

K-Means Analysis for Clustering Regencies/Cities in West Java Based on Poverty and Divorce as Indicators of Welfare

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Abstract

Community welfare is an essential indicator in assessing the success of regional development, not only through economic aspects such as poverty levels but also through social indicators such as divorce, which reflects family stability and the psychosocial condition of society. This study aims to map the welfare conditions of regencies/cities in West Java Province using a quantitative approach with the K-Means Clustering method and four main variables: the number of divorce cases due to disputes, divorce due to economic factors, domestic violence cases, and the percentage of poor population based on data from the Central Bureau of Statistics in 2024. All data were analyzed through stages of data cleaning, normalization, and clustering, with the selection of three optimal clusters using the elbow method to ensure representativeness and avoid bias. The results indicate a pattern of regional grouping that reflects different welfare characteristics. Areas in Cluster 0 tend to have high divorce rates due to disputes but low poverty levels, illustrating non-economic social pressures. Cluster 1 is dominated by regions with high poverty levels and divorce cases caused by economic factors, indicating significant financial vulnerability. Meanwhile, Cluster 2 consists of regions with relatively high domestic violence indicators, suggesting stronger domestic pressures compared to other factors. These findings emphasize that welfare is influenced not only by economic variables but also closely related to family dynamics. Therefore, K-Means-based clustering can serve as a strategic reference in formulating more targeted public policies in West Java Province.

Keywords:

community; divorce; k-means clustering; poverty; welfare; west java.

Introduction

Community welfare is an important measure that indicates the success of social and economic development in a region. West Java Province, as one of the regions with the largest population and high socio-economic dynamics, is a relevant example to see how these welfare indicators develop between districts/cities. In Indonesia, welfare is not only defined by economic indicators such as poverty rates, but also by social indicators such as divorce rates, which reflect family stability and the social conditions of the population (Setiawan, 2019). High poverty rates are often associated with increased pressure within households, thereby increasing the potential for conflict and divorce (Rabbani et al., 2025). Therefore, poverty and divorce can be viewed as complementary indicators in assessing community welfare, especially in understanding socio-economic dynamics at the provincial level.

Nationally, poverty rates are indeed showing a downward trend, but the disparity between provinces remains quite wide. BPS data for 2024 shows a clear gap between provinces with high poverty rates and provinces with low poverty rates. At the same time, the divorce rate has also increased, reaching more than 399,921 cases in 2024, most of which were triggered by ongoing disputes and arguments (BPS, 2024). This situation reflects that economic pressures and social changes contribute to instability in households, which is a reflection of the quality of people's welfare. In a number of provinces, the increase in divorce asserts that economic pressure is the most influential factor in divorce in various regions. This national condition is also reflected in West Java, which has diverse socio-economic characteristics between districts/cities, making the phenomena of poverty and divorce in this province important to study in depth as part of efforts to understand the dynamics of community welfare at the regional level.

From a public administration perspective, the absence of mapping that integrates economic and social indicators such as poverty and divorce can reduce the effectiveness of policy formulation. The government needs clear data mapping to determine intervention priorities, whether related to poverty alleviation programs, strengthening family services, or addressing the social impacts of risky behavior. Grouping regions based on socioeconomic characteristics is a strategic step to ensure that policies are more tailored to the needs of each region. This is in line with the national agenda in the 2020–2024 National Medium Term Development Plan 2020-2024, which targets poverty reduction, reduction of interregional inequality, and strengthening of family resilience (Presidential Regulation of the Republic of Indonesia Number 18 of 2020) Although this study focuses on West Java Province, the direction of national policy remains relevant because provinces must translate National Medium-Term Development Plan targets into regional development programs. Based on this context, the research questions in this study briefly include how poverty and divorce conditions are in each district/city, how the grouping patterns of the two are using the K-Means method, and how the grouping results can be used to support regional policy formulation. Based on these questions, this study developed the hypothesis that variations in poverty and divorce rates between districts/cities in West Java would form clusters with different characteristics through the application of the K-Means method, and that these cluster patterns would reflect differences in socioeconomic welfare in each region.

