Designing A Geographical Information System For Houses Not Feasible As Supporters Of Policy

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Abstract. The implementation of social welfare development programs in developing countries is generally focused on the empowerment program of the poor, which is more nuanced in a participatory approach involving the community, business and government. Empowerment is considered appropriate to be one of the policy choices in the development of social welfare today. The development of social welfare based on the principle of empowerment is intended that in the handling of the poor it must be done through increasing the capacity of human resources to increase independence (Law Number 13 of 2011). Regional development has an impact on national development. Poverty reduction policies realized through community empowerment programs have become the main agenda and priority development in Baleendah Subdistrict, especially Rancamanyar Village. One of the poverty alleviation programs through community empowerment carried out in Rancamanyar Village is the Housing Assistance Program for uninhabitable houses. Various local government efforts to reduce the number of uninhabitable houses are still considered uneven. With the limited management and processing of survey data in the regions, it is one of the factors that do not help the existing policies. With the construction of a geographic information system for uninhabitable homes, one of the efforts that must be taken by the local government in order to support and assist in making decisions for uninhabitable houses is to conduct geographical analysis and mapping of uninhabitable houses in Rancamanyar Village, so that help is not wrong target.

1. Introduction
The development of social welfare based on the principle of empowerment means that the handling of the poor must be done through increasing the capacity of human resources to increase independence (Law Number 13 of 2011). Regional development has more or less an impact on national development. Poverty reduction policies that are realized through community empowerment programs have become the main agenda and priorities for development in Baleendah District, especially Rancamanyar Village. One of the poverty reduction programs through community empowerment carried out in Rancamanyar Village is the Housing Assistance Program (social rehabilitation) - uninhabitable housing. The target of the program activities is a group of poor people / families who live in uninhabitable homes. The majority of poor houses that are not habitable in Rancamanyar Village, Baleendah District.

Various efforts by the regional government to reduce the number of uninhabitable houses are considered still uneven. With the limited management and processing of survey data in the regions, it is one factor that is less helpful to existing policies. The effort that must be taken by the regional government in supporting and assisting in the decision making for uninhabitable homes is to carry out
the analysis and geographical mapping of uninhabitable homes in Rancamanyar Village, so that assistance is not misdirected.

Based on the above phenomenon, the author makes the design of geographic information systems of houses unfit for using the Analytical Hierarchy Process (AHP) method as a support for policy decisions at the village level. This AHP method is used for weighting criteria, then the weighting of criteria from the AHP method will be input which will be used in priority ranking. With the construction of geographic information systems for inadequate houses (SIGRTLH), this can be used as a material consideration for improving the welfare of the village community and the quality of human life and poverty reduction through meeting basic needs.

2. Methods

2.1. Object of research

The object of the research was carried out at the Office of the Rancamanyar Village Chief, Jl. Rancamanyar No.160, Rancamanyar, Baleendah, Bandung, West Java 40375.

2.2. Research methods

The method used in this research is descriptive method, descriptive research is a method in researching a group of people, an object, a set of conditions, a system of thought, or a class of events in the present. The purpose of this descriptive study is to create a description, description or painting systematically, factually, and accurately about the facts, traits and relationships among the phenomena under investigation.

2.3. Metode Pengembangan GIS

The development method used in this study is the method of developing GIS, where geographic data is traditionally displayed in the form of maps (hardcopy). Analysis of geographic data is usually done by overlaying maps manually. This resulted in the slow planning process of a geographical area using a manual overlay of geographic data. The rapid pace of development of computer technology through digital mapping has effectively reduced geographic analysis and planning time. The latter technology is referred to as Geographic Information System Technology (see Figure 1).
2.4. Systems Development Method
Geographic Information System is a computer-based system that is used to store and manipulate geographical information. Information systems can provide better information to support complex types of decision making. Along with the rapid progress of Information System hardware and software, even more complex models can be developed.

3. Results and Discussion
3.1. System planning
The design of the system is an advanced stage of how the system is designed from the analysis of the system where the design will be described in the system design that will be built before the coding into a programming language.

