- Laumonier, Y., U.R. Djailany, J.P. Gastellu-Etchegorry and R. Barkey, 1987. Assessment of SPOT satellite based system in humid tropical vegetation identification, classification amd monitoring, in *Proceeding of Symposium SPOT Image Utilization*, Assessment, Results. Paris, November 7, pp. 613-22.
- Malingreau, J.P. and Sutanto, 1986. Remote Sensing in Indonesia. ITC Journal, No. 3, pp. 206-16.
- Markham, B., L. and J.R.G. Townshend, 1981. Land cover classification accuracy as a function of sensor spatial resolution, *Proceeding of the 15th International Symposium on Remote Sensing of Environment*, Ann Arbor, pp. 1075-90.
- Sadowski, F.G., J.E. Malila, J.E. Sarno, and R.F. Nalepka, 1979. The influence of multispectral scanner spatial resolution on forest feature classification, in *Proceeding* of the 11th International Symposium Remote Sensing of Environment, Ann Arbor, MI, pp. 1279-88.
- Toll, D.L., 1983. Preliminary study of information extraction of Landsat TM data for a suburban/region test site, in Proc. of Landsat-4 Science Characterization Early Results Symposium, Goddard Space Flight Center, Greenbelt, MD, pp. 387-402.
- Toll, D.L., and R.E. Kennard, 1984. Investigation of SPOT spectral and spatial characteristics for discriminating land use and land cover in Prince George's County, Maryland, in *Proceeding of SPOT Symposium*, pp. 165-170.
- Woodcock, C.E., A.H. Strahler, and T.L. Logan, 1987. Stratification of forest vegetation for timber inventory using Landsat and collateral data, Proceeding of 14th International Symposium on Remote Sensing of Environment, San Jose, Costa Rica, pp. 1769-87.

RURAL BASIC SERVICE DEVELOPMENT: An Operational Approach

by

Agus Sutanto

ABSTRACT

Approach on the study or rural service development is often both development indicators are interchangeable. However, the two studies are closely related and could contribute one to another. A confusion also exists in the setting up of the concepts of social service and economic service function. As such, the study of service development should have a great care of the study implication in which sectoral action planning should follow-up.

INTRODUCTION

Each people, in principle, demands on a more or less similar basic service to support their life and activities. Only then the quality and quantity as well as variety of services grow differently from person to person and from place to place, in line with their respective level of development. This be seen can clearly, for instance, by contrasting service facilities in rural and urban areas, or in developed and less developed countries.

In comparison with urban people, a long list can be made easily on the lack of rural services such as health and education, drinking water supply, electricity, energy, information, road, transport, market and finance institution, etc. Analyzing the cause and effect of the existing diversity and the pattern, have led to the formation of theories such as location theory of von Thunen, rank size rule developed by Felix Auerbach, and the Christaller central place model and its extention by August Losch (Hagget, 1972). By inventorying the characteristics of the present services, a hierarchy of regions can be structured, at least three-tiered hierarchy, consisting of regional cities, district towns, and locality towns (ESCAP, 1979).

This article is not meant to go in this hierarchization method nor to concentrate on service centres study, but to assess methods appropriate for identifying the level of basic service development in rural area.

Drs. Agus Sutanto, MSc. a yunior staff member of the Department of Rural and Regional Development Planning, Faculty of Geography, Gadjah Mada University, Yogyakarta, Indonesia.

REGIONAL DEVELOPMENT AND THE GROWTH OF SERVICES

The availability of service facilities in an area, as seen from its initial establishment, could be the functions of either autonomous development or government intervention. In few cases it could be a cooperation among both parties.

Autonomous development function of services may be formed in an area earlier than the government intervention. It is because the growth is accelerated by the development potential of an area. To discuss this aspect further, it is unavoidable to groupe for the history of early settlement establishment.

It has been generally been known that agriculture was the first stage of economic activity and therefore land was basis of economy, life, culture, family structure and politics. In this regard, early settlement was grown up in agriculturally potential land area. It is then followed by the growth of services. The history records that trade and commerce services, and government institution started and grew in the area (lowland) where the land is fertile for the purpose of agricultural activity and is supported by the available irrigation (river) facility. As time goes by, this area diversified activities and services. Autonomous development function is non-government function and in its early establishment tended to have a rather social orientation. Nowadays, they are more commercially-oriented though the reason is still the same, i.e.: to fulfill the demands on socio-economic services.

Government intervention function could be the continuation of the autonomous in an area that does not have it or the available service facility is no longer sufficient. In general there is a tendency that the already formed services centres absorb much government intervention and investment as compared to the area having lower order of services. Urban area will require more investment and government intervention to provide service facilities than rural area. It is because the demand on service and infrastructure facilities in qualitative and quantitative terms of the high order area grows fastly as compared to the lower one. Essentially speaking, the economic development in an area will link together with the development of service facilities. The availability of services, then, will stimulate further economic development. Therefore, the policy on regional development goes hand in hand with the provision of social and economic services.

