

Effectiveness of the Proud Kencana Program Through Recording and Reporting on the SIGA Application

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ABSTRACT

The Bangsa Kencana Program is a national strategic program launched by the Ministry of Population and Family Development (KemendukBangga)/BKKBN with the aim of improving the quality of families through population control, improving family welfare, and strengthening family resilience based on accurate and integrated data. This study uses a descriptive qualitative approach to explore and analyze the effectiveness of the implementation of the Bangsa Kencana Program through the SIGA application. The effectiveness of SIGA implementation is still a question that requires in-depth analysis. The effectiveness of the Bangsa Kencana Program through SIGA-application-based recording and reporting is greatly influenced by technological infrastructure factors, natural resource competence, and policy support from the central and regional governments. The success of this program requires synergy between strengthening the capacity of field officers, providing infrastructure facilities, developing responsive systems and a sustainable commitment to support digital transformation in population and family planning services.

INTRODUCTION

The Family Development, Population, and Family Planning Program (Bangga Kencana) is a national strategic program launched by the Ministry of Population and Family Development (Kemenduk Bangsa)/National Population and Family Planning Agency (BKKBN). This program aims to create quality families through birth control, improving family quality, and accurate and continuous monitoring and evaluation (Agustin et al., 2025). In the digital era, precise and accurate data management is crucial to the program's success. (Ayyasy & Maelani, 2024)

A current issue that has emerged is the challenge of implementing data recording and reporting, which is still not fully optimal, especially at the field level (Naungmapia et al., 2023; Agustin et al., 2025). The success of this program depends heavily on the effectiveness of the information system used, particularly in accurate and timely data recording and reporting. One system currently being relied upon is the SIGA (Family Information System) application, designed to support the digitization of family data and facilitate reporting by family planning counselors in the field. The SIGA (Family Information System) application was developed by the Ministry of Population and Family Development (Kemenduk Bangsa) / National Population and Family Planning Agency (BKKBN) as a digital platform to strengthen the national family data recording, reporting, and updating system. SIGA serves as a work map, program intervention tool, and performance measurement instrument at all levels of the Population, Family Planning, and Family Development (Bangga Kencana) Program implementation area. The application, available in web and Android versions, allows family planning counselors to input data directly from the field, including field control data (Dallap) and family planning service outcomes at registered health facilities. Through SIGA, BKKBN strives to realize an accurate and up-to-date "One Indonesian Family Data" system, which serves as a basis for planning and evaluating population and family planning programs. (DPPKB, 2023)

The implementation of SIGA in the field still faces various challenges. Research conducted at the Cicurug Population Control Technical Implementation Unit (UPTD), Sukabumi Regency, showed that the effectiveness of SIGA utilization was suboptimal. Challenges encountered included staff's lack of understanding of the application, limited training, and technical issues in operating the system. Furthermore, other research revealed that employee training and development significantly impacted the effectiveness of services provided by the DP2KBP3A, with a regression coefficient of 0.730, demonstrating the importance of improving human resource capacity in supporting the successful implementation of SIGA. (Nur. & Lesmana., 2024). Therefore, ongoing efforts in training and capacity building for family planning extension workers are needed to ensure the effective and efficient use of SIGA in the field. (Apriliani., et al., 2024)

Several studies, such as those by Susanti (2022) and Firmansyah et al. (2023), indicate that SIGA's effectiveness still faces significant challenges at the operational level, particularly related to human resource competency, digital infrastructure, and data integration across regions. The digital divide between

the central and regional governments also exacerbates the situation, often questioning data accuracy and leading to poorly targeted policymaking. A current emerging issue is the challenge of data recording and reporting, which is not yet fully optimized at the field level. A study by Lestari & Hidayat (2023) revealed that low digital literacy among field officers and a lack of technical training are major obstacles to maximizing the use of SIGA. In areas such as the Family Planning Extension Center (BPKB) in Ciawi District, Bogor Regency, this issue is particularly crucial given that the area is one with high mobility and population density. Therefore, a comprehensive evaluation of the effectiveness of the SIGA application in supporting the recording and reporting of the Bangsa Kencana program is necessary. This study will not only examine the application's technical performance but also examine human resource involvement, work procedures, and outcomes. Therefore, the results of this study are expected to provide practical and strategic contributions to strengthening the information system for population and family planning programs at the local level.

