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# Learning in Smart Village Concept

## Case Study Tanggungan Village Baureno District Bojonegoro Regency

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### ABSTRACT

The development of information and communication technology is widely used in government, one of which is at the village government level. With the provision of authority and large financial rights to the village government, a siskeudes application was developed to facilitate accountability. This study uses a descriptive qualitative research method. The smart village system aims to increase the efficiency of village governance. In its implementation, almost all elements of the smart village have been fulfilled except for one element that has not been achieved, namely the infrastructure element, lack of understanding, potential for fraud, lack of supervision and technical problems that occur in the field. In general, the implementation of this program is good but still needs improvement in several aspects

**Keywords:** *IT, Smart Village, Transparent*

### 1.INTRODUCTION

There have been many studies related to smart villages in Indonesia. At least a few articles were found through a Scopus search on August 9, 2023. Starting from discussions related to technology in smart villages [1]–[3]. Comparison between the concept of smart village which is juxtaposed with the discussion of the concept of smart city and smart region [4], [5]. Discussion regarding the smart village model [6]. Regarding big data used in smart villages [7], [8]. Village competitiveness and preparedness [9]. Based on the several studies above, no one has ever discussed technology specifically used by villages in the village budgeting system. Therefore, this study discusses the smart village concept learning in the case study of Tanggungan Village Baureno District Bojonegoro Regency.

The rapid science and technology has developed significantly. Various new inventions have been created to facilitate human work. In the public service sector, the government has utilized every science and technology in improving the quality of service to its people. Technology that is juxtaposed with the concept of e-government in helping the government to carry out communication to the public. In simple terms, e-government is the use and utilization of information technology [10] by the government so that it can create communication between government, society, the business world and other interested parties to provide

services quickly and precisely [11]. The objectives of the presence of e-government include providing improved public administration services, transparency, efficiency, and accessibility so as to provide a reduction in bureaucratic performance which has so far been seen as unfavorable, cost and time savings and can provide a better experience, especially for government administrators.

The implementation of e-government has existed since 2003, starting with the presence of Presidential Decree No. 3 of 2003 concerning a national policy or strategy originating from the development of e-government. The goal is to improve quality, especially service to the community. This is inseparable from the concept of good governance. Where the government is no longer the main actor but there are other actors which vary greatly and depend on the level of government [12]. So there needs to be the presence of good governance. This is because it can form a participation, consensus orientation, accountable, transparent, responsive, effective, efficient, and fair, inclusive, and following the rules

In 2003 the Indonesian government has also responded regarding e-government. This was indicated by Presidential Instruction number 3 of 2003 concerning national policies and strategies for e-government development. The Presidential Instruction aims to improve the quality of service to the community, including information services and to create good governance. Translated simply, good governance is an

effort of government that is trustworthy and to create good governance, government needs to be decentralized and in line with the rules of administering a government that is clean and free from corruption, collusion and nepotism [13] . Therefore, the Indonesian government at various levels of government has implemented e-government to realize good governance. One of the most autonomous levels of government is the Village.

A village based on Law Number 6 of 2014 is a legal community unit that has territorial boundaries that are authorized to regulate and oversee all government affairs, community interests, origin rights, and traditional rights which are highly respected and recognized in the system of government of the Unitary State of the Republic of Indonesia. Indonesia. So that there is its own local wisdom which shapes the economy, social and politics and this is a different matter from the village or other levels of government. Therefore, this regulation brings fresh air for the village to manage its own household so that it can provide welfare for the community. One of them is managing the APBDes budgeting in an accountable manner which is accounted for by the community and the government level above it.

This embodiment was then outlined in 2015 where the ministry of home affairs as the agency in charge of the village government has launched an application that is expected to assist village governments in accountability for financial management. The application is named the village financial system or often referred to as "SISKEUDES". In the SISKEUDES application, it has been adjusted to the format of the applicable rules, so that the results of using this application are in accordance with applicable regulations. In addition, the SISKEUDES application, starting in 2020, has been integrated online with the Village Community Empowerment Service and the Regional Inspectorate, making it easier for related agencies to carry out financial management supervision carried out by the village government.



