

Data-Driven Social Policy: Optimizing the Role of Statistics in Supporting Social Policy Making

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Abstract

Determining appropriate social policies requires accurate, integrated data that comprehensively depicts societal conditions amidst the increasing complexity of various social problems. Although the availability of data from various government sectors continues to increase along with the development of digitalization, its utilization in the policy-making process still faces various challenges, such as suboptimal data integration, differences in information quality, and limited analytical capacity. This study aims to analyze the optimal role of statistics in supporting social policy-making by strengthening the identification of social problems, determining policy priorities, integrating various data sources, policy evaluation, and strengthening data governance and statistical analysis capacity. This study uses a qualitative approach with a literature study method through data collection from scientific articles and various relevant previous studies, then analyzed descriptively and qualitatively. The results show that the use of statistical analysis can improve the accuracy of social problem identification, support more objective program prioritization, and strengthen the accuracy of policy targets through the use of integrated data. The integration of various data sources, evaluation and monitoring based on statistical analysis, and strengthening data governance and human resource capacity have proven to be important factors in improving the quality of the decision-making process and the effectiveness of social policy implementation. Therefore, strengthening the data ecosystem and statistical analysis needs to be continuously developed as a foundation for realizing social policies that are adaptive, accountable, efficient, and oriented towards improving community welfare.

Keywords: Social Policy, Statistical Analysis, Decision Making, Data Governance, Data-Driven Policy.

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INTRODUCTION

Social development is a strategic agenda that continues to receive attention because it is directly related to efforts to improve public welfare, reduce various forms of inequality, and strengthen the quality of life of the population as a whole. Various changes occurring in the fields of economics, technology, education, health, employment, and population have presented increasingly diverse challenges for the government in formulating effective social policies. The problems faced are no longer simple or isolated, but rather interconnected, requiring a more comprehensive approach to their resolution (Hariram et al., 2023). At the same time, the public is also showing increasingly high expectations of the government's ability to deliver targeted policies that address real needs on the ground and provide directly tangible benefits. This situation demands that every decision-making process be carried out more carefully, considering information that can objectively and realistically describe the state of society (Yu et al., 2024).

The increasing complexity of various social issues encourages the government to focus not only on program provision but also on ensuring that each policy is formulated based on the real conditions developing within the community. Various social interventions related to poverty alleviation, unemployment reduction, improving the quality of education, expanding access to health services, protecting vulnerable groups, and ensuring equitable development require accurate mapping of the characteristics of policy targets (Dushkova & Ivlieva, 2024). Misunderstanding community conditions can potentially result in programs that are inappropriate for needs, thus reducing policy effectiveness. The impact is not only seen in the suboptimal achievement of development targets, but also in the waste of resources, increased implementation costs, and reduced public trust in government administration (Abdulla et al., 2026).

The development of information technology in recent years has brought about significant changes in the way governments manage various administrative activities and public services. Nearly all government sectors generate increasing amounts of data as a consequence of the digitalization of services, the use of information systems, the conduct of surveys, and the electronic administration of administrative records. Data on population, education, health, employment, social protection, taxation, investment, and public services are available in far greater quantities than ever before (Latupeirissa et al., 2024). This availability of information actually presents a significant opportunity to strengthen the quality of social policy formulation, as the government has a richer source of information to understand community conditions. However, a large amount of data does not necessarily result in better policy quality if the data cannot be processed into relevant information for the decision-making process (Aditya et al., 2023).

Various government institutions still face challenges in utilizing data as the primary basis for policy formulation. Much of the data remains scattered across various ministries, agencies, and local

governments, with varying collection standards, update mechanisms, and storage formats. This situation makes the data integration process time-consuming and often results in inconsistent information (Ariansyah et al., 2025). It's not uncommon for a single social issue to have more than one data source with differing results, creating uncertainty in determining the most appropriate information to base policy on. This situation demonstrates that the presence of large amounts of data may not provide optimal benefits without adequate management and analysis systems (Al-Jumaili et al., 2023).

Indonesia, with its large population and vast territory, faces greater challenges in developing social policies that accommodate the needs of all levels of society. Differences in geographic conditions, levels of economic development, infrastructure quality, demographic characteristics, and local government capacity mean that each region faces varying social issues (Rustiadi & Veriasa, 2022). A policy successfully implemented in one region may not necessarily yield similar results when implemented in another. Therefore, the policy-making process requires information that provides a more detailed description of the conditions in each region so that the government can determine interventions that best suit the needs of the local community (Scheer et al., 2025).

In addition to differences in regional characteristics, changes in socioeconomic conditions are also occurring rapidly. Increasing population mobility, changes in the job market structure, the development of the digital economy, urbanization, and the emergence of various new forms of vulnerability can cause societal conditions to change in a relatively short time (Chen & Xu, 2024). Information used as the basis for policy formulation during one period may not remain relevant when the policy is implemented. If data updating is not carried out continuously, there is a possibility that the designed policies will no longer be appropriate to the actual conditions of the community. Consequently, programs developed with large budget allocations may not achieve the desired impact (Van Noordt & Misuraca, 2022).

The implementation of various social protection programs over the past few years demonstrates that data quality has a significant impact on the success of policy implementation. Determining beneficiaries is one of the most frequently highlighted aspects, as it directly relates to the accuracy of program targeting (Parera et al., 2022). The continued presence of individuals eligible for assistance but not yet registered, or individuals who no longer meet the criteria but still receive assistance, indicates that the data updating process has not fully responded to changes in the community's socioeconomic conditions. These issues not only impact program effectiveness but also impact the efficiency of state budget utilization and public trust in government policies (Cooper et al., 2024).

Conversely, demands for transparency and accountability in government administration continue to increase. The public has increasingly easy access to information regarding the implementation of

government programs, requiring the policymaking process to be more transparent and accountable (Lourenço, 2023). Policies supported by robust information are easier to explain to the public because they have a clear basis for consideration and can be tested through various available indicators. Conversely, policies formulated without adequate analytical support have the potential to raise questions about targeting accuracy, program effectiveness, and the efficiency of public budget use (Gebara et al., 2024).

Advances in data analysis technology also provide greater opportunities for the government to improve the quality of the decision-making process. The ability to process large amounts of data allows for the identification of various patterns, trends, relationships between variables, and even predictions of possible future conditions (Alshahrani et al., 2024). This information can be used to determine development priorities, identify community groups requiring greater attention, evaluate program implementation results, and develop policies that are more responsive to changing social conditions. However, the utilization of these analytical capabilities varies across institutions, resulting in less than -optimal benefits (Ongesa et al., 2025).

Another challenge relates to the capacity of human resources responsible for managing and analyzing data. The increasing volume of data requires improved analytical skills to ensure the resulting information truly supports the policymaking process. The availability of modern technological tools will not provide maximum benefits without the support of competent human resources capable of processing, interpreting, and presenting the analysis results. Therefore, strengthening the capacity of government officials is a crucial part of efforts to improve the quality of data-driven social policies (Dingelstad et al., 2022).

