Mapping Community's Asset to Enhance the Effectiveness of ICT Programs

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Abstract— **In the effort of bridging a digital divide in Indonesia, the government has designed and applied ICT programs (e.g. telephone and internet), including the Universal Service Obligation (USO). The target that wants to be achieved by these ICT programs is to open the accessibilities in the districts where their communities have not gotten ICT services yet. By this program, the government hopes that the penetration of the ICT can be increased in order that all walks of life can use and exploit the ICT to develop their life quality and prosperity. However, in the reality, these programs have not been running well so that they have not been able to give the benefits and the significant alterations. Even, of all the programs that have been run, some of them do not continue any more. Therefore, the implementation of the ICT programs needs to be evaluated in order to improve and increase its effectiveness.**

The ICT programs are aimed for the districts that have not been reached by the ICT infrastructures yet, covering rural and remote areas. In the process of selecting serviced areas, which are the districts that will get the ICT programs, the government has established some criterions using need-based approach. According to the result of this study, the need-based approach was considered that it had many weaknesses. Now, this paper aims to evaluate the process of selecting serviced areas for the ICT programs, and proposes a method of determining serviced areas based on an asset-based approach.

To implement the asset-based approach needs to set mapping community's asset covering these five dimensions: individual, association, institution, local business, and physical facility. Based on the five dimensions, by using two parameters namely: potency and readiness, the strategic area that is proper for the program will be able to be identified. The chosen area is called as a serviced area of ICT program, which is the area that has the highest index of potency and readiness. The implementation of the two parameters is expected to be able to give significant impacts to the serviced area.

Keywords:asset-based community development, digital divide, ICT, Indonesia

I. INTRODUCTION

ICT, especially broadband technology, was proved that it had given contributions to the economic growth in the three levels: first, increasing productivities because it can make business processes more efficient; second, advancing innovations by introducing new applications and services for consumers; and third, improving the efficiency of corporations' functions [1]. However, this time, the presences and the benefits of technology has not been being felt equally by all walks of life. This condition is called as discrepancy of a digital divide, where among individuals, households, business, and geographic areas that are able to access ICT are still not balanced [7].

Broadband penetrations in Indonesia are still low, which are 22.4% [11]. This number is lower than other ASEAN countries' such as Thailand (27.4%), Philippines (33%), Viet Nam (34%), Malaysia (61%), Singapore (77%), and Brunei Darussalam (79.4%).

The penetration rates indicate that Indonesia has a wide gap between people who are able and unable to access the ICT. This gap can be seen in all aspects of life, such as the gap of digital divide between the younger people and the older ones, men and women, the high-educated people and the low-educated ones, people who live in the city and the rural areas, also the people with the high income and low-income.

Indonesian government has attempted to reduce the gap through the policy of the Universal Service Obligation (USO), and other programs such as *Warung Masyarakat Informasi* (*Warmasif*), and *Balai Komunikasi Masyarakat* (BIM), furthermore in this paper; all the programs are called as ICT programs. These programs have been being run since 2008, however, their contribution to the alteration of society, especially on the economic growth, cannot be felt significantly.

Based on the report of the evaluation of the implementation of ICT programs in the field, coming from the various sources, the implementation of the programs got many obstacles and did not continue, so the benefits of the existence of the programs have not been able to be felt optimum by the society.

One of the causes is improper determining of the serviced areas. So, the anticipation that can be done for that problem is properly determining serviced areas based on the clear and strong reasons. However, study of determining serviced areas has not been discussed more. Actually, the properly

determining serviced areas is very important, to reach the high effectiveness of programs. In other way, it requires knowledge about the condition of the serviced areas.

II.   STATEMENT OF PROBLEM

This paper will discuss about the concept of recognizing serviced areas by using mapping community's asset. The result of mapping will be used as a base in determining serviced areas. This paper is the beginning of research that will discuss about concept and design of mapping community's asset, which will be applied then in Bandung Regency. Related to this, Bandung Regency is the object of the research, because this regency is one of serviced areas of ICT programs, however, some programs that exist in the this regency do not run well, even some of programs do not continue.

Based on the result of depth interview with the program organizers in the two sub-districts of Bandung Regency, namely: Cilengkrang and Katapang, revealed that their ICT programs did not run well. The causes are not involving their local societies, lack of socializing and developing, and then lack of coordinating between stakeholders and their serviced areas. Moreover, the targets that want to be achieved by those programs are not clear and focused.