Issues such as limited human resource capacity, low digital literacy among extension workers, and technical challenges in operating the Family Information System (SIGA) application present significant obstacles. SIGA is a crucial instrument for monitoring the achievements of the Bangsa Kencana program in real time and accurately, particularly in areas such as the Ciawi District Family Planning Extension Center (BPKB), Bogor Regency.

This research is crucial for assessing the effectiveness of the Bangsa Kencana Program implementation through the recording and reporting system used by the SIGA application at the Ciawi BPKB. This effectiveness assessment covers the input, process, output, and outcome aspects of SIGA application utilization, as well as challenges and potential improvements.

The primary objective of this research is to analyze the effectiveness of the Bangsa Kencana Program implementation through the use of the SIGA application at the Ciawi District Family Planning Extension Center (BPKB), Bogor Regency. This analysis includes assessing the extent to which the SIGA application supports the achievement of program indicators, including family data recording, reporting of family planning service outcomes, and regular data updates. This research will also examine the system's effectiveness from a field implementation perspective, including the extent to which the application is used consistently, accurately, and according to procedures by family planning extension workers in the region.

Furthermore, this research aims to comprehensively identify factors that support and hinder the implementation of recording and reporting through SIGA. These factors include human resources (competence, motivation, training), technological infrastructure (device availability, internet connection), as well as managerial aspects and internal policies applicable at the sub-district and district levels. By uncovering the various dynamics occurring in the field, this research is expected to provide a comprehensive picture of the actual implementation of the information system within the Bangsa Kencana program.

The final objective of this research is to formulate strategic recommendations that can be used by policymakers, particularly within the

National Population and Family Planning Board (BKKBN) and local governments, to improve the quality of digital-based recording and reporting. These recommendations are expected to be not only technical in nature, but also address policy aspects, human resource capacity building, and strengthening information technology-based monitoring and evaluation systems. With a more adaptive and evidence-based strategy, it is hoped that the implementation of SIGA can run more optimally, efficiently, and contribute directly to the sustainable success of the *Bangga Kencana* program.

LITERATURE REVIEW

1. Program Effectiveness Theory

Effectiveness is a measure of the success of an organization or program in achieving its stated goals. According to Mahmudi (2010), effectiveness can be defined as the level of achievement of results (output) compared to the expected goals (goals). If an activity or program can meet predetermined targets or objectives, it is considered effective.

Effectiveness in the context of public program implementation, such as the *Bangga Kencana* Program, emphasizes the achievement of program objectives, which include improving family quality, population control, and optimal family planning services. Effectiveness is also influenced by the alignment between implementation strategies and field needs, as well as the efficiency of resource use.

Furthermore, Steers (1985) states that organizational effectiveness consists of several indicators, such as goal achievement, stakeholder satisfaction, internal efficiency, and adaptability to environmental changes. In this regard, the SIGA application is expected to be an instrument to increase the effectiveness of reporting and data recording that supports program success.

2. E-Governance Theory

E-Governance is a concept that has evolved from the use of information and communication technology (ICT) in government administration to increase transparency, participation, and accountability. According to Heeks (2006), e-governance is not only about the digitization of government services, but also about transforming the public administration system to be more responsive to public needs.

In the context of the SIGA (Family Information System) application, e-governance exists as an effort to modernize the recording and reporting system in population and family planning programs. SIGA enables family data and information to be accessed and managed in real time by field officers, family planning counselors, and local and central governments. This supports the principles of good governance: accountability, transparency, and efficiency.

A study by the United Nations (2012) also emphasized that effective e-governance implementation will increase public trust in government services and accelerate data-driven decision-making.

3. Management Information Systems (MIS) Theory

A Management Information System (MIS) is a system that integrates hardware, software, people, documents, and procedures to collect, process, store, and disseminate information needed for decision-making and operational control in an organization (Nuryana et al., 2024).