Inter-agency coordination is also a crucial factor in successfully utilizing data to support social policymaking. Each agency has the authority and responsibility to generate data according to its respective areas of responsibility. If coordination is effective, various data sources can complement each other, resulting in more comprehensive information (Drago & Vardanega, 2025). Conversely, weak coordination can lead to duplication of data collection, discrepancies in results between agencies, and delays in information updates, which ultimately impact the quality of the policymaking process. Strengthening data governance is an increasingly important requirement to ensure that all available information can be optimally utilized to support social development (Shalash et al., 2022).

Based on these various problems, this study aims to analyze how optimizing the role of statistics can support data-based social policymaking, identify various challenges that influence its use in the policy formulation process, and formulate strategies that can be implemented to improve the quality of social policies to make them more effective, adaptive, targeted, and oriented towards community needs.

LITERATURE REVIEW

Social Policy

Social policy consists of two words with multiple meanings: "policy" and "social." Policy is a principle or method of action chosen to guide decision-making. Generally, policy is used to describe the behavior of an actor, such as an official, a group, or a specific institution, in solving a problem at hand. There are many explanations and definitions of policy (Papamichail & Perić, 2023).

Policy is a collection of decisions made by an actor or political group in an effort to select goals and the means to achieve those goals. According to David Easton, policy is a decision made by the government or a group/organization leader as a means of allocating values to society or its members as a whole. Meanwhile, according to Lasswell and Kaplan, policy is a tool for achieving goals, where policy is a projected program regarding goals, values, and practices (Shawoo et al., 2023).

In the context of a nation's life, policies must be established by the government after going through a prior formulation process. This is because the government, as the "parent" of society, has an obligation to guarantee the human rights of every citizen, including the fulfillment of their basic needs. Furthermore, the government is given formal authority or legal legitimacy to establish policies, the implementation of which must utilize public resources (Butler et al., 2022).

Empirically, policies take the form of laws, guidelines, and programs. Within a nation, policy is considered a series of actions developed by an agency or government with a specific goal, followed and implemented by an individual or group of actors to solve a specific problem (Meckelburg & Wardana, 2024).

Like the word "policy," the word "social" has various meanings. Conyers categorizes the word "social" into five meanings:

- a. A general meaning in everyday life related to activities that are entertaining or enjoyable. For example, sports, recreation, chatting with friends, and traveling are often referred to as social activities (Iso-Ahola & Baumeister, 2023).
- b. The opposite of "individual." The word "social" refers to a group of people or a collective entity, such as a society, citizens, or community. In this context, the term "social" also encompasses the concept of the public or the general welfare. Therefore, people often define social policy in relation to the public interest or the interests of the wider community (Ly & Cope, 2023).
- c. The opposite of "economic." The word "social" connotes voluntary or self-help activities of communities or organizations that are not oriented towards financial gain. Social organizations, such as Karang Taruna (Youth Organization) and PKK (Family Welfare Movement), are organizations that organize various activities that do not seek financial profit. This differs from economic organizations, such as companies, Limited Liability Companies (PT), or banks, whose activities are naturally aimed at seeking economic profit (Natung et al., 2025).

- d. It involves humans as opposed to objects or animals. Social development can be defined as the development of human quality, as opposed to physical development or infrastructure, such as the construction of buildings, roads, and bridges (Osypchuk et al., 2026).
- e. It relates to human rights, both as individuals and as members of society. For example, in addition to having basic human rights, such as the right to life and freedom of expression, everyone also has social rights, such as equal rights to education, employment, housing, and participation in development (Mathews, 2022).

In relation to social policy, the word "social" can be interpreted either generically or broadly, or specifically. In a generic sense, the word "social" refers to a general understanding of areas or sectors of development that concern human aspects within the context of society or collectives. The term "social" in this sense encompasses, among other things, education, health, politics, law, culture, and agriculture (Spezia et al., 2024). In a specific or narrow sense, the word "social" refers to the social welfare sector as a field or part of social development or public welfare aimed at improving the quality of human life, especially those categorized as disadvantaged and vulnerable groups. The word "social" here refers to social programs and/or services to address social problems, such as poverty, neglect, physical and psychological disability, social and sexual disorders, and juvenile delinquency (Millard & Fucci, 2023).

The term "social policy" is defined as a policy that concerns social aspects in a specific sense, namely those related to social welfare. This understanding of social policy aligns with the definition of social planning as proposed by Conyers. According to Conyers, social planning is the legislative planning of social welfare services that first emerged in Western Europe and North America. Therefore, although the concept of social planning has been widely integrated, in Western society, the perception has developed that social planning is always closely related to social welfare planning (Klepac et al., 2023).

Statistics

Statistics is the science of collecting, organizing, presenting, analyzing, and interpreting data into information to aid effective decision-making. The term "statistics" can also be defined as a method for collecting, processing, presenting, analyzing, and interpreting data in numerical form. Based on the activities performed, statistics can be divided into descriptive statistics and inferential statistics (Szukits & Móricz, 2024).

According to Sugiyono (2018), descriptive statistics discusses methods of data collection, simplifying the obtained observational figures (summarizing and presenting), and measuring central tendency and dispersion to obtain more interesting, useful, and easier-to-understand information. Descriptive statistics in social science research has three uses: first, descriptive statistics present the collected data concisely and neatly and can provide core information from the existing data set.

Second, descriptive statistics allow researchers to present or illustrate their data using graphical or numerical techniques. Third, descriptive statistics allow researchers to measure two characteristics of each respondent and then examine the relationship between these two characteristics (variables).

According to Ghazali (2018), inferential statistics discusses how to analyze data and draw conclusions (which are essentially related to parameter estimation and hypothesis testing). Inferential statistical methods are methods related to analyzing partial data to forecast or draw conclusions regarding the entire data. Part of the data for a variable is known as a sample, while the entire data is the population. Inferential statistics involves estimating parameters, formulating hypotheses, and testing these hypotheses to draw generally applicable conclusions. This method is often called inductive statistics, because the conclusions drawn are based on information from only a portion of the data. Inferential statistics has four characteristics: random observation, sampling techniques (methods), numerical data, and a common inferential objective.

METHOD

This study uses a qualitative approach with the aim of gaining a comprehensive understanding of optimizing the role of statistics in supporting data-driven social policymaking. This approach was chosen because it allows researchers to examine various phenomena in depth through information retrieval from relevant scientific literature. The study does not focus on hypothesis testing or statistical measurements of primary data, but rather on interpreting published findings to obtain a comprehensive picture of the use of statistics in the formulation, implementation, and evaluation of social policy. Research data was obtained through a literature review utilizing various sources relevant to the research topic, including scientific journal articles and previous research results related to statistics, data analysis, and social policy. All collected data was then organized, classified, and analyzed qualitatively through data reduction, data presentation, and conclusion drawing. The analysis phase was carried out by identifying relationships between findings, comparing various previous research results, and interpreting the information obtained to produce a comprehensive understanding of strategies for optimizing the use of statistics in supporting data-driven social policymaking.