3.2. System Overview Proposed
The proposed system does not experience many changes from the current or running system. Which becomes a little different, namely the use of today's technology that makes the system more computerized. This is expected to be able to provide convenience in the implementation of the information system of the House that is not Livable and the public can see the construction sites that are being processed or those that have been completed. This application is also expected to facilitate Village Officers in determining RTLH (Rumah Tidak Layak Huni) based on existing criteria and RTLH data management, conducting surveys to the field, and RTLH data collection being carried out online and data becoming neatly arranged.
3.3. Use Case Diagram Proposed

In describing the procedure design, the writer proposed to use several diagrams. The design procedure for the proposed system is as follows (see Figure 2):

![Use Case Diagram Proposed](image)

**Figure 2. Use Case Diagram Proposed**

3.4. Interface Implementation

The use of the program is a sequence of procedures for use intended for system users. The following is the use of the Healthy House program (See Figures 3-8)

1. Admin enters the main page, click "Data Desa", Click "Tambah Desa" (see Figure 3).
After the village data has been successfully added, click the "Data User" Menu, then create a user for the RT, RW in the village that was added earlier. Spread the user and password when holding a meeting. After the user has been determined, the user will do a data collection of non-habitable homes by clicking on the "Data Rumah" menu, click the "Pendaftaran" button. RT, RW will input uninhabitable homes. After the RT, RW registers, the village will look at the data by clicking on the point or coordinates that have appeared on the registered folder and choosing which house really fulfills the criteria of the RTLH. (see Figure 4)
After the village officials find a house that meets the criteria then click the "Pergi" button, then the current location and location of the house that has been selected will immediately appear and the village will slide to the house that was chosen (see Figure 5).

![Interface implementation](image_url)

**Figure 4.** Interface implementation See home data

| Kondisi Rumah | Data Rumah |
|---------------|------------|
| Bahan atap berupa daun/umbi dan genteng yang sudah lapuk/rangkaat kondisi lapak. | latitude: |
| Bahan lantai berupa tanah atau plesteran/ubin yang sudah rusak. | longitude: |
| Bahan dinding berupa tikai/ubin kualitas jelek/rotan atau dinding bata yang sudah rapuh/retak-retak (harus dibongkar). | ID Rumah: |
| Berdomisili tetap (penduduk) dikecual kan rumah, ditempati sendiri. | Nama Pemilik Rumah: |
| Belum Pernah mendapatkan bantuan pemugaran rumah. | Didin Samsudin |

**LETAK DAN STATUS RUMAH**

| Memiliki bukti kepemilikan tanah berupa Sertifikat Hak Atas tanah atau Surat Ketentangan Kepada Desa memiliki tanah. | Kabupaten: |
| Rumah milik sendiri. | Bandung |
| Rumah cepat tergusur bukan masuk dalam asrama milik suatu instansi. | Kecamatan: |
| Rumah cepat tergusur bukan masuk dalam watan kredit perbankan. | Baleendah |
| Rumah tidak berdis pada kawasan larangan pemeliharaan misal: bantaran tanggul, sungai, waduk, tanah kas desa, pemakaman, trotoar, ruang milik jalan. | Desa: |

**Foto Rumah Sebelum Di Renovasi**

| RW: |
| RT: |
| Pekerjaan: |
| Perkiraan Dana: |

| Status | Mendftar |
|--------|----------|

| Foto Rumah Sesudah Di Renovasi |
After arriving at the destination, the Village Officer will match the data that has been registered with the nik matching that is registered and the nik owned by the homeowner and will check with the house whether it is in the photo. If the data matches then the village officer will change the status to "Proses" (see Figure 6).

![Implementation interface Go to destination](image1)

**Figure 5.** Implementation interface Go to destination

After the status has been changed, the RT, RW will click on login and click on the menu "Rencana Penggunaan Dana RTLH" and after that the RT, RW will do any discussion that will be purchased later until the rest of the fund plan 0. After the remaining fund plan is 0 then RT, RW will not be able to input it again. After the remaining plan 0, the village officer will make an Application Report Disbursing the funds by clicking the "Buat laporan pengajuan" button. After making the submission report, the village

![Implementation of the home data interface](image2)

**Figure 6.** Implementation of the home data interface
officials just need to get approval from the district. After the district approves the application and gets funding, then the village will accept the plan for implementing the RTLH activities by clicking the “ubah status” button (see Figure 7).

![Figure 7. Implementation of the Remaining Fund Plan 0 input interface](image)

After the status is changed, then household, I choose what building materials to take on that one day. After choosing what to take the village officer will prepare the funds that must be spent for 1 day taking the building material. If no items have to be taken, village officials wait until renovation is complete. Finally, the village officer clicked on the "selesai" button, then photographed the house that had been renovated and the status changed automatically to completion (see Figure 8).
Figure 8. Interface implementation Take Goods

4. Conclusion
Based on the research done, it can be summarized as follows This application can be used RT, RW and village officials in carrying out both the regulations, building planning, and others; This application can also be used by the public even though it is only limited to seeing data from homes that are being renovated or those that have been completely renovated; This application also provides community facilities to participate in renovating homes with features away if the community itself does not know the address of the house being renovated; This application can also help facilitate the RT RW in reporting.
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