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Changes in The Coverage of Essential Services Along The Rural Provincial Border as a Result of Informal Collaboration (Case: D.I. Yogyakarta Province Rural Provincial Border)

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Abstract

The Sustainable Development Goals prioritize universal essential public services as the second most important development goal after human basic needs in a global perspective. Indonesia implements a public service provision standard with a territorial approach and a set of minimum population requirement that lead to urban bias, resulting in border areas failing to meet the requirements for the provision of public services. Daerah Istimewa Yogyakarta Province is one of Indonesia's provinces with more than 70% of its border areas being rural, and more than 40% of border villages having limited essential public services. Because of the territorial delivery system for essential public services, formal cross-border services require a significant number of resources. Using quantitative approach by indexing essential public services availability, this paper examines changes of essential public services coverage when cross-border services are provided informally. The case of Pustu Panggang informal cross border service delivery provides lessons on how informal collaboration works. Although it involves misdeeds and omissions, the application of informal collaboration in cross-border services increases essential public service coverage by 57 percent in Daerah Istimewa Yogyakarta Province's rural border areas. As a result, informal collaboration should be viewed as a low-cost coping strategy in Indonesia's efforts to provide universal public service coverage.

1. Introduction

Over the last two decades, Indonesia has undergone a transitional state with highly dynamic institutional arrangements (Antlöv, 2019; Hidayat et al., 2018). Changes in development management were brought about by the dynamics of global values in terms of achieving humanity's progress. Good governance, which has emerged since the 1990s, necessitates fundamental changes such as decentralization and the incorporation of transparency and accountability values into public decision-making process (Wulandari et al., 2019). Globally, good governance is regarded as a strategic tool for improving government performance in public services due to the accountability and transparency principles (Thapa et al., 2019). Principles of good governance are considered to be the key factor in ensuring a better public resources management through specific procedures. By the principle of accountability, good governance requires well-documented development process. Indonesia, on the other hand, has long followed an informal culture of public management (Anderson, 1972; Fahmi et al., 2016; Muur, 2018; Rukmana, 2015) and planning is no exception (Hudalah & Woltjer, 2007; Zhu & Simarmata, 2015). Informal and personal contacts between stakeholders took various forms and ultimately aided the ongoing formal processes.

In Indonesia, the implementation of Good Governance principles, particularly in development administration and decision making, can be seen as an attempt to shift the paradigm from government to governance. The concept of good governance is essentially a response to the conditions of public administration in order to ensure a sustainable development path (Dhaoui, 2019). In developing countries such as Indonesia, good governance has evolved into a set of solutions to numerous underachievement's and problems in public administration (Mahendradhata et al., 2017; Wiseman et al., 2018; Yusriadi, 2019). From a functional standpoint, good governance means that the government has functioned effectively and efficiently in achieving goals through the practice of public administration by enforcing policies in accordance with the law (Jubaedah et al., 2008). The term "in accordance with the law" ensures the formality of decision-making process and the public services management in general.

Daerah Istimewa Yogyakarta Province, located in the most populous island of Java in Indonesia, has problems providing essential public services in its rural provincial border areas amidst high level of centrality of essential public service provision in urban areas (Putri et al., 2016). Using territorial approach and pooling technique, Referral System used in the provision of public health services divides population into rigid service areas in order to manage the efficiency of health-care resources. Because of the low population density in rural border, providing facilities has high per capita costs. Together with the perception of border as a backward area, higher cost per capita in essential public services makes borderland unappealing for development (Eny et al., 2018; Mangels & Riethmüller, 2018). Meanwhile, the borderline appeared to be flexible and permeable (Cappellano & Makkonen, 2020; Martins, 2020; Varol & Soylemez, 2018). The flexibility of the border, particularly in rural provincial borders, makes cross border transfer extremely fluid. Daily cross border movements are common, particularly in rural borderlands where kinship and mutual values are deeply ingrained in daily life (Ahmad, 2019). Among rural communities, there is an obligation to help other members of the kin, and the border only serves as imaginary line and do not work as a barrier in cross-border communal activities.