A Management Information System is not just about technology, but also about how the system is used by people and how it supports managerial processes and decision-making (Nuryana et al., 2024). The SIGA (Family Information System) application is a concrete form of a management information system implemented in the public service sector, specifically in the field of family development and family planning (Bangga Kencana).

Research by Setyowati (2022). In her research entitled "Optimizing the Family Information System in Supporting the Bangga Kencana Program," Setyowati emphasized that the SIGA application successfully increased the efficiency of recording and reporting family data in several pilot areas. This study concluded that SIGA was able to shorten reporting time and reduce data input errors compared to the previous manual system. However, this success was greatly influenced by the availability of equipment and the competence of human resources in using information technology.

Nasution's (2021) research on "The Influence of Human Resource Capacity on the Effectiveness of Digital Family Planning Program Reporting" states that there is a strong correlation between the ability of field officers to operate SIGA and the accuracy of reported data. This research also highlights the importance of regular training and technical guidance, especially for family planning instructors in rural areas unfamiliar with digital systems. This demonstrates the importance of strengthening human resource capacity to support the successful implementation of SIGA.

Widiastuti's (2023) study, "The Role of Local Governments in the Implementation of Digital Family Data Registration," found that structural support from local governments significantly influences the sustainability and effectiveness of SIGA implementation. Local governments that actively provide incentives, budget allocations, and supporting infrastructure, such as internet networks and technological devices, tend to have more consistent and accurate reporting. This research reinforces the notion that cross-sector collaboration is crucial for the success of national policy-based digital programs.

Priyanto and Rachmawati's (2020) study, "Evaluation of the Family Information System in Sleman Regency," revealed that SIGA has not been fully utilized optimally due to technical barriers such as system disruptions, lack of training, and resistance to the transition from a manual to a digital system. Furthermore, the success of SIGA implementation also depends heavily on the commitment of institutional leaders to follow up on incoming data as the basis for program policies. This study demonstrates that SIGA's effectiveness requires an approach that is not only technical but also managerial.

Yuliana's (2022) study, entitled "Utilization of Digital Technology in Population and Family Planning Programs," explains that digital transformation, such as the use of SIGA, is not only crucial for administrative efficiency but also

for improving the quality of program planning. Data collected through SIGA allows for a more in-depth analysis of community needs, such as contraceptive distribution and evaluation of family planning outreach. This research underscores the importance of using digital data as a basis for public policy decision-making.

METHODOLOGY

This study uses a qualitative approach with descriptive methods to explore and analyze the effectiveness of the Bangsa Kencana Program implementation through the SIGA application at the Ciawi District Family Planning Extension Center (BPKB), Bogor Regency. This approach was chosen because it allows researchers to delve deeply into various realities on the ground, including the dynamics of program implementation, the role of information technology, and the perceptions and experiences of implementers. Qualitative research also provides flexibility in understanding the social and policy contexts that influence program effectiveness holistically. Data collection was conducted through direct field observation, in-depth interviews, and documentation of SIGA reporting archives and Bangsa Kencana program implementation data. Key informants in this study included family planning extension workers, registration and reporting officers, and the head of the Ciawi BPKB. In addition, the study also involved supporting informants, such as officials from the Bogor Regency Population and Family Planning Control Office. Informants were selected purposively, considering their active involvement in program implementation and monitoring. The primary focus of this method is analyzing the achievement of Bangsa Kencana program indicators as outlined in the SIGA system, such as the number of active family planning participants, family planning service delivery, and the accuracy of recorded family data. The research also examines the extent to which the SIGA application supports data validity and reporting efficiency, as well as how field officers access and utilize the system in their operational activities. Through data triangulation and an inductive approach, researchers construct an understanding of the factual conditions that influence the quality and effectiveness of the recording and reporting process.

Furthermore, this study examines the role of human resources and policymakers within the National Population and Family Planning Agency (BKKBN) and local governments in supporting SIGA implementation. Aspects of competence, training, work motivation, and policy and infrastructure support are crucial elements of the analysis. This research aims not only to describe the current situation but also to reconstruct an understanding of how the interaction between technology, people, and policy can support or hinder the realization of an effective and sustainable family information system.