Figure 1.  
Siskeudes initial view

Although Siskeudes is designed to increase transparency, accountability and efficiency in village financial management, from the observations of researchers there are still weaknesses in this application, including: 1) Inadequate infrastructure; 2) Limited

understanding and skills; 3) Potential for fraud; 4) Lack of support and supervision; 5) Technical problems. From these facts, the researcher is interested in conducting further research regarding the implementation of the SISKEUDES application in the Dependent Village with the title "Learning in the Smart Village Concept in the Tanggungan Village Baureno District Bojonegoro Regency with smart village glasses

## 2. CONCEPT

### 2.1 DEFINITION OF SMART VILLAGE

Conceptually, a smart village is an innovation in a sustainable plan located in the village area to promote a knowledge-based development through sustainable human resource-based learning with an integral part of a village resource development. Where especially in the context of village development [14] . The smart village domain has been revealed by Sutriadi in his study, there are several things including: 1) Community integrity; 2) History and culture; 3) Spatial context in the regional planning perspective; 4) Economic sector; 5) Technology readiness; 6) Impact of technology; 7) Political and technical processes; 8) Stakeholders

### 2.2 DIFFERENCE SMART VILLAGE WITH SMART CITY

When examined in more detail, smart village and smart city have different dimensions. This dimension can be viewed from its approach, government position, community position, development process, priority targets, background of success, and goals. In more detail it has been described by Muhtar et al in a study in 2023 [6]

Table 1  
Difference between Smart Village and Smart City

Dimensions	Smart Village	Smart City
approach	Bottom-up	Top-down
Government Position	Facilitator	Regulators
Community Position	customers	End-user
Development Process	strengthening awareness and participation of smart village elements	collectivity and integration are the basic elements of a smart city
Target Priority	middle income, poor, and not yet empowered people	people with high mobility
Prerequisites Of Success	the socio-cultural approach is the	the technological approach is the

	main basis for the success of this model. the existence of a valid identification of various values, characters, norms, and problems that exist in society is the basis for the success of smart village	main basis where each party is encouraged as the basis for the success of smart city
goal	The Realization Of Empowerment, Strengthening Institutions, And Increasing The Welfare Of Rural Communities Based On The Use Of Information Technology	the realization of information technology capable of creating economic growth, then access to information and basic services, thereby creating an increase in the quality of life of urban communities

Source: [6]

### 3. METHODS

The research design used in this research is descriptive qualitative. The reason for using a qualitative approach is to explain specifically about village financial management by implementing the village financial system, as well as knowing the role of village officials in carrying out good village financial management in accordance with applicable regulations. A qualitative approach is an approach to exploring and understanding the meaning given by individuals or groups to a social or human problem [15].

Descriptive qualitative method is a method that aims to create a systematic, factual and accurate description of the characteristics, facts, and relationships between the phenomena studied. According to Moleong [16], a qualitative descriptive approach is a research approach where the data collected is in the form of words, pictures and not numbers. These data can be obtained from interviews, field notes, photographs, video tapes, personal documentation, notes, or memos and other documentation.

### 4. RESULTS

The siskeudes application was jointly developed by the Finance and Development Supervisory Agency and the Ministry of Home Affairs. The Siskeudes application began to be implemented in 2015 based on the letter of the Minister of Home Affairs Number 143/8350/BPD dated November 27 2015. Application for Village Financial Management and KPK Letter Number B.750/01-16/08/2016 dated August 31 2016 concerning Appeals Related to Village Financial Management or Village Funds. The siskeudes

application refers to the applicable village financial management regulations, namely Permendagri Number 113 of 2014 concerning Village Financial Management.

The Siskeudes application version 2.03 was released on November 10 2020 and was launched by the Ministry of Home Affairs on November 17 2020 simultaneously which was carried out online throughout Indonesia, the event was filled with material by the Ministry of Home Affairs, Ministry of Health and BPKP RI. Siskeudes version 2.0.3 or Siskeudes Year 2021 complements the previous version 2.0.2 and the June 30 2020 update, and in this version added several new functions and features that answer challenges related to handling the covid 19 pandemic in villages through the Income and Expenditure Budget Village. This is in accordance with the narrative of the siskeudes operator who revealed that the siskeudes application has been updated with several new features and is connected to the relevant services (AF Interview 30 July 2023). In observing the researchers found several stages to operate the siskeudes application, namely:

**First,** Application Login To be able to enter the Siskeudes Application, there is a user login menu by entering the user id and password. The purpose of this user login is to protect data in the siskeudes application and ensure that it is filled in by an authorized user. User login also shows the level of authority in using the siskeudes application, namely operator level (for village government), supervisor level (for sub-district government) and admin level (for local government/DPMD). In general, for village government, the user login for the Siskeudes application is filled with : User ID: user with user password. The Siskeudes application user login will then be managed by the local government's Siskeudes Admin, so that each village will receive a different user ID and password. To protect and maintain the confidentiality of the user ID and password owned by the village government, the Siskeudes application provides a menu for changing the user ID and password. The way to change it is to enter the old User ID and password, then enter the new User ID and password. Confirmation is filled with the new password as validation of the suitability of the new password. it is suggested to the village government to change the password periodically to maintain the security of the User ID and password used



Figure 4.1  
Siskeudes login display

**Second**, the Planning Module Planning in village financial management is the main thing so that it can achieve the expected goals. The Siskeudes planning module is used to enter village planning data starting from the village strategic plan (Renstra), RPJMDes and RKPDes. BPKP (2016) In the second stage, there are several menus including: a) Village General Data and RPJMDesa; b) Budgeting System Requirements for Village APBDesa Status; c) Village RPJM Menu Village RPJM; d) Menu Planning Report.