Health and education services, as public goods managed by the state, must then adhere to the formal arrangement. Transferring patient services across service areas necessitates changes to the patient data record, which must be approved by the authority based on the level of transfer (Government Regulation No. 28 of 2018 Concerning Inter-Regional Cooperation, 2018). For resource transfers that occur at the provincial boundary, authorization at the provincial level is required, with coordination at the state level. Formalization of cross border services takes time to ensure that public administration adheres to good governance principles (Harsanto et al., 2015; Subianto et al., 2020), resulting in inefficiencies in public services and a delay in the delivery of health care.

As an impromptu response to these administrative issues, informal collaboration emerged. Informal collaboration is defined by the failure to meet the legal requirements for interregional collaboration outlined in PP 28 of 2018 concerning Inter-Regional Collaboration in Indonesia. The regulation mentions eight elements of collaboration that must be recorded in a written agreement between two regions that provide cross-border services. This specific procedure ensures good governance in cross-border transfers, but implementing it takes a significant amount of time and resources from both sides. When the number of potential transfers is compared to the total service counted in the administrative area, the less populated rural areas become less significant. The issue of cost-effectiveness arises in the evaluation of the significance of formal collaboration.

Informality in essential public services is not a new phenomenon. Essential public services are always characterized by a communicative life and social contact, especially in developing nations where pure public service resources are limited. Recent research on informality in public services indicates that informal services occur in part due to the necessity for reallocation negotiations (Demmke, 2017) and extra access in decision-making (Hunnicutt & Gbaintor-Johnson, 2020). Informal acts take the form of personal contact in an informal setting (Waring et al., 2018) and constitute a different rule of the game (Jiménez-Martínez, 2018). Informal services are more likely to include and benefit intermediaries (Ledeneva, 2018; Müller, 2019). However, it is impossible to deny that informal acts provide such a significant advantage.

Studies that evaluate the benefits of informal services on the side of service customers, such as Rye et al. (2018), which identify cost efficiency in the transportation sector as a result of informal interactions, and Warai (2021), who identified the time for service users performing informal acts, provides proof of the benefits of incorporating informal acts in public services. However, the advantages of informal interaction in the distribution of public services in border rural communities have remained elusive. By recognizing the importance of cross-border services as one of the coping strategies for acquiring public services, it is necessary to clarify how vast the advantage a region can gain by advocating informal services.

Although there is evidence that informal cooperation is a type of interaction that does not deliver mutual advantages to the parties involved, the ability of informal collaboration to provide public services more swiftly cannot be denied. However, some people believe that benefits for service users arise as well. Mizes & Cirolia (2018), for example, discover that the option to informally shorten the process results in increasing gains in terms of financing public services. Furthermore, Weiss-Gal (2018) discovered that actors' involvement in informal interactions increases their commitment to service. With these studies, informal cooperation can also be considered as a lifesaver in the provision of public services during the time of limited resources