The K-Means Clustering method is relevant to address this need because it is capable of grouping regions based on similarities in characteristics, allowing socio-economic patterns to be identified objectively (Tawakal et al., 2025). Various previous studies have shown that the K-Means Clustering method has been widely utilized to analyze diverse issues in Indonesia. In the context of poverty studies, K-Means has proven effective in mapping districts/cities based on economic indicators such as education, infrastructure conditions, and poverty levels, enabling more accurate identification of priority areas (Amelia et al., 2025). In the social domain, K-Means has also been applied to cluster regions according to crime vulnerability levels, demonstrating that clustering techniques can capture complex social patterns and provide a spatial representation of regional vulnerability, (Hapsari & Widodo, 2017). Research on divorce in West Java revealed that economic pressure and domestic conflict significantly contribute to increasing divorce rates, underscoring the strong relationship between economic factors and family social dynamics (Rabbani et al., 2025). Furthermore, the integration of various socio-economic indicators through the application of K-Means has been used to classify students based on their social interaction patterns and economic conditions in order to predict academic performance (Suliman, 2021). These findings indicate that integrating multiple socio-economic parameters can produce a more comprehensive mapping.

From previous studies, there appears to be a gap in that poverty and divorce indicators have never been combined in a single cluster analysis, especially using the latest data from 2024. Thus, this study offers a novelty in the form of mapping two welfare indicators simultaneously using the K-Means method to produce a more comprehensive picture of the socio-economic conditions of districts/cities in West Java. This study has significant implications for local governments, as the clustering results can be used as a basis for formulating more targeted policies, particularly in poverty alleviation, strengthening family services, and increasing community social resilience.

Based on the above description, the objective of this study is to analyze the grouping of districts/cities in West Java Province based on poverty and divorce rates in 2024 using the K-Means Clustering method, as well as to identify the cluster categories formed to support the formulation of community welfare policies.

Literature Review

The use of theory in this study is intended to avoid an analysis that is merely descriptive and statistical in nature. Theoretical frameworks serve as a conceptual foundation for interpreting the clustering results, enabling patterns of poverty and divorce to be understood more comprehensively within the context of public administration and social welfare policy.

From the perspective of public administration, the management of public resources and the formulation and implementation of policies constitute primary mechanisms for addressing social problems. Public administration is understood as an organized process involving public resources and personnel in designing and executing policies to meet societal needs (Sawir, 2021). Accordingly, the regional classifications generated through the K-Means method are not limited to statistical outputs but may function as an analytical basis for regional policy formulation.

The concept of Evidence-Based Policy emphasizes that public policies should be grounded in empirical evidence, valid data, and accountable research findings to ensure their effectiveness (Asmara dkk, 2015). The application of the K-Means method in this study aligns with this principle, as it produces regional classifications based on measurable socio-economic indicators, thereby supporting data-driven policy decisions.

Poverty is viewed as a social condition arising from individuals' limitations in maintaining a standard of living consistent with societal norms (Rosana, 2019). This perspective highlights that poverty extends beyond income insufficiency to include restricted access to resources and social opportunities. Consequently, clustering regions according to poverty levels facilitates the identification of structural inequalities across areas.

Within the framework of social welfare, the concept of a welfare society refers to a social system oriented toward fulfilling basic needs and enhancing the overall quality of life of the population (Asyhabuddin, 2021). Through clustering analysis, regions with distinct socio-economic characteristics can be identified, thereby enabling the design of more targeted and context-sensitive welfare programs.

Divorce, as regulated under Indonesian Law No. 1 of 1974 on Marriage, refers to the legal dissolution of marriage by court decision based on specific grounds. Beyond its legal dimension, divorce may also reflect underlying social and economic pressures within families. Therefore, clustering regions based on poverty and divorce indicators provides broader insight into regional social dynamics.