RESEARCH RESULT

The Bangsa Kencana Program is a strategic initiative from the Ministry of Population and Family Development (Kemenduk Bangsa)/National Population and Family Planning Agency (BKKBN) which aims to control population growth and improve the quality of families in Indonesia. In an effort to support this

program, BKKBN developed the Family Information System (SIGA) application as a tool for digitizing family data and facilitating reporting by family planning extension workers in the field. SIGA is designed to integrate family data nationwide, enabling real-time and accurate monitoring and evaluation of programs. However, the effectiveness of SIGA implementation in the field is still a question that requires in-depth analysis.

The Ciawi District Family Planning Counseling Center (BPKB) is one of the technical implementation units of the Bogor Regency Women's Empowerment and Child Protection, Population Control, and Family Planning (DP3AP2KB) Office. BPKB Ciawi plays an important role in the implementation of the Bangsa Kencana Program, especially in recording, reporting, and family planning services in the work area of Ciawi District.

Starting in 2021, BPKB Ciawi implements the SIGA (Family Information System) application as the main tool in recording and reporting program activities. SIGA is used by field officers (PLKB), family planning cadres, and data operators to record family information, the number of family planning participants, reproductive health services, and data on counseling activities. This research was conducted with a descriptive qualitative approach, through in-depth interviews with PLKB, BPKB Coordinators, and direct observation of the use of the SIGA application. The research is also supported by a study of the documentation of the SIGA report and the 2025 program performance document. The results of the field findings show that:

1. Recording through SIGA is carried out in real-time by PLKB after service activities or home visits.
2. Weekly and monthly reporting has fully adopted SIGA, replacing the paper-based manual system.
3. Most of the officers have been trained to use SIGA, although there are still some network constraints and device limitations.
4. Data recorded through SIGA is used by BPKB and the Agency to prepare operational strategies and reports to the center.

This study assesses effectiveness based on three concepts: goal optimization, system perspective, and human behavior in the organization. The results of the study show that the effectiveness of using SIGA has not been optimal, especially in terms of the timeliness of reporting and the officers' understanding of the application. (Nur. & Lesmana, 2024). In the context of goal optimization, SIGA aims to facilitate the management of data and information at all levels of the region. However, research shows that not all Bangsa Kencana activity reports are included in the application, and several types of reporting need to be added to achieve the goals that have been set. This shows the need to improve and add features in the SIGA application so that it can run well and achieve the goals that have been set.

DISCUSSION

From a system perspective, the mechanism for using SIGA starts from collecting village-level data by field officers, then processing or being input by

data operators into a report on the results of sub-district level activities. However, there are still obstacles in its implementation, especially in terms of the timeliness of reporting. The delay in data collection from the village level and the lockout in the system that only allows data input in the current month results in the results of activities at the end of the month cannot be reported on time. Human behavior in the organization greatly influences the success of the implementation of SIGA. Research shows that officers' understanding of the SIGA application is still minimal, with some officers only knowing how to withhold report data without understanding the output of using the application. Although most employees responded positively to the use of SIGA, there were still delays in the collection of data on the results of activities in the field, which showed the need for increased understanding and work discipline among officers. Research by Nurma Apriliani et al. (2024) entitled "The Effect of Training and Use of the SIGA Application on the Effectiveness of Services at the Population Control, Family Planning, Women's Empowerment and Child Protection (DP2KBP3A)" shows that training and employee development related to SIGA has a positive and significant influence on the effectiveness of DP2KBP3A services. The regression coefficient of employee training and development of 0.730 indicates that a one-unit increase in training and employee development related to SIGA will increase service effectiveness by 0.730, assuming other variables remain the same.

In addition to training, the use of SIGA by employees also has a significant influence on the effectiveness of services. The regression coefficient of SIGA use of 0.436 indicates that a one-unit increase in the use of SIGA by employees will increase service effectiveness by 0.436, assuming the other variables remain the same. This emphasizes the importance of actively and effectively using SIGA by employees in improving service quality. Determination coefficient analysis showed that factors such as employee use of SIGA and training and development of SIGA-related employees had an impact of 60.3% on the effectiveness of DP2KBP3A services. The remaining variance of 39.7% indicates the influence of other variables or factors not included in the model. This shows that while the use of SIGA and employee training contribute significantly to the effectiveness of the service, there are still other factors that need to be considered.