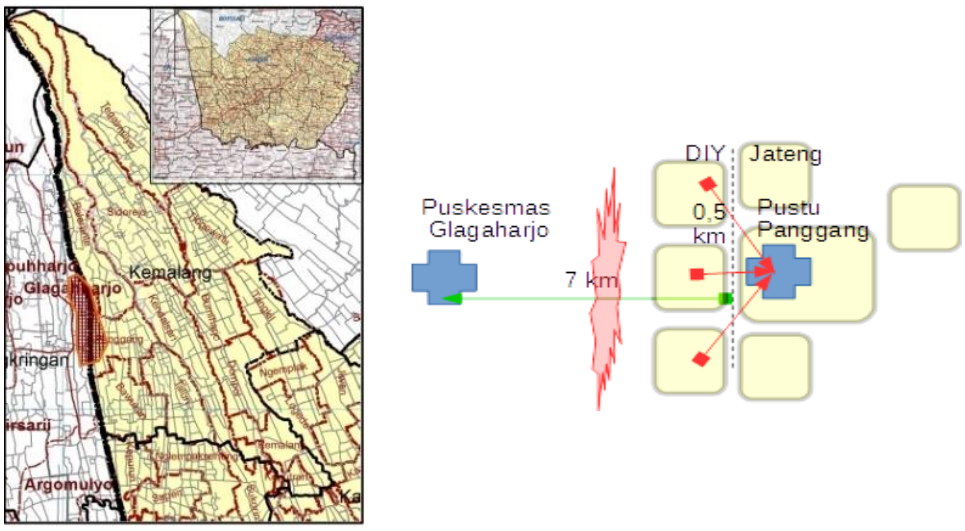
. In light of these contradictions, this paper question how much change in the scope of essential public services will occur if informal cooperation implemented in rural provincial border of Daerah Istimewa Yogyakarta Province? This paper applies lesson learned from the case of Pustu Panggang in the practice of informal cross-border service. Although misconducts were identified during the informal collaboration process, Pustu Panggang successfully contribute to the achievements of SDGs. The idea is to assume that informal collaboration as in Pustu Panggang were implemented in rural provincial border of DIY Province. This paper examines the changes in the coverage of essential public services to 46 other villages along the provincial borderline. The significance of the change in essential public service coverage demonstrates that informality can be used as a coping strategy for the provision of universal basic services, especially when resources are limited.

2. Data and Methods

2.1. Case of Informal Collaboration in Pustu Panggang

Due to uneven terrain, the Panggang-Glagaharjo border area is a rural hamlet that is integrated on both sides but still has a non-built enclave. The Panggang Sub-primary Health Center (Pustu Panggang), located in Panggang Village, Kemalang District, Klaten Regency, Central Java Province, is the sole primary health care facility in this border area. The Glagaharjo Village region in Cangkringan District, Sleman Regency, DIY Province, which shares a border with Panggang, is formally served by the Cangkringan Health Center, which is 7 kilometers away and separated from it by a natural barrier in the form of hills. Formally, patients from Glagaharjo can only be served at Pustu Panggang in an emergency and then sent to the Cangkringan Health Center for further care. The location and the illustration of informal collaboration in Pustu Panggang are shown in Figure 1.

The findings in this case demonstrate that cross-border patients receive care, either emergency or non-emergency, without discrimination. Cross-border patients obtain the same services as Panggang residents without any cost, but also without any record being made. This case demonstrates a lack of service records even at the operational level. So, only operational officials were aware of informal cooperation. Because informal cooperation information was not communicated at the tactical-strategic level, the influence of informal collaboration in the Pustu Panggang case became limited exclusively at the operational level. Cross-border patients initiated the collaboration by personally visiting the Pustu and obtaining acceptance from the Pustu officers. Contacts established by community leaders extending from request being made to the approval of service requests. Although no explicit negotiations took place, agreement on service offers was evident by the absence of termination of the health services provided.



(a) (b)

Source: Analysis, 2021

Figure 1. (a) Panggang-Glagaharjo Provincial Border Settlement. (b) Informal Cross Border Primary Health Care Illustration.

2.2. Essential Public Service Availability Along D.I. Yogyakarta Provincial Border

The border rural area in DIY Province consists of 47 villages in 18 sub-districts in 3 regencies. Using the SDGs indicator, this paper assesses two types of basic public services, education and health services using data from the publication of the Central Bureau of Statistics of DIY Province (2020). For education services, the essential public service availability index is calculated from the availability of elementary and junior high schools within a 5 km radius of the settlements in each village. Meanwhile, the health service availability index is calculated from the availability of puskesmas or pustu as well as general practitioner practices at a radius of 5 km from the settlements of each village. As for the index of potential public services, the data of adjacent villages in Central Java Province was derived from Central Bureau of Statistics of Central Java Province year 2020. The same variables were used to build both indexes, but the data of adjacent villages were filtered using criteria identified from lessons learned in Pustu Panggang case.