III.   ICT PROGRAMS FOR BRIDGING DIGITAL DIVIDE: OBSTACLES AND SOLUTIONS

Based on [6], the obstacles in the implementation of ICT programs are: 1) no good communication between stakeholders and their serviced areas, which makes the understanding of the government and serviced areas' public to the programs becomes lake; 2) no coordination between stakeholders and their serviced areas; 3) Knowledge of the serviced areas to the ICT programs is still low; and 4) no involvement of public in formulating and implementing the programs. The four obstacles had made the ICT programs that were aimed to provide public accesses and benefits from the programs on eventually become ineffective.

If examined further, getting these obstacles is caused by formulating the ICT programs that were conducted by a top down, so it did n.ot involve the community of serviced areas. Therefore, the participation of the society became low and tended to be passive, and finally, the society relied onto helps from others. Because of that, the process of formulating programs should be corrected by changing into a bottom-up. To implement it, the process will be started from recognizing the serviced areas through economic and non- economic activities, and then recognizing physical or non-physical facilities covering their environment. Recognizing of serviced areas can be used as a basis of formulating programs that is expected to be effective and continued. Even, based on the results of recognizing serviced areas, it can be used as the basis of providing the ICT programs for the areas that really need the programs.

Through the regulations established by the government, the criterions for the serviced areas have been established too. For instance, the serviced areas for the USO programs are the locations which have not been reached by the telecommunication facilities, such as border areas and, or potential conflict ones, which are the districts that are near to the existing central and have potential economy [10]. However, these criterions are still general, and need further explanation to be more specific in order that it can be used as operational guidelines for local governments in determining serviced areas of the ICT programs.

Criterions of selecting serviced areas not only ought to provide accessibility, but also explain the utilization of the programs especially for the economic growth of the areas in order to give a direct impact on improving society's life. For example, it is used to grow and develop local business activities.

According to [9], determining serviced areas commonly used in many countries is the need-based community development approach. However, this approach was considered having weaknesses, because the serviced areas tend to show up their weaknesses in order that the approach is not objective again. In addition, the serviced areas have a high dependence onto external parties, so that the programs often do not continue. To overcome the weaknesses of the old approach, the asset - based community development (ABCD) comes to cover the weaknesses of the old approach.

IV.   COMPARISON BETWEEN NEED -BASED AND ASSET-BASED

Community's assets are all the things that community has, which potentially develop their community. They can be assets owned by individuals (e.g. land ownership, skills, etc.) or even assets owned by community like the existences of locations that have potential as tourism places.

Asset-based approach focuses on the internal aspects, and has relationship driven [5]. In this approach, developing community is more focused on the positive aspects, and started from what the community has, such as the capacities and assets of local individuals, associations, and institutions [3]. This approach does not focus on the weaknesses of the community, or on the something needed by the community as well as needs- based approach.

In the asset-based community approach, the community is directed to find and develop or even increase its assets for its community advances. By this approach, the development is run by the community based on their assets, and ensured that all the alterations come from the community's power not from other parties.

In Contrast with the asset-based approach, the need-based approach focuses on what the community does not have, which is called *needs*. To measure the needs of the community, the approach used by the government either in developed or in advanced countries, is calculating deficit standard [8]. The main concern of the need-based approach

is developing leadership that effects to the weaknesses of the environment in order to get more helps, and even all the leaders are needed to mark up their community's problems as a way of getting helps [5]

The way getting helps from outside by focusing on the weaknesses that community has effects to the psychology of the environment such a lake of pride of environment, as a result, the community is not considered as a potential producer but rather as a service consumer. Negative impacts of the needs -based approach have caused the development of an alternative approach, namely asset - based approach.

Comparison between the need-based and asset-based is explained on the table 1.

TABLE 1. COMPARISON BETWEEN NEED-BASED AND ASSET-BASED

	Need-based	**Asset-based**
Technical Assistance	Top-down	Bottom-up
	Problem solving with universal principle	Local knowledge
	Master planning	Technical empowerment
Self Sufficiency	Need assessment	Asset Identification

Source: UNO HABITAT (2008)

V. RESEARCH METHODOLOGY

To be able to map community's assets needs to identify the kinds of the community's assets themselves. The assets used in this research are: individuals, associations, institutions, local businesses/economy, and physic [4].

Each community's asset will be explained into components of its formation, to direct using of data which describe each the component. The needs of data can be fulfilled by using statistic from Biro Pusat Statistik and departments of local governments.