Methodologically, clustering theory explains that grouping procedures aim to maximize similarity within clusters while minimizing similarity between clusters. This principle underlies the use of the K-Means method in this study to classify regions systematically and

objectively based on predetermined indicators. K-Means is a data analysis or data mining method that performs unsupervised modeling and is one of the methods that clusters data using a partitioning system. This method attempts to minimize the variation between data within a cluster and maximize the variation with data in other clusters (Lynda Rahmawati, Sari Widya Sihwi, 2014).

The theories used in this study form an interrelated conceptual framework for explaining the phenomenon of welfare disparities between provinces in Indonesia. Public Administration Theory asserts that solving social problems, including poverty and family instability, can only be achieved through public policies that are designed and managed effectively and appropriately, thus providing a basis for the government in formulating data-driven interventions. This interconnection is reinforced by Evidence-Based Policy Theory, which emphasizes that policies must be built on credible empirical findings. In the context of this study, data on divorce, marriage, and poverty from Indonesian Statistics Center, the analytical basis for understanding welfare patterns in each region.

Meanwhile, Poverty Theory explains that individuals' limited access to economic and social resources is a structural factor that causes poverty, which in turn correlates with an increase in social burdens such as divorce due to economic factors and gambling. This condition is related to the Social Welfare Theory, which views welfare as the result of interactions between the state, society, and family, so that high divorce and poverty rates in a province reflect the weak social welfare functions in that region. The Theory of Divorce provides a legal and sociological basis for how divorce can be an indicator of a community's socioeconomic pressures, making it an important variable in assessing the quality of household welfare.

The entire theory was then analyzed using Clustering Analysis Theory, specifically the K-Means algorithm, which allows provinces to be grouped based on objective and measurable similarities in socioeconomic characteristics. This method is relevant because it can reveal spatial patterns of welfare that cannot be seen through ordinary descriptive analysis. Thus, the integration of all these theories supports this study in producing comprehensive mapping of district/city welfare levels while providing a scientific basis for the formulation of policies to alleviate poverty and strengthen social resilience in West Java.

Method

This study uses a quantitative approach, which emphasizes the collection of numerical data and statistical analysis to obtain an objective and measurable picture of the phenomenon. This approach was chosen because it is suitable for identifying patterns and structures in complex social data, particularly those related to poverty and divorce indicators in districts/cities in West Java province. According to (Sugiyono, 2019), quantitative methods allow researchers to test relationships between variables, discover certain trends, and produce data-based conclusions that are scientifically accountable. In the context of this study, the quantitative approach provides a strong foundation for interpreting differences in socioeconomic conditions between regions, while also supporting efforts to formulate evidence-based public policy.

The data sources in this study were obtained from official secondary data from the Central Statistics Agency, which provides information related to socio-economic conditions at the provincial level in Indonesia. According to (Sugiyono, 2019), secondary data is data collected indirectly by researchers through available sources, such as documents, reports, and publications from official institutions. This study uses four main variables mapped to analyze the welfare conditions of the community in the 2024 period. These variables include the

number of poor people, the number of divorce cases caused by domestic violence, the number of divorce cases due to economic factors, and the percentage of poor people. These variables were selected based on their relevance in describing the level of welfare and social stability of households. All data was obtained from the official website of the Central Statistics Agency, thus ensuring the accuracy, validity, and reliability of the data sources. Through the mapping of these variables, this study aims to produce a more in-depth analysis of the relationship between poverty levels and the dynamics of social vulnerability in the context of families in West Java Province.

Results and Discussion

This discussion comprehensively outlines the stages of data collection, data pre-processing, analysis of clustering results, and policy recommendations formulated based on the research findings. This entire series of analyses aims to provide a more complete picture of the conditions under study while demonstrating how the use of data can support the formulation of more targeted and evidence-based policies. Through this analytical approach, this study is expected to make a relevant contribution to improving community welfare in a more effective and strategic manner.

Data Collection

The data used in this study was sourced from the Central Statistics Agency, which provides information on socioeconomic conditions and the number of divorce cases in each district/city in West Java Province in 2024. The data reflects the latest situation regarding family dynamics, economic pressures, and community welfare. All data covers 27 districts/cities with different social, economic, and welfare characteristics. Before analysis, the data was selected and filtered to ensure that only variables relevant to the research objectives were included in the clustering analysis process.