2.3. Methods

This study takes a quantitative approach, comparing the availability of essential public services in border areas in two conditions, namely without and with informal collaboration, using the model from the Pustu Panggang case. The value index function was then used to analyze data from the four variables. The availability of public services within the region is an index of available services, whereas the availability of public services within a 5 km radius (including cross-border) is an index of service potential. The two indexes are calculated as follows.

$$Services\ Index = \frac{(\Sigma\, ps + 2(\Sigma\, sc) + (\Sigma\, sph + 2\,(\Sigma\, ph)}{maximum\ range\ of\ availability}$$

The first variable (ps) stands for primary school, and the second variable (sc) stands for secondary school. Meanwhile, sph is an abbreviation for sub-community health centers, the lowest level of health-care provision. The last variable (ph) denotes a primary healthcare facility, which includes community health centers and general practitioners. Secondary facilities were assigned a weight of two because the presence of secondary services indicates greater capacity in essential services. The index is then divided into three categories: low (0-0.35),

medium (0.36 – 0.8), and high (0.8 – 1.2). The two indexes used in the analysis employ the same mathematical function and serve the same purpose on two different conditions. The research took benefit from the Geoprocessing Analysis in ArcGIS 10.8, by implementing Weighted Overlay tool. Both indexes (available and potential) were pictured spatially using the same technique. For the base map, this research uses topographic map from the Ina-Geoportal BIG (tanahair.indonesia.go.id/map). Each variable was assigned different weight based on the equation, using village as the spatial unit for analysis.

Meanwhile, the Pustu Panggang case provides an informal collaboration framework that explains how expanded coverage can be achieved. Several informal acts were identified as critical in the implementation of cross-border informal services. There are criteria on essential public services from cross border villages that are added to the calculation of the potential public service index, namely high spatial peripherality from nearest local urban centers and differences in public services available within a 5 km radius of rural provincial border settlements. The inclusion of public services in the two criteria distinguishes the index of potential public services. Finally, the difference is calculated by comparing the available service index (only facilities within rural administrative boundaries) with the potential service index (adding informal collaboration to access adjacent public facilities).

3. Result and Discussion

Results should be clear and concise. The results should summarize (scientific) findings rather than providing data in great detail. Please highlight differences between your results or findings and the previous publications by other researchers. For tables, they are sequentially numbered with the table title and number above the table. Tables should be centered in the column and fi. The research findings are divided into three sections that explain the research process, namely the identification essential public service index, lessons from Pustu Panggang, and potential essential services index. Following the identification of the research results at these three points, the discussion will look at how changes will occur if informal cooperation, such as what happened in Pustu Panggang, is applied to 46 other villages in the rural provincial border village od Daerah Istimewa Yogyakarta Province. The Pustu Panggang case set the criteria that the potential for additional services is limited to services that are not available in the 46 provincial border village and are located within a 5 km radius of border settlements.

3.1. Essential Service in Rural Provincial Borderland of DIY Province

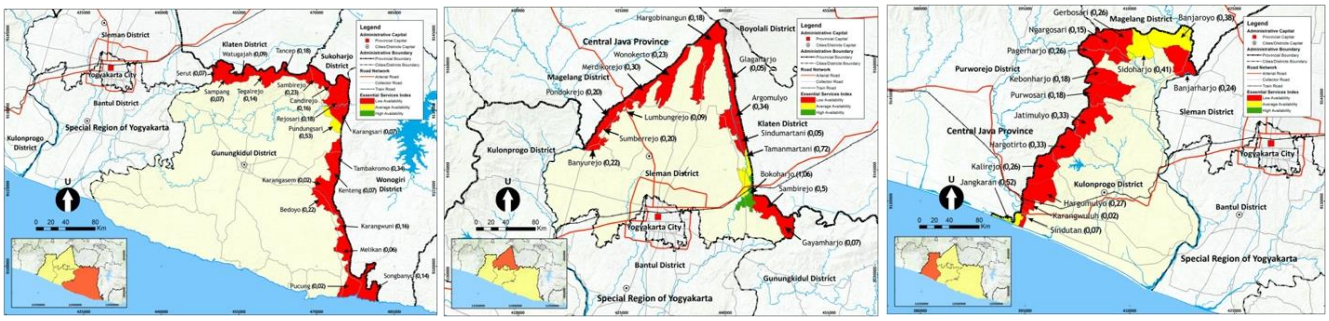
The essential public service index is dominated by a low value index in 47 villages along the provincial border, indicating that 0-1 services are available within a 5 km radius of border settlements. A total of 41 villages are classified as low, 5 as medium, and 1 as high in terms of essential public services. This demonstrates that providing essential public services is a major issue in provincial border areas. The distribution of the essential service index by district is shown in Table 1. The distribution of the index of available essential services along the provincial border are pictured in Figure 2 for each regency.