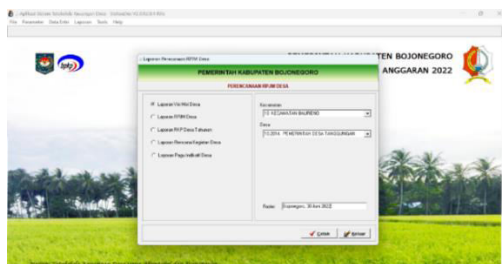


Figure 4.2  
Planning Menu Display

**Third**, the Budgeting Module The Budgeting Module is used to carry out the data entry process in the framework of preparing the Village Revenue and Expenditure Budget (APBDes), this preparation is carried out after the RKPDesa is determined. APBDesa is an annual financial plan approved by the BPD consisting of Village Income, Village Expenditures, and BPKP Village Financing (2016). In the third stage, there are several menus including: a) Fields, Sub-Sectors and Activities The Activity Menu is used to select and input data on the fields, sub-sectors and activities to be carried out by the village concerned in the current budget year; b) Income The Income Menu is used to input Village government Revenue budget data; c) The Expenditure Menu is used to input village government budget data.

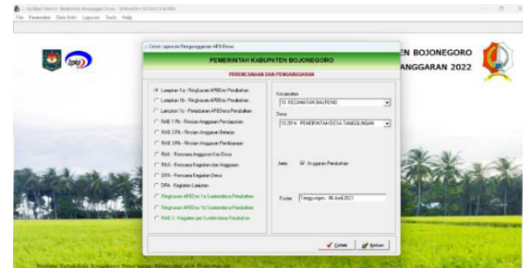


Figure 4.3  
Authoring Menu Display

**Fourth**, the Administration Module, namely the menu group used to carry out the administration process in implementing the APBDes budget which includes submission of Payment Request Letters (SPP), Disbursement and Accountability. The main output from this menu is the village financial administration book or the recording of all existing transactions in the form of receipts and expenditures. The thing that must be prepared before the administration process using the Siskeudes application is filling in the village bank account parameters. BPKP (2016). In the third stage, there are several menus including: a) Administration System Requirements Administration System Requirements; b) Revenue Administration Village revenues are grouped into 2 (two) categories, receipts received in cash and village receipts received through banks; c) Expenditure Administration Expenditure Administration

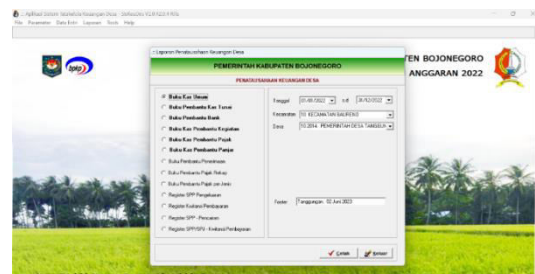


Figure 4.4  
Administration Menu Display

**Fifth**, bookkeeping/reporting module. This menu is used to generate village government financial reports which include APBDes budget implementation reports and Village-Owned Wealth Reports. The bookkeeping report menu is used to print financial reports. So in inputting budgeting, it starts with the process of filling in the code first, which is then processed, then filling in the data entry with online processing. In online processing which processes documents from the Budget Realization report and the APBDes report (Village Revenue and Expenditure Budget). Online processing is processed so that the input produced is the Siskeudes Application (Village Financial System) while the output is Financial Reports.

Then the next process is page one, namely financing 1 through processing of the Budget Realization report which is processed into 2 copies of the document. Then page 1 goes to page 2, namely financing 2 through the processing of the APBDes report which is processed into 2 copies of the document. APBDes processing is then processed until it becomes a database form, namely data stored online, the process in the Siskeudes application has been completed. The next step is to print the document files from the Realization of the Budget and APBDes reports so that they are in paper form which are then archived by the Secretary of the Dependent Village. In this fifth stage, it has several menus including: a) Beginning Balance The initial balance menu is used to record village assets with a simple chart of accounts; b) Adjustment The adjustment menu is used to record mutations in the addition or reduction of assets in the current year; c) Bookkeeping Reports The Bookkeeping Reports menu is used to print financial reports that must be presented by the village government.