The variables used in this study include the following indicators of divorce and welfare:

1. Divorce due to Disputes (DISPUTES)
2. Divorce due to Economic Factors (ECONOMY)
3. Divorce due to Domestic Violence (DV)
4. Percentage of Poor Population

These four variables were selected to represent family conditions and community welfare levels in each region. Although a screening process was conducted to adjust the variables to the research requirements, the overall data still served as the main basis for cluster formation so that the results obtained were able to accurately describe the variations in socioeconomic conditions in West Java Province.

Preprocessing Data

Before entering the clustering analysis stage, a data cleaning process was carried out to ensure that the dataset was ready for processing and in accordance with the research requirements. This cleaning process included checking for incomplete data, recording errors, and adjusting the number of regional entities to be analyzed. At this stage, Pangandaran Regency was removed from the dataset because it did not have complete divorce data and therefore could not be analyzed together with other regions.

This preprocessing stage ensures that the data used is valid, consistent, and ready to enter the normalization process and further processing using the K-Means clustering algorithm.

Table 1. Data Cleaning Results

District/City	Discord	Economy	Domestic Violence	Percentage Of Poor People
Bandung	6550.0	391.0	49.0	6.19
Bandung Barat	1906.0	589.0	159.0	10.49
Bekasi	3279.0	41.0	2.0	4.80
Bogor	4486.0	1378.0	26.0	7.05
Ciamis	851.0	3069.0	29.0	7.39
Cianjur	2126.0	1788.0	3.0	10.14
Cirebon	1748.0	4131.0	13.0	11.00
Garut	1231.0	3925.0	83.0	9.68
Indramayu	2389.0	4299.0	9.0	11.93
Karawang	2072.0	1207.0	14.0	7.86
Kota Bandung	2943.0	1663.0	58.0	3.87
Kota Banjar	474.0	111.0	16.0	5.85
Kota Bekasi	2719.0	309.0	18.0	4.01
Kota Bogor	1274.0	27.0	24.0	6.53
Kota Cimahi	877.0	100.0	13.0	4.39
Kota Cirebon	492.0	37.0	9.0	9.02
Kota Depok	2254.0	297.0	25.0	2.34
Kota Sukabumi	642.0	66.0	16.0	7.20
Kota Tasikmalaya	1432.0	49.0	5.0	11.10
Kuningan	1240.0	828.0	8.0	11.88
Majalengka	738.0	2586.0	29.0	10.82
Purwakarta	613.0	974.0	1.0	8.41
Subang	2240.0	1329.0	20.0	9.49
Sukabumi	2859.0	8.0	1.0	6.87
Sumedang	1825.0	1569.0	11.0	9.10
Tasikmalaya	1862.0	2493.0	12.0	10.23

Source: Author’s processing from Central Statistics Agency raw data (2024).

This data was collected from 27 districts/cities in West Java Province. In the context of this analysis, the data collected covers four main categories, namely:

a. Divorce due to Disputes (Conflicts)

These conflicts often reflect internal tensions that are not always related to economic conditions. Based on the data, the region with the highest number of disputes is Bandung with 6,550 cases, indicating high potential for social tension, weak conflict resolution mechanisms, or increasing economic and social pressures in the region. Meanwhile, the region with the lowest number of disputes is Banjar City with 202 cases, indicating that social bonds between residents are more solid, local institutions are able to play their role in reducing conflict, or there is a lower intensity of interactions that have the potential to trigger disputes. These variations indicate differences in the intensity of domestic conflicts between regions, particularly between urban and non-urban areas.

b. Divorce due to Domestic Violence (DV)

Domestic violence variables include divorce resulting from physical or psychological abuse or neglect within the household. Domestic violence indicates structural vulnerability in terms of family security and is an important indicator of social welfare. Based on the data from this study, the region with the highest number of domestic violence cases is West Bandung Regency with 159 cases, while the lowest numbers are found in several major cities such as Bekasi and Bekasi City with 2-4 cases. This difference shows that there is a large disparity in the security of households between regions.

