**Table 8.** Social Change Assessment

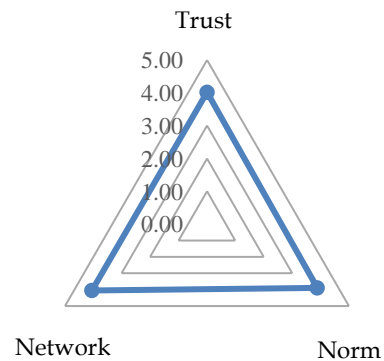
Result	Yes	No
Individual Capacity Building	93	7
Network Expansion	92	8
Increased Trust Between Stakeholders	92	8
Social Concern	91	9

Social change in this study goes through a process: 1) Acculturation: the acceptance and management of ideas and knowledge; 2) Assimilation: the fusion of ideas and knowledge; 3) Diffusion: the spread of ideas and knowledge; 4) Symbiotic: Acceptance of ideas and knowledge. Social change encourages farmers to keep learning and be creative in creating new ideas. This encourages the development of farmers' knowledge and abilities that facilitate aspects of farmers' lives. The success of social change is shown by the ability of farmers to manage cooperation which then leads to cooperation and trust between stakeholders. Social change facilitates farmers in planning, deciding, and managing their resources. A total of 91 farmers felt an increase in social care because social change is an

interaction between individuals related to social structure.

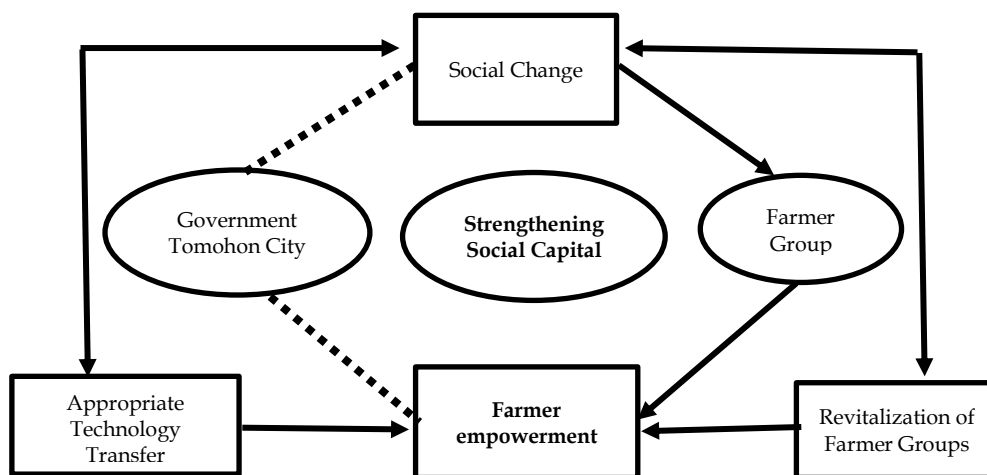
*Strengthening Social Capital in Community Empowerment*

Farmer empowerment is a method in development efforts that utilizes social aspects to improve the farmer's economy. Social capital is a social aspect that is often applied in empowerment. In social capital there are elements such as trust, networks and social norms that are used for empowerment.



**Figure 1.** Tomohon City Social Capital Strengthening Index

Figure 1 shows that social capital involves three main aspects. These include trust, norms and networks. Each aspect is assessed based on the indicators that make it up and then used to measure the average strength of social capital of farmers in Tomohon City. The assessment of farmers' social capital in Tomohon City is very high. This strengthening is due to the three constituent elements of social capital, namely the trust aspect is very high, the norm aspect is high and the network aspect is very high. Norms have the lowest value of the three aspects



**Figure 2.** Social Capital Strengthening Relationship Model

Empowerment management is part of sustainable development. Farmer empowerment management integrates the power of social and material capital, government and farmer groups. Without social capital, the focus of land management and agricultural products tends to focus on economic aspects, even though social aspects also have a major role in agricultural business.

The model of farmer empowerment by including aspects of social capital is considered to provide better results, especially in improving the welfare of farmer groups. Improved welfare is shown through improvements in the level of life of farmers. Indicators include individual capacity building, network expansion, increased trust between stakeholders and social care.

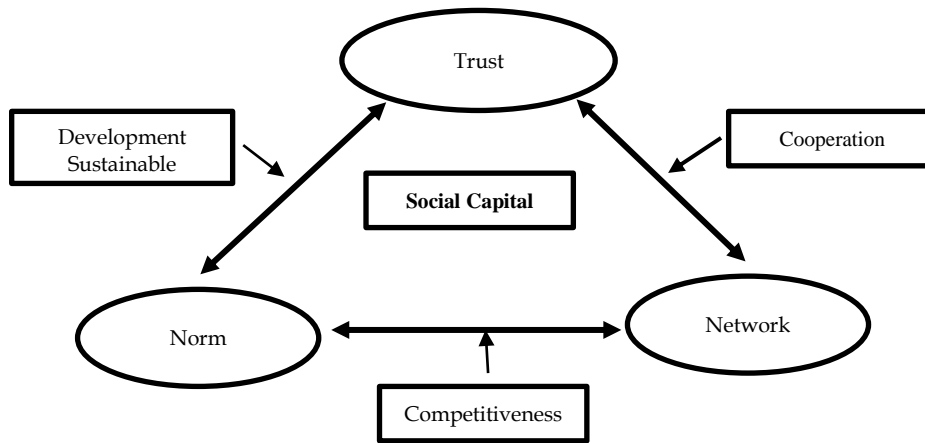


Figure 3. Strengthening Social Capital

The strong role of farmer group social capital with farmer empowerment not only achieves the planned goals but also benefits the farmer group in terms of the economy. With the empowerment of farmers, they can be more independent in conducting farming business. The development of social capital occurs gradually and over a long period of time. Social capital contains productive value that functions as a support factor in increasing competitiveness. Trust is one of the elements in social capital, and building cooperation becomes younger for farmer groups when there is mutual trust. Social capital is very effective in empowering farmers so that farmers can be more responsible, independent and play a role in the process of sustainable development. The utilization of social capital in the agricultural sector, especially for paddy rice, is classified as an element that contributes and can increase the production of paddy rice.

### Conclusion

The results show that social capital involves three main aspects. These include trust, norms and networks. Each aspect is assessed based on the indicators that make it up and then used to measure the average strength of social capital of farmers in Tomohon City. The assessment of farmers' social capital in Tomohon City is very high. This strengthening is due to the three constituent elements of social capital, namely the trust aspect with a score of 1601 or 80.05 percent, the norm

aspect with a score of 1544 or 77.20 percent and the network aspect with a score of 1620 or 81.20 percent.

Strengthening social capital in farmer empowerment integrates the strength of social capital and material capital in the form of sustainable development (government), competitiveness and cooperation. With the strength of social capital, a social capital strengthening system will be built. The social capital strengthening system will occur gradually and take place over a long period of time. The social capital strengthening system is very effective in empowering the community to be more independent in the sustainable development process.

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### Author Contributions

C.R.N.: Developing ideas, analyzing, writing, reviewing, responding to reviewers' comments; R.K., S.C.W.N., S.B.D.P., M.K.: analyzing data, overseeing data collection, reviewing scripts, and writing.

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### Conflicts of Interest

The authors declare no conflict of interest.

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