RESULT AND DISCUSSION

Strengthening the Identification of Social Problems Through the Utilization of Statistical Data

Effective social policy formulation is crucially determined by the government's ability to accurately identify the characteristics of emerging societal problems. Issues such as poverty, unemployment, income inequality, low access to education and healthcare, the vulnerability of certain groups, and limited employment opportunities do not exist in

isolation, but are interconnected and impact the overall well-being of society. Therefore, the process of identifying social problems requires a foundation of information that objectively depicts actual conditions, ensuring that every decision is well-founded. In this context, the use of statistical data is crucial, providing a snapshot of social conditions through various indicators that are systematically compiled, measurable, and regularly updated. The resulting information not only demonstrates the magnitude of a problem but also demonstrates its distribution, characteristics, and changes occurring within specific community groups and regions. Thus, the policymaking process is no longer based solely on assumptions or perceptions, but rather on empirical evidence that reflects real conditions on the ground.

The existence of various social indicators provides the government with greater scope to comprehensively map societal conditions. Data on poverty rates, open unemployment, labor force participation rates, school dropout rates, stunting prevalence, educational participation rates, the human development index, the Gini ratio, and food security indicators can be used in an integrated manner to obtain a picture of the quality of life of communities across various sectors. Each indicator does not stand alone but rather complements each other in explaining the relationship between one issue and another. For example, areas with high poverty rates often also exhibit relatively low educational attainment, limited employment opportunities, and suboptimal access to health services. This relationship demonstrates that social policy development requires a comprehensive examination of various indicators to identify the root causes more accurately and formulate policies that can more effectively address community needs.

To provide a more systematic overview of the contribution of various statistical indicators to the process of identifying social problems, Table 1 presents the main indicators commonly used in social policy analysis, along with the information they generate, their use in policy formulation, and the priority areas that can be identified based on the results of the analysis. This presentation demonstrates that each indicator has a distinct yet complementary function in building a comprehensive understanding of societal conditions.

Table 1. Key Statistical Indicators for Social Policy Analysis

Indicator	Main Information	Policy Use	Priority Area
Poverty Rate	Poverty distribution	Identify poor households	Social Assistance
Unemployment Rate	Labor market conditions	Employment policy	Labor
Human Development Index	Human development status	Development planning	Education & Health
Gini Index	Income inequality	Redistribution policy	Economic Equity

School Participation Rate	Educational access	Education planning	Education
Health Indicators	Population health	Health intervention	Public Health
Population Density	Spatial population patterns	Infrastructure planning	Regional Development
Social Protection Coverage	Coverage of beneficiaries	Program targeting	Social Protection

As shown in Table 1, each statistical indicator provides information on a different social dimension, making it impossible to use them in isolation in the policymaking process. Combining various indicators allows the government to obtain a more comprehensive picture of the level of public welfare, the characteristics of social vulnerability, and differences in conditions between regions and population groups. Therefore, an integrated analysis of various indicators is a crucial step in identifying more accurate social problems and supporting the development of more targeted policies.

Mapping social conditions through statistical data also allows the government to identify variations in characteristics between regions that are often invisible when using only general information. Indonesia has different geographic conditions, economic structures, population densities, levels of urbanization, and development capacities in each region. These differences contribute to the social problems faced by each region, which also exhibit diverse characteristics. Urban areas generally face challenges such as high living costs, population density, high job demand, and increasingly dense settlements, while rural areas are more often faced with limited access to basic services, low economic productivity, and isolation due to geographic conditions. If the government only uses a uniform approach without considering mapping results based on statistical data, the policies formulated have the potential to be less appropriate to the needs of each region.

The use of statistical data also provides the ability to identify community groups that require greater attention in the policy-making process. Each population group has different social, economic, and demographic characteristics, resulting in varying levels of vulnerability to various issues (Hossin et al., 2023). Low-income households, informal sector workers, the elderly, people with disabilities, female heads of households, children, and communities living in remote areas often face different barriers in accessing various public services. Statistical data allows for a more detailed mapping of these characteristics, enabling the government to determine priority groups based on actual conditions. This step is crucial because limited resources and budgets require the government to set policy targets more selectively so that program benefits reach those most in need.

Determining priority groups through statistical analysis also contributes to increasing the effectiveness of various social protection

programs. One challenge still frequently encountered in the implementation of social policies is inaccurate targeting of beneficiaries. This situation can arise from delays in data updates, changes in household economic conditions, or the lack of integration of various government information sources. As a result, some people who meet the criteria have not yet received assistance, while others are no longer in the same situation. This problem demonstrates that the process of identifying target groups cannot be carried out only at the initial stage of program development but must be continuously updated to reflect changing community conditions. In this regard, statistics play a crucial role as a tool for updating information so that implemented policies remain relevant to evolving needs.

In addition to identifying priority groups, statistical data also plays a crucial role in analyzing social disparities that persist between regions and community groups. Various development indicators show that welfare levels are not yet fully equitable across all regions in Indonesia. Differences in access to education, healthcare, employment opportunities, basic infrastructure, and income levels remain challenges that impact people's quality of life. Analyzing these disparities provides insight into which regions or groups require greater attention, enabling the government to allocate resources more proportionally. Therefore, social policy formulation aims not only to improve overall development outcomes but also to reduce the disparities that persist across regions.

Gap analysis is increasingly important because development often yields disparate outcomes across regions. Regions with high economic growth do not necessarily demonstrate equitable improvements in welfare if the benefits of development are enjoyed exclusively by certain groups. Conversely, some regions with relatively lower economic growth demonstrate improvements in the quality of life of their communities through equitable access to public services. These differences demonstrate that the success of social development cannot be measured solely by a single indicator but requires analysis that connects various indicators together. A statistical approach allows these relationships to be analyzed in more depth so that the causes of the gaps can be better understood before policies are formulated.

On a broader level, the use of statistical data provides the government with the opportunity to identify changes in social conditions on an ongoing basis. Various social indicators are inherently unstable but constantly change in response to economic developments, government policies, labor market conditions, demographic changes, and various other external factors. Therefore, the process of identifying social problems cannot be conducted solely based on a single observation period. The government requires regularly updated information so that any changes can be promptly recognized and responded to with appropriate policies. The ability to detect these changes is one of the main advantages of utilizing statistical data, as it allows for continuous evaluation without having to wait for larger problems to emerge.

The ability to interpret changes in social conditions also benefits the anticipatory nature of public policy. Information indicating a trend toward increasing unemployment among certain age groups, declining educational participation in certain regions, or an increase in the number of households living near the poverty line can serve as early warning signals for the government to take preventative measures before problems escalate. This approach ensures that social policy is not only oriented toward resolving existing problems but also directed toward reducing the likelihood of future social risks. Thus, the quality of decision-making becomes more responsive to changes occurring in society.