The three DIY border regencies illustrate the same characteristics in terms of providing essential public services, with more than 70% of border villages having low services and only one type of essential service available within a 5 km radius. Elementary schools provide the vast majority of essential services. Elementary schools in border areas are the result of a national school construction program (SD INPRES Program) that began in the 1970s and has proven to be an essential service program that promotes equitable distribution of universal services and has a long-term systemic impact (Akresh et al., 2018; Brinkman et al., 2017). Meanwhile, the distribution of health facilities demonstrates that the presence of primary health care facilities is linked to the presence of educational facilities. With a total of 25 villages, all villages that have health services also have education services (53 percent). This highlights the problem of urban bias in basic health services in Indonesia, as discovered Wulandari et al. (2019).

Table 1. Available Public Services Index in Rural Borderland of DIY Province

Regency	Number of Borderland Village	Low Available Service Index	Average Available Service Index	High Available Service Index
Gunungkidul	18	17	1	0
Sleman	14	12	1	1
Kulonprogo	15	12	3	0
TOTAL	47	41	5	1

Source: Analysis, 2021



(a) (b) (c)

Source: Analysis, 2021

Figure 2. Spatial Disribution of Available Service Index in Each Regency. (a) Gunungkidul Regency. (b) Sleman Regency. (c) Kulonprogo Regency.

3.2. Lesson from Pustu Panggang Informal Collaboration

The borderland of Panggang-Glagaharjo consists of two hamlets in Panggang village and one hamlet in Glagaharjo village. The terrain in this area is hilly, with a maximum elevation difference of 30 meters. This border area is bounded on all sides by hills and cliffs, making it difficult to access services outside the border settlements. There are hills on the side of Sleman Regency that prevent Glagaharjo residents from accessing health services at Cangkringan, its nearest local urban center approximately 7 km away. Cross-border activities are intense, with a wide range of interests, such as shopping at Panggang market, attending Glagaharjo Elementary School, or working on small-scale mining on both sides.

From the perspective of the users, this collaboration was initiated because the nearest healthcare facility requires higher cost of accessing the service in a formal manner. Since Pustu Panggang in Kemalang, Central Java Province, is only 200 meters from Glagaharjo, crossing the border is a viable option compare to accessing services in Cangkringan. From the perspective of the service provider, it was simply humanity and the health officials' code of conduct. Furthermore, the frequency of visits from Kemalang remains below the maximum service capacity. This ensures that the cross-border patient does not disrupt Pustu Panggang's performance. This collaboration occurred only at the operational level for cross-border services such as examining general diseases and disease prevention in the elderly (checking blood pressure, blood sugar and cholesterol). Puskesmas Kemalang's tactical level was aware of informal collaboration and services provided, but the information was never clearly reported. As a result, no action was taken in the area of cross-border services. The Klaten Health Office's strategic level was unaware of this collaboration, as were health officials on the user side. There were no officials involved in the service user side, both formally and informally.

This case is classified as informal collaboration based on the component because it does not meet the conditions for formal collaboration as stated in PP 28/2018. This collaboration consists of only three of eight elements and has never been formally recorded. Collaboration was based on an agreement on the subject (Pustu panggang and cross-border users), the object (primary healthcare services), and the termination (when the officials transferred to another Pustu). Pustu Panggang officials modified cross-border service delivery

procedures by not recording patient data in the medical record. As a result, the informality of cross-border collaboration becomes a catalyst for critical misconducts. Table 2 lists the informal acts and motives of the acts shaped the collaboration in Pustu Panggang.