Although SIGA is designed to facilitate data management and reporting, its implementation in the field still faces various challenges. Limited technological infrastructure, such as the availability of devices and internet connections, as well as low digital literacy among field officers are significant obstacles. In addition, the lack of technical training and officers' understanding of the SIGA application also hinders the effectiveness of its use. One of the main inhibiting factors in the implementation of SIGA is the limited technology infrastructure and internet access, especially in remote areas. In West Kalimantan, around 20% of areas experience a lack of internet signal, which makes it difficult for family planning extension workers to report through SIGA. As a temporary solution, reporting is done manually using a form, which is then input into the application when internet access is available. (Slamet, 2024). The competence of officers in operating SIGA greatly affects the effectiveness of recording and reporting. Research shows that SIGA training has a positive influence on the ability and

compliance of network midwives in recording and reporting. Effective training improves officers' understanding of data flows and application usage, thereby reducing input errors and improving data accuracy. (Nur. & Wardani, 2024).

Support from policy makers within the BKKBN and local governments is an important supporting factor. Coordination between BKKBN and internet service providers and the local village government has been carried out to overcome network problems. In addition, the existence of a budget for the internet for family planning cadres and extension workers shows the government's commitment to supporting the implementation of SIGA. The availability of hardware such as smartphones and computers, as well as supporting software, is a supporting factor in the implementation of SIGA. However, in some areas, limited facilities and infrastructure are still an obstacle, which hinders the process of recording and reporting digitally. (Radesa & Alhadi, 2022). A lack of understanding of the data flow in SIGA can lead to errors in data input, which has an impact on the validity of the information. Failure to understand the SIGA data cycle can inaccurately magnify the unmet need data. Therefore, technical training and data analysis are needed for SIGA data management officers. (Shanti, 2023). The active participation of the community and cadres in the family planning program supports the successful implementation of SIGA. Their involvement in family data recording and reporting helps speed up the data collection process and improve the accuracy of the information collected. (DIY, 2023).

Effective communication between family planning officers, cadres, and other related institutions is very important in the implementation of SIGA. Lack of communication can lead to errors in recording and reporting, as well as hinder the resolution of issues that arise in the field. (Oktaviani, 2023). Periodic monitoring and evaluation help identify problems in the implementation of SIGA and find the right solutions. The evaluation also provides useful feedback for system improvement and officer capacity building. (DIY, 2023). SIGA's ability to adapt to information technology developments is a supporting factor in the management of data on the results of family planning services. The development of SIGA, which utilizes the Indonesian family database, allows for more decentralized and accurate data collection and management. The implementation of SIGA in the Bangsa Kencana Program is influenced by various supporting and inhibiting factors. To increase the effectiveness of recording and reporting, integrated efforts are needed to improve infrastructure, officer competence, policy support, and active community participation. Thus, SIGA can function optimally in supporting family planning and family development programs in Indonesia.

Here are ten strategic recommendations that can be implemented by policy makers, especially within BKKBN and local governments, to improve the quality of digital-based recording and reporting through the SIGA application:

1. Strengthening Technology Infrastructure and Internet Access

Limited technology infrastructure and internet access, especially in remote areas, are the main obstacles in the implementation of SIGA. BKKBN needs to work closely with local governments and internet service providers to ensure adequate

network availability throughout the region. The provision of hardware such as computers and smartphones must also be prioritized to support the operations of officers in the field.

2. Improving Officer Competency and Training

The competence of officers in operating SIGA greatly affects the effectiveness of recording and reporting. Continuous and structured training needs to be organized to improve officers' understanding of data flows and application usage. This training should also cover technical aspects and data analysis to ensure the accuracy and validity of the information collected.