The kinds of community's assets and their formation components are explained on the table 2.:

TABLE 2. ELEMENTS OF COMMUNITY'S ASSETS

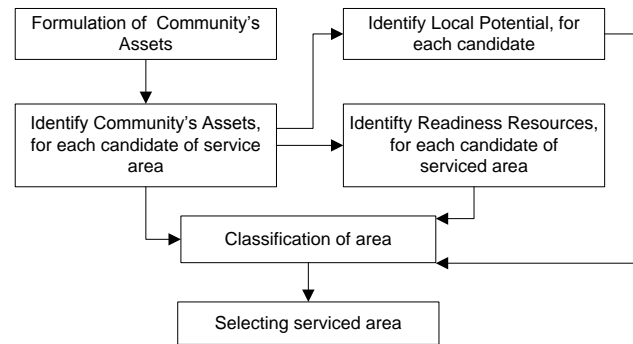| Community's Assets	Elements
Individuals	Gifts, Skills, Capacities, Knowledge and Traits of:Youth, Older Adults, Artists, Welfare Recipients, Students, Parents, Entrepreneurs, Activists, Veterans, Ex-offenders
Associations	Business Organizations, Charitable Groups, Civic Events Groups, Cultural Groups, Education Groups, Elderly Groups, Heritage Groups, Hobby and Collectors Groups, Mutual Support Groups, Political Organizations
Institutions	Schools, Universities, Community Colleges, Police Departments, Hospitals, Social Service Agencies, Foundations
Local Business	For-Profit Businesses, Consumer Expenditures, Merchants, Chamber of Commerce, Business Associations, Banks, Corporations & branches

Physical Space	Streets, Vacant Land & Buildings, Parks, Picnic area, Housing, Transit stops and facilities

Source: Kretzmann and Mc Knight (2005)

A. Mapping asset-based community

To be able to determine serviced areas, the five community's assets would be grouped into two groups: 1) local readiness of the community, and 2) business potency of the community. The local readiness describes the readiness of local human resources that will run the programs. Meanwhile, the business potency describes business activities and non business ones that are running this time as developers of local economy. The local readiness is built by individuals, associations, and institutions, while business potency is built by economy assets, and physical facilities. Each candidate of serviced areas will be measured its index of readiness and potential. The chosen area is the area that has the highest index of readiness and potential. The process of selecting the serviced areas based on mapping assets can be seen at the figure 1.

Determining serviced areas properly depends on data accuracy that is needed to figure each community's asset; the data accuracy is built by the completeness and updating of data.

Source: Author

Figure 1. Selecting serviced area

VI. DISCUSSION

A Mapping community's assets will be conducted by using GIS application. This application will show the candidates of serviced areas and community's assets that are owned by each candidate of serviced areas that is completed with non-spatial data, namely information of community's assets.

Selecting serviced areas is based on the highest index value of local readiness and potential. By the reasons, the ICT programs are prioritized for the districts that have the best potential and the readiest human resources. Thus, the relatively strong districts will be stronger in order that they can help the other weak districts, and detach their dependence onto other parties.

In this research, the areas that are chosen as serviced areas can be developed becoming sub-serviced areas that are adjusted with the needs of programs.

VII. CONCLUSSION

The prosperity of digital divide is a big problem that needs serious and effective treatments. To obtain high effectiveness of the program, can be initiated by the selection of the proper service area, and formulate the program properly. To obtain the proper service area are required information about the potential and readiness of the service area, and to formulate the program are needed the involvement of the local community. The treatments that were being done until now do not consider the potential and readiness of the service area, as well as the lack of community involvement, and thus have not showed the real impact for the community of service area.

Therefore, this paper proposes asset-based approach in handling the prosperity of digital divide as the new approach that is considered as the approach that is able to improve the effectiveness of programs, care of the continuity, and develop outstanding serviced areas.

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REFERENCES

[1] ITU, 2012, The Impact of Broadband on Economy: Research to Date and Policy Issue

[2] The Policy of the Minister of Transport, No. KM 34, Year 2004, About Universal Service Obligations

[3] Keeble, Sarah, 2006, Asset-Based Community Development: A Literature Review, Humboldt State University.

[4] Kretzmann, J P., Mc Knight, J L., Dobrowolski, S., dan Punney, D., 2005. Discovering Community Power: A Guide to Mobilizing Local Assets and Your Organization's Capacity.

[5] Kretzmann, J P., dan Mc Knight, J L., 1993. Building Communities From The Inside Out: A Path Toward Finding and Mobilizing a Community's Assets.

[6] Topohudoyo, 2012, Progress Report on "Optimizing the Use of Facilities of Rural Internet Programme (USO) Based on Community Empowerment Through Villages Website Management", Retrieve from http://pkpp.ristek.go.id/_assets/upload/docs/448_doc_6.pdf.

[7] Organization For Economic Co-Operation And Development (OECD), 2001, Understanding The Digital Divide

[8] Peattie, L., (1983), Realistic Planning and Qualitative Research. Habitat International 7 (5/6)

[9] UNO HABITAT, 2008, An Asset-based Approach to Community Development and Capacity Building.

[10] http://dittel.kominfo.go.id/wp-content/uploads/2013/06/KM-34-2004.pdf

[11] www.internetworldstats.com (accessed Maret 2013).