Despite the increasing availability of statistical data, its use in identifying social problems still faces various challenges. One frequently encountered issue is the incomplete integration of data produced by various government agencies. Differences in data collection methodologies, update periods, regional coverage, and information management standards can result in disparate figures for the same indicator. This situation necessitates a harmonization process to ensure the information used in policymaking is truly consistent and accountable. Furthermore, improving data quality is also crucial, as the accuracy of analytical results depends heavily on the quality of the available information.

Optimizing Statistical Analysis in Determining Social Policy Priorities

Setting priorities in social policy is a crucial step in determining the success of development implementation because it directly relates to decisions about which problems must be addressed immediately, which community groups require greater attention, and how available resources can be allocated effectively. Limited budgets, human resources, institutional capacity, and service coverage make it impossible for the government to address all social issues simultaneously. Therefore, the priority-setting process requires a mechanism capable of producing objective, rational decisions that reflect the real conditions of society. In this context, statistical analysis plays a crucial role because it provides an empirical basis for comparing the urgency of various social issues based on measurable indicators. The information generated through the analysis process enables the government to identify the issues with the greatest impact on public welfare, allowing policy priorities to be based not only on perceptions or situational pressures but also on scientifically sound evidence.

The use of statistical analysis in program priority setting is becoming increasingly important as the complexity of the social issues facing the government increases. Various development indicators often indicate that a region may face more than one problem simultaneously, such as high poverty rates, low quality education, limited access to health services, high unemployment rates, and the continued low quality of basic infrastructure. In such circumstances, the government requires

instruments that can help determine which issues should be addressed first based on the level of need, the magnitude of the impact on society, and the interrelationships between the problems (David et al., 2023). Statistical analysis provides the ability to process these various indicators in an integrated manner, resulting in more comprehensive information than if each indicator were analyzed separately. This approach makes the priority-setting process more systematic because it takes into account the interplay between the indicators.

Establishing policy priorities based on statistical analysis also enables the government to understand that not all social issues have the same level of urgency in every region. Regions with high poverty rates do not necessarily have primary problems in the education sector, while other regions may demonstrate relatively good educational attainment but face limited job opportunities, leading to increased unemployment among productive-age individuals. These differences in characteristics indicate that a uniform policy approach often fails to optimally address community needs. By utilizing statistical analysis results, the government can develop more contextual program priorities tailored to the characteristics of each region, thus increasing the likelihood of interventions producing significant change.

The ability of statistical analysis to link various development indicators also provides benefits in understanding the interrelationships between one issue and another. High poverty rates, for example, are often influenced not only by low incomes but also by education levels, health quality, employment opportunities, access to public services, and infrastructure conditions. If the government focuses solely on one indicator without considering the relationship between the others, the resulting policies are potentially ineffective because they only address a small portion of the root cause. Statistical analysis allows for a more in-depth identification of these relationships so that policy priorities can be directed towards sectors that have the greatest impact on improving the welfare of society as a whole.

In addition to supporting program prioritization, statistical analysis plays a crucial role in determining more precise and measurable policy targets. One of the main challenges in implementing social policy is ensuring that programs truly reach the community groups in need. Inaccurate targeting not only reduces program effectiveness but also has the potential to increase budgetary burdens and create inequities in the distribution of policy benefits. Therefore, identifying target groups requires information that accurately describes the social, economic, and demographic characteristics of the community. Statistical analysis enables the government to categorize the community based on various relevant indicators, ensuring that beneficiary determination is not based solely on administrative approaches but also takes into account actual conditions reflected in the data.

Targeting accuracy is increasingly crucial in various social protection programs that face budget constraints and limited beneficiary coverage. Social assistance programs, subsidies, community economic

empowerment programs, and interventions in the education and health sectors require a selection process that differentiates community groups based on their actual level of need. In practice, changes in household economic conditions can occur relatively quickly, making data updates essential. Regular statistical analysis enables the government to identify these changes and adjust policy targets accordingly. In this way, the possibility of errors in determining beneficiaries can be reduced, and the effectiveness of program implementation will be higher.

The use of statistical analysis also provides a stronger basis for determining the success of a social policy. Policy targets formulated based on clear indicators will facilitate the government's monitoring of program implementation progress. Any changes in social indicators can be compared with established targets, so the evaluation process is not merely descriptive but also demonstrates the extent to which the policy has impacted community conditions. This approach makes subsequent decision-making more focused because the government has information on which programs have successfully achieved their goals and which require improvement.

Optimizing statistical analysis also contributes directly to increased efficiency in resource allocation. Every social policy requires budget support, implementing personnel, supporting facilities, and considerable implementation time. These resource limitations require the government to carefully determine budget allocation to maximize community benefits. Statistical analysis provides information on areas with higher needs, community groups requiring special attention, and sectors with the greatest impact on improving welfare. This information serves as a crucial basis for prioritizing resource distribution, allowing budget allocations to be directed toward programs with the highest level of urgency.

Efficient resource use is also closely related to the government's ability to avoid waste resulting from program implementation that does not align with community needs. In some situations, programs designed without adequate analysis have the potential to result in overlapping activities between agencies, poorly targeted aid distribution, or the construction of facilities that are not yet essential to the community. These problems not only lead to suboptimal budget utilization but also reduce the effectiveness of overall social development. Statistical analysis helps identify these conditions early in the planning stage, allowing the government to develop more efficient strategies based on available information.

Furthermore, statistical analysis results also support the cross-sectoral policymaking process, which is increasingly necessary in social development. Various social problems generally cannot be resolved through interventions from a single sector because they are interconnected with aspects of the economy, education, health, employment, and regional development. Analysis of various indicators allows the government to recognize these relationships, allowing resource allocation to be carried out not only sectorally but also considering

integrated needs. This approach is crucial so that each implemented program can complement each other and have a greater impact on improving community welfare.

The use of statistical analysis in the decision-making process also plays a crucial role in reducing the potential for subjectivity. Policymaking is often influenced by various factors, such as political pressure, individual perceptions, previous experiences, and vested interests, which do not always reflect the objective conditions of society. If decisions are based primarily on subjective considerations, development priorities may not fully align with actual needs. Statistical analysis provides a more transparent mechanism because each decision can be traced based on the indicators used, the analytical methods applied, and the results of the data processing. This makes the priority-setting process more accountable and transparent to the public.

Reducing subjectivity also has implications for increasing the legitimacy of government policies. Policies formulated based on data analysis tend to be more easily accepted by various stakeholders because they have a clear and verifiable basis. This is crucial considering that social policies often involve the distribution of public resources, which must be carried out fairly and proportionally. When the priority-setting process is based on measurable indicators, the opportunity for decision-making influenced by vested interests is minimized. In addition to improving policy quality, this also contributes to strengthening public trust in the governance process.

However, optimizing statistical analysis for determining social policy priorities still faces several challenges. Among the obstacles frequently encountered are differences in data quality between agencies, delays in information updates, and the suboptimal integration of various government data systems. Furthermore, the ability of government officials to interpret analysis results is also a factor influencing the quality of decisions made. Statistical analysis essentially only generates information based on available data, while policy decisions still require the ability to understand the social, economic, and institutional context underlying a problem. Therefore, improving human resource capacity is an integral part of efforts to optimize the use of statistical analysis in social policy formulation.

