INCENTIVE-BASED PROGRAM TO IMPROVE REGIONAL ROAD GOVERNANCE IN INDONESIA

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This paper introduces new policies for improvement of road maintenance by the central government, and their implementation on management of regional roads in Indonesia. In Indonesia, problems arising from the gap between the service levels of national and regional roads have been raised, and the central government has introduced new policies to improve the servicing of regional roads. This paper introduces new governance measures wherein the central government provides incentive-based budget support for road maintenance enabling local governments to realize continuous road maintenance implementation; in turn, this will improve the level of service of regional roads. The paper describes the process of applying regional roads management based on the incentives gradually applied by the Indonesian government for monitoring and improving regional road maintenance. The implementation process is then evaluated.

Key Words: regional road, road maintenance, pre-financing, incentive scheme, governance

1. INTRODUCTION

Management of regional roads is the responsibility of respective local governments. In terms of road network, 90% of the total road network in Indonesia, which is equal to 528,202 km (as of 2019), are regional roads (province / district / city). The parameter for level of service of road in Indonesia is road stability, which is the percentage of road length in stable condition measured by International Roughness Index (IRI). When the IRI is equal to or lower than 8, the road is categorized in stable condition, but when it is higher than 8, the road is categorized in an unstable condition. Maintaining regional road stability requires a huge budget. Since the local government has budget constraints, the central government provides financial support through direct transfer in the form of Income Sharing Fund, General Allocation Fund, Specific Allocation Fund, Village Fund and Grant managed by the Ministry of Finance. Furthermore, to maintain road stability and improve governance, the incentive grant program called Provincial Road Improvements & Maintenance (PRIM) and Regional Road Grant Program (RRGP) have been introduced. These programs are delivered through pre-financing by the local government budget and reimbursement by the central government. The program aims to improve: (1) the capacity and capability of institutional and human resources of the local government and contractor/consultant, (2) the coordination among departments/ agencies within the local government, (3) public participation and awareness of cross-cutting issues, such as anti-corruption/bribery, gender, and disabilities, and (4) the technical aspect of road delivery system and its output. A number of stakeholders including road authorities (central and regional road authorities), service providers (consultant, contractor, etc.), and road users through the Road Transport and Traffic Forum are involved in the programs. The function of the central government is wide and significant, as it has to conduct advisory services, monitor the programs, and verify the defined outputs and
recommendations for reimbursements. There are four phases in the mechanism: (1) proposing the grant program, (2) verification, (3) request for disbursement and distribution of grant, and (4) reporting, monitoring, and evaluation of the grant.

Given the above background on regional road maintenance in Indonesia, this paper aims to evaluate the practice of governance for the improvement of regional road maintenance through incentive grant-based program for regional roads in Indonesia. After explaining the basic concept of incentive grant program, the case study conducted in Nusa Tenggara Barat Province is discussed and the lessons learned from that case study are analyzed. The practical study described in this paper has been led by the Centre of Facilitation for Regional Infrastructure in the Ministry of Public Works and Housing with technical guidance from road asset management consultants and researchers who co-authored this paper.

2. BACKGROUND OF THIS RESEARCH

(1) Road network in Indonesia

Indonesia is a big county with more than 250 million population, and consists of 17,504 islands with seven main islands (Sumatra, Java, Kalimantan, Sulawesi, Nusa Tenggara, Maluku, and Papua). Indonesia consists of 34 provinces, 416 regencies, and 98 cities, administered by respective governments under federal systems. In terms of mobility, road infrastructure has an important role for supporting economic and social activities. Roads also play an important role in improving accessibility and regional development. In Indonesia, around 75% of humans and goods transports is served by roads(1).

Based on Road Law No: 38/2004(2), administratively, roads are classified into national, provincial, regency/district, city, and rural. National roads are under the management of the Directorate General of Highways under the Ministry of Public Works and Housing. Similarly, the other roads (called regional roads) are managed by respective local governments. Provincial roads are managed by provincial governments, district and rural roads are managed by regency governments, and city/urban roads are the responsibility of city/municipality governments. Nevertheless, the Ministry of Public Works and Housing is also responsible for empowering the technical capacity of regional road administration.

(2) Road conditions in Indonesia

Table 1 shows that only 69% of provincial roads are stable, whereas national roads and district/city roads are 92% and 57% stable, respectively. Regional roads have a backlog of around 7% in stability compared to the national target, which is set to 75%.

| Road Status            | Length (km) | Stable Condition (%) |
|------------------------|-------------|----------------------|
| National Road          | 47,017      | 91.90                |
| Provincial Road        | 47,874      | 68.95                |
| District & City Road   | 433,311     | 57.13                |
| **Total**              | **528,202** |                      |

(3) Issues on regional road maintenance

Some problems have been identified that adversely impact the achievement of the national target of regional road condition. These include lack of connectivity/network planning (master plan), inadequate governance, less priority to road maintenance compared to new constructions, and insufficient financing. In terms of connectivity, there is no province/district/city medium/long-term road network planning; thus, they have no clear vision for developing the road network. Therefore, the basis for developing road status administration is unclear. There is no consideration for road functions and their overall impact on the road network development program in the future. In reality, there are also several land (right of way) encroachments along the road corridor, which also reduce road functions and worsen road conditions.