3. Feature Development and System Integration

The SIGA application needs to continue to be developed by adding features that make it easier to record and report, as well as integrate with other information systems such as the population system. This will allow for better data synchronization and minimize duplication of information. This development should involve input from users in the field to ensure relevance and ease of use.

4. Improved Policy and Management Support

Support from policy makers within BKKBN and local governments is very important in the implementation of SIGA. Policies that support the use of SIGA, including budget allocations for training and infrastructure, should be prioritized. Effective management is also required to ensure good coordination between the various parties involved in the program.

5. Periodic Monitoring and Evaluation

Periodic monitoring and evaluation help identify problems in the implementation of SIGA and find the right solutions. The evaluation also provides useful feedback for system improvement and officer capacity building. The results of the evaluation should be used as a basis for decision-making and strategic planning going forward.

6. Increasing Community and Cadre Participation

The active participation of the community and cadres in the family planning program supports the successful implementation of SIGA. Their involvement in family data recording and reporting helps speed up the data collection process and improve the accuracy of the information collected. Cadre empowerment through training and technical support also needs to be improved.

7. Development of Incentive and Award Systems

To increase the motivation of officers in using SIGA, an incentive and reward system can be implemented. Awards for officers who show good performance in recording and reporting can encourage improved data quality. Incentives can also be provided in the form of advanced training or career development opportunities.

8. Increasing Awareness and Socialization of the Program

Effective socialization on the importance of recording and reporting through SIGA needs to be carried out to all stakeholders, including the community. Increasing awareness of the benefits of SIGA in family planning programs can encourage active participation and support from various parties. Social media and information campaigns can be used to reach a wider audience.

9. Strengthening Inter-Agency Coordination

Effective coordination between BKKBN, local governments, and other related institutions is essential in the implementation of SIGA. The formation of a coordination team at the regional level can help in solving problems that arise and ensuring smooth running operational program. Regular meetings and discussion forums can also be used to share experiences and best practices.

10. Periodic Evaluation and Adjustment of Policies

Policies related to the use of SIGA need to be evaluated and adjusted periodically based on the results of monitoring and evaluation. Policy adjustments should be based on accurate data and information to ensure the relevance and effectiveness of the program. The involvement of various stakeholders in the evaluation process is also important to gain a comprehensive perspective.

By implementing the strategic recommendations above, it is hoped that the quality of digital-based recording and reporting through the SIGA application can be improved, thereby supporting the overall success of the *Bangga Kencana* Program.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the study and analysis, it can be concluded that the effectiveness of the *Bangga Kencana* Program through SIGA-application-based recording and reporting at the Ciawi Family Planning Counseling Center, Bogor Regency, is greatly influenced by technological infrastructure factors, human resource competence, and policy support from the local government and BKKBN. The use of SIGA has been shown to improve the efficiency, accuracy, and speed of family data reporting, although it is still faced with challenges in the form of limited internet access, lack of technical training, and barriers to user adaptation. The success of this program requires a strong synergy between strengthening the capacity of field officers, providing adequate infrastructure, developing systems that are responsive to user needs, and sustainable commitment from policymakers to support digital transformation in population and family planning services.

ADVANCED RESEARCH

The next research is expected to expand the scope of the study by conducting a comparative analysis of the effectiveness of the use of Family Information System Applications (SIGA) in several Family Planning Counseling Centers in different areas, both urban and rural, in order to obtain a more

comprehensive picture of the contextual factors that affect the success of the implementation of the system. In addition, subsequent research can use a quantitative approach or mixed methods to measure more measurably the relationship between the quality of recording and reporting and the achievement of the *Bangga Kencana Program's* indicators, such as the participation rate of family planning, the validity of data on families at risk of stunting, and the speed of program reporting.

Furthermore, future research can also examine aspects of digital readiness, the level of technological literacy of field officers, and the effectiveness of training and technical assistance in improving the optimization of the use of SIGA. Studies that focus on system evaluation from the perspective of e-governance and information systems management are also important to formulate a more adaptive, integrated, and sustainable data management model. Thus, the results of follow-up research are expected to make a more strategic contribution to strengthening the digitalization policy of population and family planning services at the regional and national levels.

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