Table 2. Informal Actions in Delivering Cross-border Healthcare

Formal Procedure	Level	Informal Actions	Motives
Puskesmas Cangkringan receives patient requests	User to Operational staffs	Make a direct request to the service provider	Closer distance
Application by Puskesmas Cangkringan for the transfer of Primary Health Facilities to the District Service	Tactical level	Not done	No data from operational staffs
Request for cross-border service cooperation from the Sleman Regency Health Office to the Yogyakarta Provincial Health Office	Strategic Level	Not done	No request to be followed up
Initiation of collaboration from Yogyakarta Provincial Health Office to Central Java Provincial Health Office for cross-border services	Provincial Governments	Not done	No request to be followed up
Agreements on collaboration and negotiations	Provincial Governments	Not done	No initiation
Recording on the state sheet	State	Not done	No formal collaboration
Detailed discussion of district-level collaboration	Strategic level	Not done	No formal collaboration
Collaboration implementation in Puskesmas Kemalang	Tactical level	Not done	No formal collaboration
Cross-border services in Pustu Panggang are provided in accordance with agreements	Operational level to users	Done based on informal agreement No medical record	Code of conduct Small scale of resources

Source: Analysis from interviews, 2021

The majority of settlement agglomeration in borderland takes the form of enclaves located near a worksite or a water source. Along with the small number of service users, the mountainous terrain complicates health-care delivery. In this case, the SPM assessment revealed that the population of the border area was relatively served by primary health care facilities, but not within walking distance. The assessment of service availability ignored the pattern of agglomeration in rural border areas. According to SPM, both sides of the border in the Panggang-Glagaharjo case are statistically served by primary health care facilities. As a result, there is no formal issue with service availability. However, accessibility is a concern because the shortest path for the Glagaharjo community is approximately 7 kilometers away, with no public transportation and a mountainous topography.

Regardless of the administrative border and territorial primary health service, the accessibility for the Panggang-Glagaharjo community may be quite different. The furthest border settlement is only 2 kilometers away from Pustu Panggang. There is no physical barrier preventing the border community from visiting Pustu Panggang. The only issue with this accessibility is the administrative system of primary health care services. The service is within walking distance but is not formally accessible. The border variables and administrative system make primary health care facilities inaccessible although located within reachable distance.

Informal cooperation between regions in this case occurs in essential public service objects. The object of informal cooperation is a pure public service that does not increase the competitive advantage of the region confirms Glinos et al. (2014) which states that user demand for public services will always be at the closest condition to the user to minimize costs and increase access. In border rural areas, special management is needed to ensure that the closest services can be provided. Informal cooperation is a form of special management of

border rural areas to ensure that the demand for public services can be met. Meanwhile, in the aspect of service provision, informal cooperation provides an alternative explanation of the weaknesses of public service provision based on a pooling system as in Cattani & Schmidt (2005). Informal services provide additional demand for services to maintain the minimum demand prerequisites for public services to be provided. This case provides empirical evidence from the opinion of Gostin & Meier (2019) which states that the existence of professional ethics can justify informal services provided with resources from the formal system. It is important to separate informal services from a legal perspective which allows informal services to be seen as illegal.

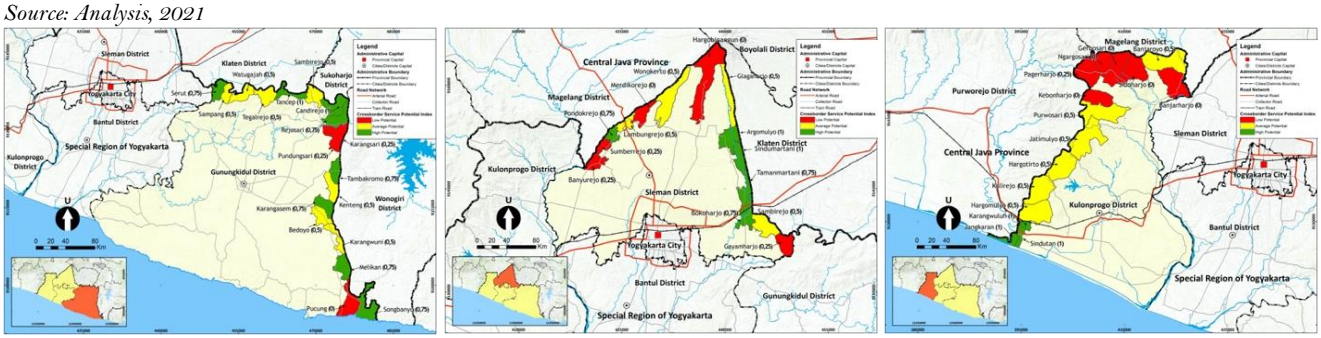
3.3. Potential Public Service in Rural Provincial Borderland Using Informal Collaboration Scheme