Integrating Multiple Data Sources to Support More Accurate Social Policies

Developing social policies that accurately address community needs requires information that is not only comprehensive but also consistent, up-to-date, and able to describe community conditions from various perspectives. In government practice, information on social conditions is generally scattered across various ministries, institutions, and local governments, according to their respective duties and functions. Each agency generates data through different mechanisms, whether from public service administration, surveys, censuses, population registration, or sectoral information systems. This situation

means that the government actually has a vast source of information to support the social policy-making process. However, the existence of abundant data does not automatically result in better policies if each source of information is managed separately and fails to provide a complete picture of community conditions. Therefore, the integration of various data sources is becoming increasingly important to improve the quality of analysis and strengthen the accuracy of social policies.

Social policy is fundamentally related to various interconnected aspects of community life. Poverty alleviation efforts, for example, are not only related to household income levels but are also influenced by education levels, health conditions, employment opportunities, access to basic services, housing quality, and even the condition of the area where people live. Information regarding all of these aspects is generally stored in different data systems and managed by different agencies. If the analysis process uses only one data source, the resulting picture tends to be partial and unable to explain the full conditions influencing a social issue. Integrating various data sources allows the government to obtain more comprehensive information, allowing for a deeper understanding of the relationships between various factors before policy formulation.

One crucial step in achieving data integration is the synchronization of information from various government agencies. Currently, each ministry and agency has a data management system developed according to its respective sectoral needs. This provides benefits in supporting the implementation of each institution's duties, but at the same time, it also presents challenges when the data needs to be used collaboratively in cross-sectoral policy development. Differences in data collection standards, recording methods, operational definitions of indicators, update periods, and storage formats often result in incomplete alignment of the resulting information. As a result, governments may face situations where two or more agencies produce different figures to describe the same situation. These differences not only complicate the analysis process but can also impact the quality of decisions made if not addressed through adequate synchronization mechanisms.

Data synchronization not only aims to achieve uniform figures but also to establish consistent information that serves as the basis for developing social policies. When various agencies use different data as a reference, there is a possibility that the resulting policies will lead to unequal priorities. This situation can lead to overlapping programs, differences in beneficiary targets, and mismatches between planning and implementation in the field. Therefore, data harmonization is a crucial step to ensure all stakeholders have the same information base in formulating policies. A common information base will strengthen inter-agency coordination and increase the effectiveness of social program implementation involving more than one government institution.

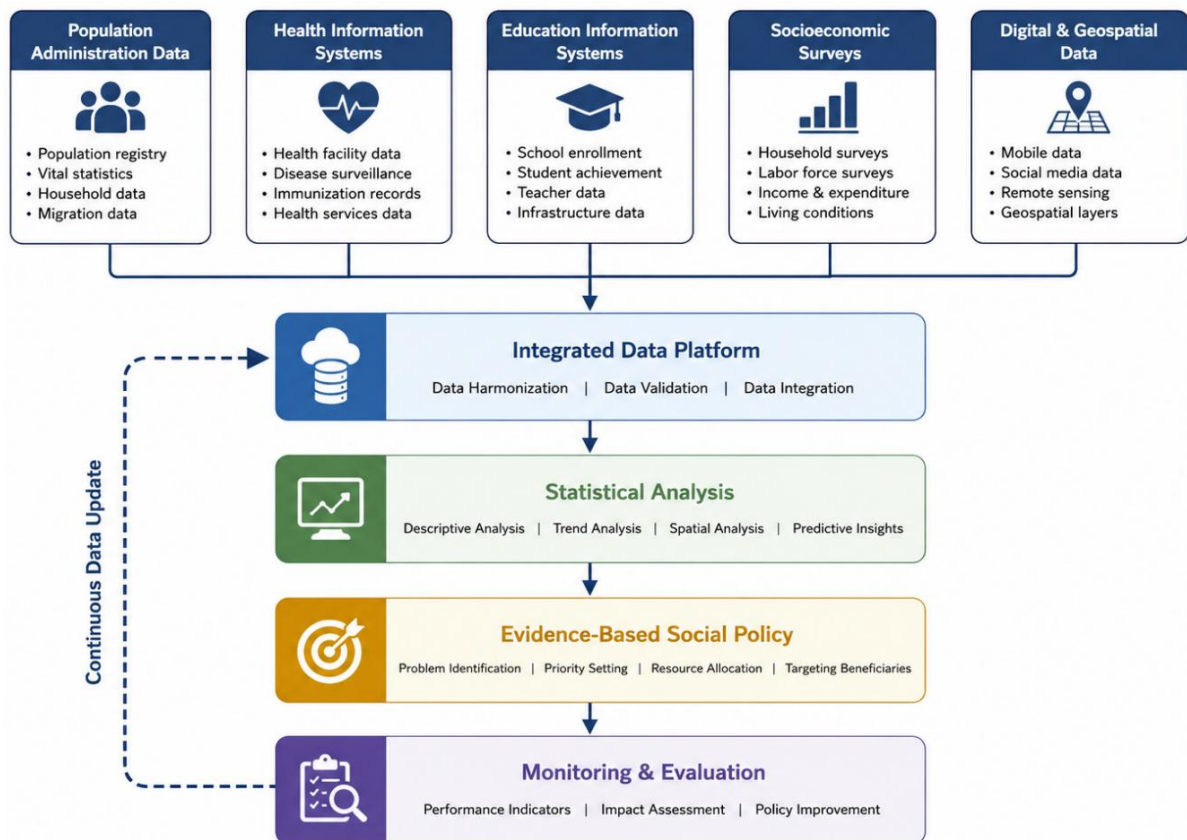
In addition to inter-agency synchronization, the integrated use of various types of data is also a crucial factor in determining the quality of social policymaking. Administrative data generated through the provision

of public services has the advantage of being obtained continuously and reflecting community activities directly related to government services. Information on population administration, social security participation, health services, education, employment, and various other forms of public services provides a continuously updated picture of community conditions, reflecting changes. However, administrative data is generally compiled for operational service purposes and therefore cannot always adequately describe the various social characteristics required in policy analysis.

On the other hand, data from surveys has the ability to describe the socioeconomic conditions of a community through indicators specifically designed to meet the data collection objectives. Various surveys conducted periodically provide information on welfare levels, consumption patterns, employment conditions, education levels, access to health services, and other development indicators that cannot all be obtained through administrative data. These advantages make survey data a crucial complement to understanding community conditions more deeply. However, survey data has limitations because they are conducted over a specific period, making them unable to always reflect rapid changes. Therefore, the use of survey data will yield more optimal results when combined with continuously available administrative data.