c. Divorce due to Economic Factors (Economics)

Divorce due to economic factors is a type of divorce caused by financial instability or pressure within the household. Economic factors can include low income, unemployment, inability to meet basic needs, or differences in views regarding family financial management. Economic factors are often the main trigger for family breakdown, especially in areas with high poverty rates. In the dataset, the highest number of economic divorces was recorded in Ciamis Regency with 3,069 cases, while the lowest number was in Bekasi City with only 41 cases. This indicates a significant disparity in economic resilience between regions in West Java.

d. Percentage of Poor Population

The poor are a group of people who live below the poverty line, which is defined as a condition where their income and expenditure are insufficient to meet their basic needs adequately. The high number of poor people is often used as an important indicator to understand the socio-economic conditions in a region. The higher the poverty rate, the greater the potential for economic pressures that can affect family stability. Based on data from Statistics Indonesia, the region with the highest percentage of poor people is West Bandung with 10.49%, while the lowest is Bandung City with 3.57%. This disparity is one of the reasons for the need to group regions using the clustering method.

The data shows that there are big disparities between regions in West Java Province. Regencies/cities such as Bandung, Bogor, Bandung City, and Depok City tend to have high rates of conflict but low poverty, indicating non-economic social pressures. On the other hand, regions such as Ciamis, Indramayu, and Sumedang show high rates of divorce due to economic factors, reflecting strong financial vulnerability. Meanwhile, West Bandung emerged as the region with the highest combination of pressures, both economic and domestic violence, which had a significant impact on the clustering results.

Data Analysis

The initial step in data processing is to determine the required clusters. In this stage, researchers use the elbows method to determine the optimal number of clusters. In addition, researchers use Google Colab in data processing to obtain consistent results.

a. Results determine Clustering

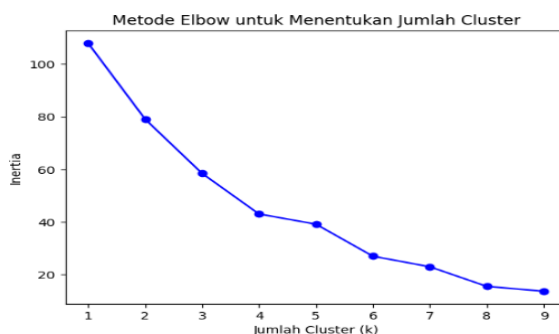


Figure 1. Results of clustering analysis using the elbow method
Source: Author’s computation (2024)

The results of the clustering analysis using the elbows method showed that the most optimal number of clusters was three. This determination was based on the elbow point, which indicated that the WCSS no longer decreased significantly after $k = 3$, so three clusters were considered the most representative grouping structure for the research data. These results form the basis for researchers to continue their research to the next stage, which is to group the data into three clusters. The clustering results are presented in the form of the average value of each variable in each cluster, as shown in Table 2.

Table 2. Clustering Results

Cluster	Number of Regencies/Cities	Discord (Average)	Economy (Average)	Domestic Violence (Average)	Percentage of Poor Population (Average)
0	7	3584.29	583.86	25.57	5.02
1	19	1340.33	1588.22	17.50	8.99
2	1	1906	589	159	10.49

Source: Author’s computation (2024)

b. Clustering Evaluation

The effectiveness of the K-Means method in this study was evaluated using the Silhouette Score and Davies–Bouldin Index (DBI). The test results showed that the Silhouette Score was 0.311, indicating that the clustering structure was in the fairly good category and that the data objects were generally consistent with their assigned clusters. Meanwhile, the DBI value of 0.858 indicates that the distance between clusters is sufficiently separated with an adequate level of compactness. Both values indicate that the clustering model used has worked effectively and produced a cluster division that can be further interpreted in the context of regional social analysis.

c. Visualisasi Clustering

The clustering results were visualized using Principal Component Analysis (PCA) dimension reduction techniques run through Google Colab. PCA was used to project four main variables: conflict, economic factors, domestic violence, and percentage of poor population into two main components so that the grouping patterns between regions could be observed more clearly in two-dimensional space.