Although the principle of good governance aims to ensure efficiency and fairness in development, the operationalization of these principles can technically prevent public services from being enjoyed non-excludable and non-rivalry. In the case of observations, good governance procedures actually create a long bureaucratic chain so that it is time for informal cooperation to be recognized as another path of development. The direction of thinking on border area planning management should start thinking about how to put informal cooperation in the legal framework of border area development in Indonesia. Assuming informal cooperation occurs in the border areas of DIY Province as happened at Pustu Panggang, the index of essential services in border villages will change. A total of 6 villages has a high essential service index and 17 villages have a medium essential service index. There are only 14 villages that are in the essential services index. Table 3 shows the potential for essential services in border villages when informal cooperation occurs. Figure 3 shows the spatial distribution of potential service index for each regency.

Table 3. Index of Potential Service due to Informal Collaboration

Regency	Number of Borderland Village	Low Potential Service Index	Average Potential Service Index	High Potential Service Index
Gunungkidul	18	3	7	8
Sleman	14	5	4	5
Kulonprogo	15	6	6	3
TOTAL	47	14	17	16

Source: Analysis, 2021



(a) (b) (c)

Source: Analysis, 2021

Figure 3. Spatial Disribution of Potential Service Index in each regency. (a) Gunungkidul Regency. (b) Sleman Regency. (c) Kulonprogo Regency.

By applying informal cooperation to border areas, the three districts in the DIY border area show an essential service index which is at an average level of 2 with 60% of villages having a medium and high service index in providing essential public services available within a 5 km radius. Although not all border areas have come out of the low category, the majority of border communities have received essential public services in accordance with the universal public service coverage objective. Using the informal collaboration model of the Pustu Panggang case, there is an increase in the coverage of essential public services without the cost of

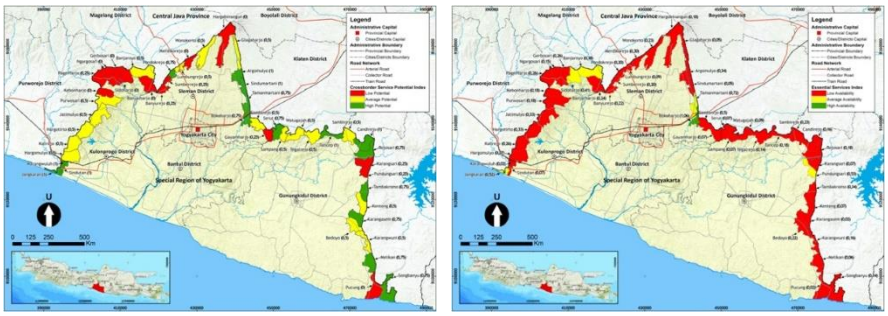
providing additional facilities. Based on the two previously identified indices, Table 4 shows the changes in the essential service index that occur when informal cooperation is implemented. The biggest change occurred in the high classification with 15 villages ultimately achieving high availability of essential public services. This change can be seen spatially in Figure 4 which presents the service index map, 4 (a) shows the essential service index without informal cooperation, while 4 (b) shows the essential service index with informal cooperation. Significant changes can be seen in the number of villages with a high essential service index that utilize the existence of cross-border facilities. In general, there are no fees charged either to patients who use the service or to the government as a public service provider.