The development of digital technology in recent years has also produced new sources of information with significant potential to support social policy. Community activities conducted through various digital platforms generate data trails that can provide insights into changes in behavior, population mobility, information consumption patterns, and public responses to various government policies. Furthermore, the development of electronic-based government information systems also generates a continuously growing body of operational data. Appropriate use of digital data sources can enrich the analysis process by providing more up-to-date information on community conditions. However, their use still requires careful validation and management to ensure the resulting information maintains a quality that can be relied upon as a basis for policymaking.

To provide a more systematic overview of the relationships between data sources and the process of developing evidence-based social policy, Figure 1 presents the integration flow of various data types, the stages of statistical analysis, and their use in supporting the formulation, implementation, and evaluation of social policy. This illustration demonstrates that each data source plays a complementary role in producing more comprehensive information as a basis for decision-making.



As shown in Figure 1, data from population administration, sectoral information systems, socio-economic surveys, and digital data sources first undergo harmonization, validation, and integration, resulting in a more consistent and reliable database. Next, the data is analyzed using various statistical approaches to generate information on community characteristics, changes in social conditions, and priority issues requiring policy intervention. The results of this analysis are then used as a basis for developing evidence-based social policies, which are then monitored through a monitoring and evaluation process, generating feedback to update the data and refine policies in subsequent periods. Thus, data integration does not stop at combining information but forms a cycle that supports continuous improvement in policy quality.

The integration of administrative data, survey data, and various digital data sources provides the government with the opportunity to obtain a much more comprehensive picture of social conditions than if each source were used separately. Each type of data has distinct characteristics, advantages, and limitations, complementing each other in explaining various social issues. When these three sources of information are successfully combined through a systematic analysis process, the government can gain a better understanding of community characteristics, changes in social conditions, the level of vulnerability of certain groups, and the effectiveness of various programs implemented. This approach provides a stronger foundation for social policy development because the information used does not come from a single perspective but rather reflects various aspects of community life more holistically.

Improving the quality of information is another benefit gained through cross-sector data integration. In practice, a single data source often fails to explain all dimensions related to a social issue. For example, information on household economic conditions becomes more meaningful when linked to data on education, health, employment, and access to public services. This interconnectedness allows the government to more deeply identify the factors influencing the emergence of a problem. The resulting analysis not only explains the current situation but also provides a picture of the various factors contributing to its emergence. Thus, formulated policies have a greater chance of addressing the root of the problem rather than simply addressing the superficial symptoms.

Cross-sector data integration also provides the benefit of improving the accuracy of identifying target groups for social policies. Various social assistance and protection programs require data that comprehensively depicts the conditions of the community to accurately determine beneficiaries. If the identification process uses only one type of data, it is possible that some community characteristics may not be fully reflected. By integrating various information sources, the government can cross-verify available data, thereby increasing the level of targeting accuracy. This step is very important to reduce the potential for inclusion errors and exclusion errors, which are still challenges in the implementation of various social protection programs.

The success of data integration is greatly influenced by the ability to build interoperability between various government information systems. Interoperability enables more efficient data exchange without eliminating the authority of each agency to manage sectoral information (Abdulkareem & Mohd Ramli, 2022). Through interoperability, data generated by one agency can be utilized by other agencies according to government administration needs, while still adhering to regulations regarding data security and protection. This approach not only accelerates the information provision process but also reduces duplication in data collection, which is still common across various government sectors.

Supporting interoperability also benefits the quality of coordination in social policy development. Many government programs are implemented collaboratively, involving various ministries, agencies, and local governments. Without a robust data exchange system, each institution tends to work from its own information base, resulting in less than optimal coordination. Conversely, when interoperability is well established, all parties can access relevant information within their respective jurisdictions, enabling a more integrated process of policy planning, implementation, monitoring, and evaluation. This will strengthen policy consistency and increase the effectiveness of social program implementation on the ground.

Despite its significant benefits, data integration implementation still faces several challenges that require attention. Differences in information technology capacity across agencies, the lack of uniform

metadata standards, limited data quality in some sectors, and the need to maintain information security and confidentiality are some aspects that still require strengthening. Furthermore, data integration requires strong institutional commitment, as its success depends not only on the technology but also on the willingness of various institutions to collaborate in data management. Without effective coordination, the enormous potential of various information sources will be difficult to optimally utilize to support social policymaking.

In the Indonesian context, efforts to strengthen data integration are supported through various national policies that encourage electronic-based government administration, strengthen data governance, and implement a one-data policy to improve the quality of government information. These policy directions demonstrate that data integration is no longer viewed merely as a technical necessity but as a crucial component in supporting more effective, transparent, and evidence-based governance. For social policy, the existence of an integrated data system provides opportunities for more accurate analysis, enabling the government to design programs that are more targeted, responsive to changing societal conditions, and utilize public resources more efficiently.

Optimizing Social Policy Evaluation and Monitoring Based on Statistical Analysis

Evaluation and monitoring are integral parts of the entire social policy cycle because they determine the extent to which implemented programs achieve the objectives established during the planning stage. Various social policies are generally designed to address issues related to public welfare, such as poverty reduction, expanding access to education and health care, increasing employment opportunities, protecting vulnerable groups, and improving the general quality of life for the community. However, the success of a policy cannot be assumed solely based on program implementation or budget absorption. Assessing policy success requires a systematic evaluation process so that changes in society can be objectively measured. In this context, statistical analysis provides a crucial foundation because it allows the government to measure the results of policy implementation using measurable, consistent, and comparable indicators over time. Thus, evaluation not only provides a picture of program implementation but also demonstrates the policy's effectiveness in producing the desired changes.

Measuring the effectiveness of social program implementation requires information that illustrates the relationship between policy objectives and the results achieved after the program is implemented. Each policy essentially has different targets according to the problems it aims to address. Poverty alleviation programs, for example, are aimed at improving the welfare of low-income households, while programs in the education sector aim to improve public access to and quality of education. Therefore, evaluations must be conducted using indicators appropriate to the characteristics of each program. Statistical analysis

allows the government to compare conditions before and after policy implementation, allowing for more objective identification of changes. This approach provides a stronger basis for determining whether a program is truly impacting the community or merely resulting in administrative changes without any tangible improvements in welfare.

The advantage of statistical analysis in the evaluation process lies in its ability to present quantitative information while simultaneously demonstrating patterns of change in various social indicators. Information on poverty rates, unemployment, school enrollment rates, access to health services, and other development indicators can be compared periodically to identify trends in change after a policy is implemented. Through this approach, the government not only learns whether an indicator has increased or decreased but can also identify the magnitude of the change, the regions experiencing the most significant development, and the community groups that have benefited the most. This type of information has strategic value because it serves as a basis for assessing the effectiveness of policy implementation more comprehensively.

In addition to measuring program success, statistical analysis also provides the ability to identify variations in outcomes between regions and community groups. In practice, the implementation of social policies often produces varying levels of success in each region due to the influence of social characteristics, economic conditions, local government capacity, infrastructure quality, and the level of community access to public services. Analyzing these differences enables the government to understand that the success of a policy is determined not only by the quality of the program design but also by the conditions that influence its implementation on the ground. Therefore, evaluation based on statistical analysis is important to identify which areas require additional support or adjustments to implementation strategies to ensure more equitable policy outcomes.