This discussion implies that though there is effort to give first priority on equal distribution of services, it should be realised that the gap of different order area will still exist. It is because not every service is feasible for every area. This is one factor causing a massive rural-to-urban migration which in turn the destination area of migration will require more investment to enlarge and establish services directed to serve those migrants.

THE NECESSITY OF CLEAR CONCEPTS

The grouping of services into category of social and economy needs to be clarified. In many cases, service facility seems to have social and economic components and they are frequently difficult to be differentiated. Educational facility, for example, could affect economic development by means of producing skill man-power. But it also containts social benefit to those who get education. Hence, the common denominator of group should be identified in the grouping. In this respect, Conyers (1982)

suggests to point the obvious implication or the more direct implication of the services.

Still some aspects of service bewilders enough to be classified into those two broad categories, i.e.: road, transport, water supply, energy, electricity and others. There will be no problem if they are established for specific purpose. Water supply, for instance, can be used for irrigation or for drinking water. In this case, their implication is obvious. Otherwise, a detail (sample) survey on what major implication the services bring, is needed to find out whether they function more economic or social service. However, this is no need to be polemical nor a troublesome matter. For the sake of general assessment, they can be grouped under infrastructure service or socio-economic supporting services.

It is noteworthly that this types of study should be linked to sectoral action planning. In this respect, it is important to specify the service into sectors respective to government (department) institutions. Therefore, presenting one value of socio-economic index would be useful for general assessment of service development in an area. But it is difficult to be absorbed by sectoral office to perform further action. Is it ministry of trade that should establish market, or ministry of energy that should extend electricity network, or finance bureau that should establish financial institution, the index does not provide any answer.

A confussion and missinterpretation can take a shape in deciding whether an aspect is service function or activity function. A factory or rural industry can be confusingly counted as economic service although it is just an activity such as agricultural work, officers and the like. One thing that somewhat clear is that service facility is related to institution nature. Natural and human resources, production and activities should not be marked as services. Combining service facilities and other aspects could be applied as indicator to asses regional development (ITC, 1988).

IN SEARCH OF SOUND SERVICE PARAMETERS

Put cinema in the list of rural service facilities to study basic service development, the result will be nil for rural areas situation such as in Indonesia. When it comes to data processing and analysing this situation is simply interpreted as low level of service development. Then a recommendation is proposed to improve entertainment facility in the form of cinema in rural areas. There will be no respon for such recommendation. Without feasilibility study, just by in the air cost-benefit analysis that project will not be feasible. Everybody needs everything but not everybody could afford to use everything. Behind a service facility there is a minimum requirement to sustain the life of the service. There is expenses that should be borne to keep the service survive. Therefore, knowing the general characteristics of the area is one important thing in selecting parameters.

Another important aspect is knowing the characteristics of services. There is a government program or project to equally distributate a service as a function of area or number of population. In this light there is possibility that the result will be similar for one village to another.

The term basic in basic service facilities is a relative concept respective to regional development. In a well-developed area, a service can be classified as basic whereas in the less developed one this service facility can be a luxurious type. As a

*

planning is a continous process to bring improvement, there should be a courage to pick a bit higher level of services and included into basic criteria. The discussion in this chapter is directed to highlight approach of the selection of sound service parameters so that the study can give answer which area fulfil their basic service demand and which does not, with reference to a more or less similar characteristic of area termed as rural.

METHODS ASSES DEVELOPMENT OF SERVICES

Three methods of measurement are identified here, from a relatively crude method to a more fine one. They are methods of; availability, size of availability and function of availability.

Availability method is a crude form to asses the availability of services in an area simply by nothing the absence or the presence of a function and assigning the value accordingly. The presence of service will be assigned value 1, and the absence is valued as 0. Thus, this method is in line with the application of Gutman's scaling in hierarchization (ESCAP, 1979: 115). This method does not take into account the relative importance of a function nor its size or the number of presence.

Size of availability method, as the name indicates, counts the number of total unit that is present. The presence which is assigned value 1 in availability method, in the size of availability method is traced its total unit. Instead of 1, it could be 2, 3 or more. This method is in line with Scalogram method (Roy et al., 1977: 10).

The function of availability method covers the presence, the size, the potential capacity, the actual usage, and the load of potential user. The presence and the size of availability has been discussed in the stated two method. The potential capacity indicates supporting characteristics of each present service facility. Capacity of agricultural product storage, for instance, can be expressed in the volume of storage building. Public health service can be approached through its capacity, e.g. from number doctors, number of paramedics, etc.

The actual usage means a real number of respective service user that make the use of the present service. In this light the ratio of the number of attendance per unit of public healths or the number of patient per doctor, or the number of patient per paramedics, represent this term.

In case of difficulties to get statistical information of actual user of service facilities, a more general approach termed as the load of potential user can be used. In this method a broader parameter is applied, e.g. number of population in a village, number of farmer, number of eligeble couple, etc. In this regard, number of farmer per shops selling agro-input, number of eligible couple per family planning clinics, number of population per public health units, etc. shows the potential user of services or the load of service facility to accommodate potential user.