Using ArcGIS, the distribution of essential public services index is being mapped. To build the spatial distribution of empirical status of essential public services index, a set of variables being put into the equation using Geoprocessing by applying Weighted Overlay tool. The weights are applied to the variables according to the equation in Section 2.3. Contrasting the red to the green, Figure 4 compares the two indices and shows that changes in essential public services occur in almost all villages along the rural provincial border. The production of these two maps is essential to the discussion of the research since it shows spatially the changes of the coverage. Villages with the same types of facilities as their adjacent villages do not receive additional benefits from the assumption of implementing informal collaboration. It can be seen that the red area is reduced significantly. When the map is examined in greater detail, it is revealed that the villages with the service index that does not change are villages with hilly landscape contours. This implies the possibility of a more dispersed population and, as a result, greater difficulty meeting the minimum requirements for providing basic services.

Table 4. Changes in Essential Public Services

Regency	Number of Borderland Village	Low Potential Service Index	Average Potential Service Index	High Potential Service Index
Gunungkidul	18	-14	+6	+8
Sleman	14	-7	+3	+4
Kulonprogo	15	-6	+3	+3

Source: Analysis, 2021



(a) (b)

Source: Analysis, 2021

Figure 4. (a) Map of Available Public Service Index, (b) Map of Potential Service Index

The result shows that there is a significant change in essential public services coverage when the informal collaboration is put into the development equation. This is supporting the hypothesis in this paper that informal action, interaction and collaboration do have advantages to the regional development in spatial perspective. Confirmations on the advantages are seen through the sharp increase in coverage, without having any financial cost to provide extra facilities. As decentralization rolls in Indonesia, the urgency of having regional collaboration rose. Informal collaboration may be seen as an opportunity to build stronger regional cohesion as stated in Pazos-Vidal (2019). It is also important to highlight that rural borderland benefited largely from informal collaboration as stated in, for example, Dabson & Kumar (2021), Ofem et al. (2018), and also McFarland & Dabson (2021). However, the study also shows contradiction to the findings of Ledeneva (2018) on the role of

intermediary agents to initiate the informal collaboration. In this study, no external agents were identified. The informal collaboration and informal provision of essential public services were done by the internal stakeholders. It is also revealed that no personal advantage is involved in this informal case. The reason of the absence of intermediary agents is because of the scale of the informal services that is too small to attract intermediary agents.

4. Conclusion

Informal public service collaborations in rural provincial border of Daerah Istimewa Yogyakarta Province have been proved in increasing the coverage of essential public services in border rural areas by more than 60% without any additional facilities or costs from both service users and service providers. This demonstrates the potential of informal cooperation as a tool for achieving the SDGs, particularly in the third and fifth goals, which are related to health and education services. This informal collaboration would be a unique expression of essential public service governance for rural provincial borders with low populations that are isolated from their local activity centers. The ability to access cross border essential public services at minimum cost and resources open an opportunity to universal public service towards welfare-state in Indonesia.

Related to the characteristics of rural border areas, further studies on the scale of border villages for informal collaboration effectiveness are also needed. Because resources for internal services are limited, villages with large populations may not meet the criteria for the availability of cross-border service quotas. Furthermore, in better peripheral conditions, the 5 km radius criteria can be reconsidered in light of the distance traveled related to emergency response, particularly in primary health care.

However, implementing informal collaboration at the basic service level necessitates some changes to basic services governance. One particular adjustment is associated with service logging, which must be integrated across borders and multiple facilities. In urban areas, the administrative paper works can be integrated using digital computing systems that allow access from multiple locations during the same period of time. The rural provincial border lacks the privileged of technology to support this type of integration. As a result, flexibility in the accountability criteria is required so that informal acts in services can still be distinguished from the classification of misconducts. Furthermore, an operational framework is needed to ensure standardize responds of the public service officials towards cross border requests. Studies on detailed procedures are needed in various types of rural provincial borders to be able to grasps important points of informal collaborations.

5. Acknowledgments

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