Continuous monitoring also plays a crucial role in detecting changes that occur during policy implementation. Many social programs are implemented over a long period of time, so the conditions of the target community can change before the program is completed. If monitoring is only conducted at the end of the program, problems that arise during implementation may not be identified quickly. The use of statistical analysis allows the government to regularly monitor the development of social indicators, thereby identifying changes in community conditions early. This allows adjustments to program implementation before problems become more complex and reduce the policy's effectiveness.

The ability to identify implementation achievements is one of the primary benefits of statistical analysis-based evaluation. Every social policy produces various outputs and impacts that need to be measurably assessed to provide the government with a clear picture of the program's success. Statistical analysis provides information on the extent to which established targets have been achieved and which indicators require further attention. These achievements relate not only to increasing the

value of an indicator but also to the equitable distribution of policy benefits across regions and community groups. The resulting information serves as a critical basis for determining whether a program should be continued, expanded, modified, or even terminated if it no longer produces results consistent with its stated objectives.

In addition to identifying achievements, statistical analysis also plays a role in uncovering various obstacles that affect the implementation of social policies. Not all well-designed programs are able to produce optimal impact when implemented in the field. Obstacles can arise in various forms, such as limited public access to services, inaccurate targeting of beneficiaries, low capacity of program implementers, delays in aid distribution, and suboptimal coordination between agencies. Through analysis of various implementation indicators, the government can identify which parts of the implementation process still require improvement. This information is crucial because it allows problem-solving to be based on empirical evidence, rather than solely on administrative reports or the perceptions of program implementers.

The use of statistical analysis also allows for the identification of recurring patterns of obstacles across various social programs. In some situations, implementation problems arise not only from a single policy but also across different sectors. For example, delays in updating beneficiary data can impact the implementation of various forms of social assistance, while poor coordination between agencies can hamper the implementation of programs involving more than one government institution. By identifying these patterns, the government can formulate systemic solutions so that improvements not only address a single problem but also improve the overall quality of social policy implementation.

Evaluation results obtained through statistical analysis have strategic value as a basis for policy refinement in the following period. Evaluation is not simply an activity to assess the success of completed programs, but also a crucial source of learning for improving the quality of the policy formulation process. Information on indicators that have improved, areas showing slower development, or community groups that have not yet optimally benefited can be used as a basis for adjusting program design. Thus, policies formulated in the following period no longer have to start from scratch, but rather utilize the empirical experience gained through the implementation of previous policies.

The policy refinement process, supported by evaluation results, also provides an opportunity for the government to increase the efficiency of resource use. Programs that have proven to have a positive impact can be maintained and even expanded in scope, while activities that have not yet produced optimal results can be improved through changes in implementation mechanisms or adjustments to policy targets. This approach enables the government to allocate budgets more rationally because every decision is based on information regarding the effectiveness of implemented programs. As a result, the use of public

resources becomes more efficient and increases the chances of achieving social development goals.

Statistical analysis in the evaluation process also supports the development of sustainable institutional learning mechanisms. Every policy implementation generates experiences that can be used as references in formulating future development strategies (Adhikari & Shrestha, 2023). When evaluation results are well-documented and systematically analyzed, the government has a stronger knowledge base regarding the factors that influence the success or failure of a program. This knowledge becomes crucial for continuously improving policy quality, as each new decision is based on experience proven through data.

Another equally important aspect is the contribution of statistical analysis to strengthening accountability in social policy implementation. The use of large public budgets requires the government to demonstrate that each program truly benefits the community. Accountability is demonstrated not only through reports on the amount of budget spent but also through information on the results achieved. Statistical analysis enables the government to present various performance indicators objectively, allowing the public and other stakeholders to assess the effectiveness of policy implementation based on available data. This approach strengthens policy legitimacy while improving the quality of governance.

Data-based reporting also plays a crucial role in increasing transparency in the social policy implementation process. The public now has increasingly high expectations for the transparency of public information, including information on the implementation of various government programs. Presenting evaluation results in the form of clear, easy-to-understand indicators, supported by statistical analysis, will increase public trust in the government's decision-making process. This transparency also provides space for academics, civil society organizations, and other stakeholders to provide input based on the same information, thereby improving the quality of public policy discussions.

Strengthening transparency through data-based reporting also contributes to improving the quality of coordination between government agencies. When evaluation results are available in a standardized format and accessible to various institutions within their respective jurisdictions, program synchronization and subsequent policy development can be carried out more effectively. Each institution has the same information base for determining corrective measures, thus minimizing the potential for differing interpretations of program implementation results. This is particularly important for social policies whose implementation involves various ministries, institutions, and local governments.

However, optimizing evaluation and monitoring based on statistical analysis still faces several challenges. Differences in data quality, delays in information updates, limited integration between data systems, and variations in human resource capacity for analysis remain obstacles

affecting the quality of evaluation results. Furthermore, not all indicators are capable of comprehensively reflecting social change, necessitating the development of a more comprehensive measurement system. These challenges demonstrate that improving evaluation quality requires not only strengthening the technical aspects of data processing, but also improving information governance, enhancing the competence of government officials, and strengthening inter-institutional coordination to ensure more effective monitoring and evaluation processes.

Strategy for Strengthening Data Governance and Statistical Analysis Capacity in Supporting Social Policy

Improving the quality of social policy in the era of data-driven governance is determined not only by the availability of abundant information, but also by the government's ability to manage, integrate, analyze, and utilize data as a basis for policy development. Advances in information technology have resulted in a massive growth in data volumes from various government sectors, from population administration, health services, education, employment, social protection, to electronic public services. This presents a significant opportunity for the government to produce more targeted policies. However, this potential will not yield optimal benefits if data governance cannot guarantee the quality, consistency, and sustainability of the information used in the decision-making process. Therefore, strengthening data governance needs to be positioned as a key strategy to support the development of evidence-based social policies that can respond more quickly and accurately to changing societal conditions.

Good data governance plays a crucial role in ensuring that all processes of data collection, storage, updating, processing, and utilization are carried out systematically and meet established quality standards. In the practice of governance, various ministries, institutions, and local governments produce data in accordance with their respective duties and functions. While these conditions provide a very broad range of information, they also pose challenges in the form of different data collection mechanisms, varying quality standards, and inconsistent information update periods. As a result, available data often exhibit varying levels of consistency, impacting the quality of analysis used in social policy development. This situation demonstrates that strengthening data governance is not solely a technological issue but also encompasses the establishment of mechanisms capable of ensuring that all data management processes are coordinated, standardized, and sustainable.