WEIGHTING: APPROACH TO EFFECTIVENESS OF SERVICES

Weighting is applied to differentiate the value of similar type of service, but having different grade. Daily market and weekly market, each of it, is given value 4 and 2 accordingly. Daily market is valued higher than weekly market. Health facility

consists of medicine supply post, small policlinic with a doctor and public regional hospital is assigned score 1, 2, 3 and 5 respectively (BAPPEDA/IDAP, 1984: 38). The weighting system as applied in Mahaweli Ganga Project gives a gradual score 1, 2 and 3 for services. Education covers university and its equivalent, senior secondary schools, and junior secondary schools are assigned scores 1, 2 and 3 (ESCAP, 1979: 113).

Weighting method applied by IDAP (1985) differentiated the grade respective to the model of social equity and economic growth. A service facility has two different values according to social equity and economic equity grading model, for instance; weekly market and daily market are assigned scores of 5 and 6 in social equity model whereas in economic growth they are of 4 and 5 successively.

Though the different weighting methods as discussed above produce different value, the common starting point can be identified, i.e. the value represents the effectiveness of certain service function to achieve its establishment mission.

TO PRIORITIZE: CONTROLS VARIABLES ARE USEFUL

For comparative purposes, the total score of each service or each area using certain method as has been discussed, can be classified into developed, intermediate, and less developed classes. When this grouping has been performed, the development priority can be recommended toward the group of less developed.

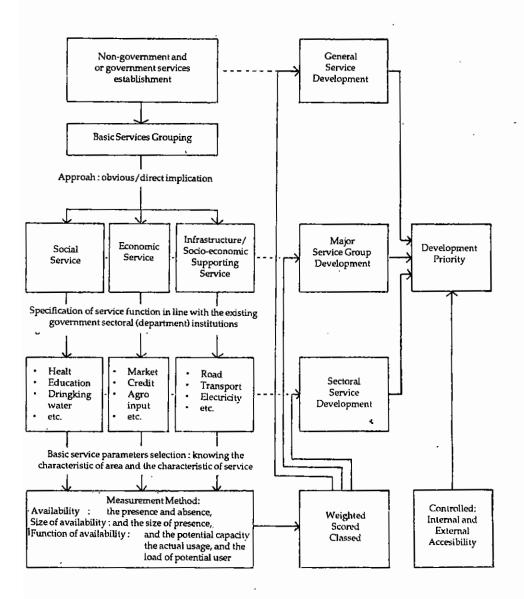
This priority can be enhanced further by considering the accessibility to service. This accessibility approach can help to clarify some peculiar finding. It is possible that a rather better off village has a similar service development level to the one that socio-economically rather lower. It is because the rather better off village is located close to (sub) district town. Therefore, a service facility which is not present in the area can be assessed from the close town service.

Accessibility in this study covers internal and external ones. Internal accessibility is limited to the access to the services which is present inside the administrative boundary which depends on the level of study. It is proposed to measure the distance of the certain present service to the furthest settlement (in this case is hamlet for village level study). It can be assumed that the farther the distance the lower the internal accessibility is. Therefore, priority of development should given to this low internal accessibility area.

External accessibility refers to the access to service that is available outside the area. To measure the distance, it seems more appropriate to highlight the external service commonly used or the closest one. The distance is again measured from the furthest settlement to the closest external service. The longer the distance, the lower the external accessibility is, and so the priority of rural service development should be given to this area.

SEQUENCE OF THE STUDY OF RURAL SERVICE DEVELOPMENT

In this part, aspects discussed in the former discussion are presented in the following scheme.



Scheme of Rural Basic Service Development

CONCLUSION

The study to asses rural service development offers big opportunity to apply a wide variety of methods and concepts. However, there is a requirement to back up the methods and concepts used with clear and rational argument. It is because a lot of aspects can be directly or indirectly related to the service function and need to be carefully considered. It is important that the result of the study should capable to pinpoint a weak point of service in an area to advocate government sectoral further action.

REFERENCES

Bappeda/IDAP, 1984. Regional Planning Methodology for Aceh Utara and Aceh Tengah. IDAP. Banda Aceh.

Bappeda/IDAP, 1985. Rural Centre and Locality Planning. IDAP.

Bappeda, 1990. Koordinasi Pengembangan Pelayanan Sosial Dasar Analisa Data Potensi Desa 1989. Laporan Penelitian. Bappeda Propinsi DIY, Kantor Statistik Propinsi DIY dan Fakultas Geografi Universitas Gadjah Mada, Yogyakarta.

Conyer, Diana, 1982. An Introduction to Social Planning in the Third World. John Wiley and Sons. University of Nottingham, Institute of Planning Studies.

ESCAP, 1979. Guidelines for Rural Centre Planning.

平

Hagget, Peter, 1972. Geography: A Modern Synthesis. Harper and Row. New York.

ITC, 1988. Regional Development Planning of Chomtong and San Pa Tong Districts in Chiang mai, Thailand: Problems and Possible Interventions. General report of Survey Integration fo Development Planning. International Institute for Aerospace Survey and Earth Sciences. The Netherland.

Roy, P and B.R. Patil, 1977. Manual for Block Level Planning. Macmillan Cy of India Ltd.