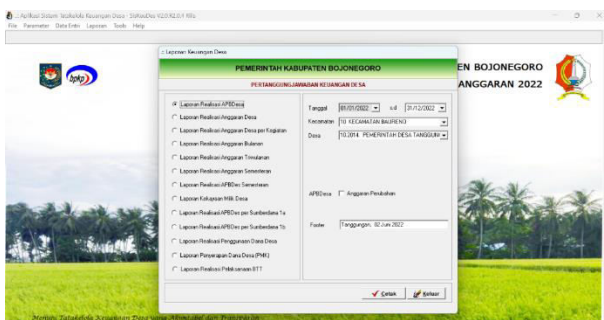


Figure 4.5  
Bookkeeping Menu Display

So in inputting budgeting, it starts with the process of filling in the code first, which is then processed, then filling in the data entry by processing it online. In online processing which processes documents from the Budget Realization report and the APBDes report (Village Revenue and Expenditure Budget). Online processing is processed so that the input produced is the Siskeudes Application (Village Financial System) while the output is Financial Reports. Then the next process is page one, namely financing 1 through processing of the Budget Realization report which is processed into 2 copies of the document. Then page 1 goes to page 2, namely financing 2 through the processing of the APBDes report which is processed into 2 copies of the document. APBDes processing is then processed until it becomes a database form, namely data stored online, the process in the Siskeudes application has been completed. The next step is that the document files from the Realization of the Budget and APBDes reports have been printed so that they are in paper form which are then archived by the Secretary of the Dependent Village

**4. DISCUSSION**

Through the Siskeudes System above, a description of the application or use of technology in realizing a smart city can be seen in the following table:

**Table 2**  
**Discussion of the Siskeudes Application in the Smart City embodiment**

Dimensions	Smart Village	Discussion
approach	Bottom-up	The siskeudes application is an application that is used for bottom up from the village government to the central government, namely the Ministry of Finance
Government Position	Facilitator	The government, in this case, is the village government, which is the main facilitator as well as the main user of siskeudes
Community Position	customers	Society has a position as a recipient
Development Process	strengthening awareness and participation of smart village elements	With the presence of siskeudes, financial management from planning to evaluation can run very well and there is certainly the participation of the community
Target Priority	middle income, poor, and not yet empowered people	The main priority of siskeudes is all elements of the smart village. The first is for the village government which is used to increase efficiency and effectiveness while the second is the wider community, the more efficient and effective in program planning through the budget, the better the output to the resulting outcome.
Prerequisites Of Success	the socio-cultural approach is the main basis for the success of this model. the existence of a valid identification of various values, characters, norms, and problems that exist in society is the basis for the success of smart village	The problem is, this siskeudes is an application owned by the central government, so there is uniformity in the technology, so there is no socio-cultural approach so that it lacks success related to smart village
goal	The Realization Of Empowerment, Strengthening	The problem is, in the field there are several problems related to

	Institutions, And Increasing The Welfare Of Rural Communities Based On The Use Of Information Technology	siskeudes application technology. Among them: 1) Inadequate infrastructure; 2) Limited understanding and skills; 3) Potential for Fraud; 4) Lack of support and supervision; 5) and technical issues
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Based on the table above, it can be seen that all elements are appropriate except for the Prerequisites Of Success, and Goal elements. This is due to several problems that are not compatible with smart city components. Among them

1. Inadequate infrastructure . The Siskeudes system requires stable internet access and adequate hardware. However, in several villages, technological infrastructure is still limited, so that the use of this system is hampered.
2. Limited understanding and skills . Siskeudes management requires sufficient technical understanding and skills, such as using applications, data management, and financial reports. However, in several villages, financial officers or village heads do not have adequate understanding and skills.
3. Potential for fraud . Although Siskeudes is designed to prevent potential fraud, there are still opportunities for fraud, such as inaccurate records or data manipulation.
4. Lack of support and supervision . Implementation of Siskeudes requires continuous support and supervision from local governments and the Ministry of Home Affairs. However, in several villages, support and supervision are still lacking, so that the use of this system is not optimal.
5. Technical problems . Like other technology systems, Siskeudes is also prone to technical problems, such as power outages, internet network disruptions, or hardware damage. This can affect village financial management using this system.

## 5. CONCLUSION

Through the description regarding the siskeudes application and its implementation at the Dependents of Village Baureno District Bojonegoro Regency, smart village learning includes the first that this application is technology used to support smart villages, the same as the study conducted by Adi, Ella & Andari, and Hartatik. However, problems still occur which make the component objectives not achieved along with applications that are too uniform which are

not adapted to the village's socio-culture, causing the smart village to have an imperfect degree. The problems include: 1) Inadequate infrastructure; 2) Limited understanding and skills; 3) Potential for Fraud; 4) Lack of support and supervision; 5) and technical issues.

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