One aspect that significantly determines the quality of data governance is the continuous improvement of data management and updating. Social data is highly dynamic, influenced by changing economic conditions, population mobility, labor market developments, demographic structure changes, and various other factors. Information that is accurate in one period may not necessarily reflect the conditions of society several months later. Therefore, regular data updates are

essential to ensure that social policies remain based on actual conditions. Delays in updating data have the potential to lead to errors in program targeting, development priorities, and resource allocation. Therefore, improving the quality of data updates must be seen as an integral part of a strategy to enhance the effectiveness of social policies.

Improving the quality of data management also requires attention to the validation and verification processes of information before it is used in policymaking. Data collected from various sources often contain inconsistencies, duplication, and information gaps that can affect analysis results if not handled appropriately. The validation process is crucial to ensure that the information used truly reflects the state of society. Furthermore, cross-verification mechanisms between various data sources are also needed to increase the level of confidence in the available information. This step will strengthen the quality of statistical analysis because the results obtained are based on data that has undergone a systematic quality control process.

Strengthening data governance in the context of social policy also requires the development of management standards that apply consistently across government agencies. These standards cover data collection mechanisms, metadata use, variable naming, indicator classification, and information updating procedures. Uniform standards will facilitate cross-sector data integration while reducing the potential for differences in interpretation of the resulting information. In Indonesia, the direction of strengthening data governance is supported through the implementation of the One Data Indonesia policy, which aims to improve the quality, interoperability, and utilization of government data. The application of these principles is a crucial foundation for building an information system capable of supporting more effective social policymaking.

In addition to strengthening data governance, human resource capacity is a crucial factor in determining the successful use of statistical analysis in the social policymaking process. The availability of comprehensive data will not provide optimal benefits if government officials lack the skills to process, analyze, interpret, and utilize the analysis results in decision-making. Statistical analysis requires not only mastery of software and data processing techniques, but also the ability to understand data characteristics, select appropriate analysis methods, and translate the analysis results into relevant policy recommendations. Therefore, improving the competency of government officials is a crucial prerequisite for realizing evidence-based social policy.

Strengthening human resource capacity can be achieved through various approaches, such as ongoing training, developing data analysis competencies, improving statistical literacy, and establishing a work culture oriented toward utilizing data in every decision-making process. This competency development is increasingly important given the rapid development of data analysis technology. Various statistical analysis methods, data visualization, and the use of digital technology continue to evolve, requiring government officials to adapt their capabilities to

optimally utilize these innovations. Investment in human resource development not only improves the quality of analysis but also strengthens the institution's ability to produce policies that adapt to changes in the strategic environment.

Statistical analysis capabilities also need to be developed equitably at all levels of government. Currently, data management capacity is often concentrated in central agencies, while some regional governments still face limitations in human resources and supporting infrastructure. However, the majority of social policy implementation takes place at the regional level, making the ability to analyze local conditions crucial. Strengthening the capacity of regional officials will improve the quality of problem identification, development priority setting, program implementation monitoring, and policy outcome evaluation. Therefore, the development of statistical analysis competencies needs to be carried out continuously and encompass all levels of government to improve the quality of decision-making.

Another strategic aspect is improving inter-institutional coordination and collaboration in data management. The multidimensional nature of social issues means that they cannot be addressed by a single government institution. Poverty alleviation programs, improving education quality, social protection, and health development involve various ministries, institutions, and regional governments with varying authorities. Therefore, the success of policies is greatly influenced by the ability to build effective coordination in the provision and utilization of data. Without effective coordination, each institution tends to use its own information system, resulting in inconsistent data. This situation has the potential to lead to overlapping programs and differences in policy targets, ultimately reducing the effectiveness of social development.

Inter-institutional collaboration is becoming increasingly important because each institution possesses complementary information that illustrates the state of society. Agencies that manage population data possess information on population characteristics, while other institutions store data on education, health, employment, social protection, and the community's economic conditions. When all this information can be utilized collectively through effective coordination mechanisms, the government will obtain a much more comprehensive picture of various social issues. Conversely, if each agency works separately, the enormous potential of various data sources cannot be fully utilized to support policy formulation.

Improved coordination relates not only to data exchange but also includes aligning standards, assigning roles, establishing information validation mechanisms, and developing work procedures that support cross-sector data integration. These steps are crucial for reducing duplication in data collection, increasing the efficiency of resource use, and accelerating the process of providing the information needed for decision-making. Furthermore, effective coordination will strengthen

policy consistency because all institutions use the same information base when developing programs and evaluating their implementation results.

Advances in information technology provide significant opportunities for the government to develop data-based decision-making support systems. The system integrates various information sources, presents analytical results in a more understandable way, and provides various indicators that policymakers can use to determine development priorities. The existence of a decision support system allows for faster analysis because information previously scattered across multiple agencies can be accessed through a more integrated mechanism. In addition to increasing efficiency, the system also reduces reliance on manual data processing, which can potentially lead to errors and delays in information provision.

The development of decision support systems also contributes to improving the quality of social policy monitoring and evaluation processes. Information on development indicator achievements, program implementation, budget distribution, and community developments can be displayed periodically, providing the government with a clear picture of the effectiveness of ongoing policies. This capability enables a more responsive decision-making process, as changes in community conditions can be promptly identified and addressed through policy adjustments. Thus, decision support systems serve not only as data storage but also as strategic instruments supporting the entire social policy cycle.

In developing data-based support systems, information security and data protection aspects also require adequate attention. The use of social data often relates to individual and household information, which must be managed in accordance with personal data protection principles and applicable laws and regulations. Therefore, strategies to strengthen data governance must be accompanied by the development of information security mechanisms, access control, and oversight of data use to maintain public trust in government data management systems. Strengthening data security is also crucial for supporting the sustainability of data-based policy implementation in the future.

CONCLUSION

This research demonstrates that optimizing the role of statistics plays a highly strategic role in supporting more effective, objective, and evidence-based social policymaking. Utilizing statistical data enables the government to more accurately identify various social problems through community mapping, determining priority groups, analyzing disparities between regions and community groups, and continuously monitoring changes in social conditions. Furthermore, statistical analysis contributes to more targeted program prioritization, more precise policy targeting, increased resource allocation efficiency, and reduced potential subjectivity in the decision-making process. Integrating various data sources through inter-agency data synchronization, integrated utilization of administrative data, surveys, and digital data sources, and

strengthening information system interoperability contribute to strengthening the quality of information that serves as the basis for social policy formulation. Furthermore, this research also found that the successful implementation of data-driven social policies is determined not only by data availability but also by the government's ability to conduct ongoing evaluation and monitoring through statistical analysis. Data-driven evaluations can measure the effectiveness of program implementation, identify implementation achievements and obstacles, and provide an empirical basis for policy refinement in subsequent periods. Simultaneously, strengthening data governance, improving the quality of information updates, developing human resource capacity in statistical analysis, strengthening inter-institutional coordination, and developing data-driven decision-making support systems are complementary strategies for improving the quality of social policy. Therefore, strengthening the data ecosystem and statistical analysis needs to be an integral part of governance so that the resulting social policies are more targeted, transparent, accountable, adaptive to changing societal conditions, and able to provide a sustainable impact on improving public welfare.

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