2) Cluster 1 (19 Data)

Table 4. Distribution of Regencies/Cities in Cluster 1

Regencies/Cities	Discord	Economy	Domestik Violence	Percentage of Poor People
Ciamis	851	3069	29	7,39
Cianjur	2126	1788	3	10,14
Cirebon	1748	4131	13	11
Garut	1231	3925	83	9,68
Indramayu	2389	4299	9	11,93
Karawang	2072	1207	14	7,86
Kota Banjar	474	111	16	5,85
Kota Bogor	1274	27	24	6,53
Kota Cimahi	877	100	13	4,39
Kota Cirebon	492	37	9	9,02
Kota Sukabumi	642	66	16	7,2
Kota Tasikmalaya	1432	49	5	11,1
Kuningan	1240	828	8	11,88
Majalengka	738	2586	29	10,82
Pangandaran	—	—	—	8,75
Purwakarta	613	974	1	8,41
Subang	2240	1329	20	9,49
Sumedang	1825	1569	11	9,1
Tasikmalaya	1862	2493	12	10,23

Source: Author's computation (2024)

This distribution shows that most regions in West Java have similar characteristics, particularly high economic cases and poverty rates in the medium to high categories. A number of regions in this cluster also have significant domestic violence rates. These conditions illustrate that cluster 1 is a group of regions with more complex socioeconomic challenges. The dominance of this cluster indicates a concentration of more serious problems compared to cluster 0, thus requiring more focused policy attention.

3) Cluster 2 (1 data)

Table 2. Distribution of Regencies/Cities in Cluster 2

Regencies/Cities	Discord	Economy	Domestik Violence	Percentage of Poor People
Bandung Barat	1906	589	159	10,49

Source: Author's computation (2024)

West Bandung has characteristics that are extremely different from other regions, particularly evident in its very high rates of domestic violence, accompanied by high levels of poverty. Although economic cases and disputes are not always the highest, the extreme values of certain indicators mean that this region cannot be grouped into other clusters. Therefore, cluster 2 represents the region with the highest social risk in this study and requires more specific and in-depth policy interventions.

Policy Recommendations

Based on the results of cluster analysis of social conditions and household welfare in West Java, several policy recommendations were formulated in accordance with the characteristics of each cluster. These recommendations were developed based on the principles of evidence-based policy, public administration theory, and the regulatory framework governing family protection and social issues in Indonesia. The proposed policies are designed to meet the needs of each region, so that government efforts are more targeted.

a. Cluster 0: Areas with Good Socioeconomic Conditions but High Levels of Conflict

1) Strengthening Legal Education and Social Mediation

This cluster requires the strengthening of legal education and outreach programs to improve public understanding of conflict resolution within families. These efforts are in line with the provisions of (Regulation of the Minister of Law and Human Rights of the Republic of Indonesia Number M-01. PR.08.10 of 2006 concerning Legal Counseling Patterns), which emphasizes the importance of disseminating legal information to build public awareness. Through education on family rights and obligations, mediation mechanisms, and peaceful resolution measures, the government can reduce the potential for recurring conflicts and maintain social stability in the region.

2) Establishment of the Village Social Forum as a Space for Conflict Prevention

Local governments can optimize (Regulation of the Minister of Home Affairs of the Republic of Indonesia Number 7 of 2019 concerning Family Quality Services and Development) by establishing family forums at the village level. These forums serve as a platform that enables the government and community to collaborate in education, advocacy, and monitoring of family conditions. The existence of these forums helps encourage early resolution of problems so that conflicts do not develop into larger social issues.

b. Cluster 1: Areas with High Socioeconomic Challenges

1) Strategic Economic Interventions for Vulnerable Households

The high economic and poverty rates in this cluster indicate the need for more targeted economic intervention strategies. Based on (Law of the Republic of Indonesia Number 13 of 2011 concerning the Handling of the Poor), Local governments have an obligation to provide economic empowerment programs, social assistance, and job training for poor families. This policy is important to reduce economic pressure on households, which, according to Soerjono Soekanto's theory of poverty, is often the cause of disputes and violence within households.

2) Strengthening the Domestic Violence Victim Protection System

The high prevalence of domestic violence in this cluster calls for stronger implementation. (Law of the Republic of Indonesia Number 23 of 2004 concerning the Elimination of Domestic Violence). The government needs to expand complaint services, provide safe houses, and improve legal and psychological counseling services for victims. This approach is not only curative but also preventive, involving village officials, community leaders, and family empowerment and welfare cadres to detect the risk of violence early on.

3) Integration of Poverty and Family Issues Data Systems

As an implementation of evidence-based policy, local governments need to integrate data on poverty, domestic violence, and other family issues through the next generation social welfare information system. This data integration enables the government to determine policy priorities based on the risk level of each household. In addition, data-driven policies help avoid misallocation of aid and ensure targeted interventions.

c. Cluster 2: Areas with Very High Social Risk

1) In-depth Investigation into the High Number of Domestic Violence Cases

This cluster has a much higher rate of domestic violence than other groups. Therefore, a more serious study is needed to determine the main causes. In public administration theory, the principle of fact-finding emphasizes that the government needs to understand the problem thoroughly before determining a solution. This investigation process can include economic and cultural aspects, the quality of government services, and patterns of violence that develop in the community.

2) Establishment of a Rapid Response Unit for Domestic Violence and Strengthening of Emergency Services

As a follow-up to the high risk of violence, local governments need to establish rapid response units in accordance with regulations. (Undang-Undang Republik Indonesia Nomor 23 Tahun 2004 Tentang Penghapusan Kekerasan Dalam Rumah Tangga). This unit may include a 24-hour hotline, integrated coordination with the police, safe house services, and emergency reporting mechanisms. The existence of a rapid response unit is an important tool for preventing repeat cases of domestic violence and providing immediate protection to victims.

3) Economic Empowerment Program for Women and Victims of Violence

The high poverty rate in this cluster is one of the factors that exacerbates household conditions. Therefore, the government needs to provide special economic empowerment programs for women and victims of domestic violence. These programs can take the form of skills training, MSME capital assistance, and business assistance in line with the concept of a welfare society, in which vulnerable communities must receive support to achieve prosperity.

Overall, the policy recommendations provided can be applied to all clusters as social conditions change in each region. Basically, efforts to address poverty, divorce, and domestic violence must be carried out in accordance with applicable regulations so that government intervention is more effective. Thus, local governments are expected to be able to strengthen family resilience and restore public confidence in the government's performance in achieving prosperity.

Conclusion

This study reveals that the welfare of the people in West Java Province is not only influenced by economic factors, but also by social dynamics as reflected in divorce rates. Through the application of the K-Means Clustering method, three groups of regions with different welfare characteristics were obtained: first, regions with high levels of domestic disputes but relatively stable economic conditions; second, regions experiencing simultaneous social and economic burdens, reflected in high divorce rates due to economic factors and a high percentage of poor residents; and third, regions with prominent domestic violence, indicating more complex family stability issues.

These findings clarify that poverty and divorce are interrelated indicators in assessing community welfare, where economic pressures contribute significantly to family breakdown, while non-economic social issues further exacerbate family resilience. Therefore, public policies that focus solely on poverty alleviation without considering the social aspects of the family are potentially ineffective. This study emphasizes the importance of an evidence-based policy approach in formulating intervention programs, where regional cluster mapping can serve as the basis for more targeted policy priorities. The West Java provincial government is advised to develop an integrated strategy combining economic strengthening, family counseling services, and social risk mitigation to create sustainable welfare.

However, this study has limitations, particularly in terms of the scope of variables used and the limited coverage of social indicators. Further research could enrich the analysis by adding other variables such as education level, access to health services, and quality of life index so that the grouping results are more comprehensive and able to represent the dynamics of welfare more broadly.

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