There is also lack of adequate governance within the road program and project levels. Road programming and budgeting are inaccurate because road data are surveyed visually and insufficient data are gathered. Visual road survey is conducted every six months or even one year before construction work starts. Moreover, the local government has no specific tool for formulating proper programming and budgeting. The result of the survey is just secondary; the primary consideration is political interest and local parliament-driven. Many of the local governments still practice small contracts, such as Rp 250 million per contract package to choose a contractor after comparing three eligible contractors without any competitive bidding among all eligible bidders.

Policymakers also tend to give priority to the construction of new roads and reconstruction over routine and periodic maintenance. This type of policy leads to faster road deterioration and shorter road service life. Thus, road handling activities only revolve around this cycle: reconstruction – damage – rehabilitation, which entails higher costs compared to the routine maintenance of roads in terms of time, quality, and cost (i.e., the lack of life cycle cost optimization).

Another issue related to governance is public participation/supervision. Public participation happens only during the initial programming before the budget decision is made; after that, the public has no...
access to specific projects. The Road Transport and Traffic Forum does not function well, and only members mostly from government agencies participate. On the other hand, the incompetence of the supervision consultant can sometimes compromise the quality of the contract.

These conditions have ultimately led to poor construction work quality and early damage of roads. Furthermore, routine maintenance is rarely conducted owing to very limited budget. With limited budget, local governments are not concerned with the development and maintenance of off-carriageway facilities (shoulder, drainage, and slope) and road safety aspects.

In terms of financing, the local government allocates only around 10%–15% for road maintenance/development. Based on 2019 data, only 171 out of 541 local governments had allocated budget for routine maintenance. On average, local governments allocate around Rp 2.8 billion per year or around Rp 9.8 million per km of road for routine maintenance. Ideally in Indonesia, the budget for routine maintenance should be around Rp 30 – 45 million per km of road.

In general, there are several sources of regional road infrastructure funding, such as regional original income (local tax, local retribution, separated local-wealth), central government funds (transfer funds, incentive funds, and grants), and local government’s loan and grants. However, the local government has no capacity for developing creative financing schemes, such as public/private partnerships and loans.

Currently, most of the budget for regional roads comes from pure local government income (mostly taxes), and subsidies from the higher government, such as Specific Allocation Fund and other grants. The budget for road infrastructure development is very limited and inadequate for maintaining and improving road stability. The Specific Allocation Fund is becoming a favorite source of funds for local governments.

To get the Specific Allocation Fund, the local government has to conduct accurate road survey and submit a road programming proposal to the central government through an online application. The Ministry of Public Works and Housing approves the road program based on the specific criteria: (1) the proposed roads should improve road network connectivity, (2) support and improve accessibility to national center activity (tourism, industrial, border, port, airport, transmigration, etc.), (3) fulfill the technical criteria, and (4) be ready for implementation within a single-year budget. The budget from Specific Allocation Fund allocation is channeled by the Ministry of Finance directly to the local government in three terms. Term 1 (February–July): around 25% of the total budget allocation for the road sector will be disbursed to the local government upon signing of the construction contract. Term 2 (April–October): around 45% of the total budget allocation for the road sector will be disbursed to the local government upon presentation of the output verified by the local government auditor, and after 75% of the Specific Allocation Fund has already been channeled to the contractor. Term 3 (September–December): the rest of the total road budget allocation will be disbursed to the local government upon presentation of the output duly verified by the local government auditor, and 90% of the Specific Allocation Fund has already been channeled to the contractor.

In the Specific Allocation Fund program, the Ministry of Public Works and Housing only wields control during programming; the other processes, such as procurement, implementation, and output performance, as well as improvement of human resources capability, become local government responsibilities. Most results of Specific Allocation Fund program have not met road service requirements yet; sometimes, off-carriageways are neglected and carriageway cambers do not meet specifications. An example of Specific Allocation Fund project is shown in Fig.1.

(4) Policy for regional road management

The Medium National Development Plan 2015–2019 and 2020–2024\(^3\) state that the policy for road transportation development is to improve national connectivity and lessen travel time. In order to achieve this policy, a strategy for improving road stability has been set for regional roads. The central government has set the target of regional road stability for provincial road at 75% and district/city road at 65%. Therefore, the central government provides support to the local government by: (i) improving the mechanism of Specific Allocation Fund, and (ii) applying a cost-sharing system between the central government budget and the local government budget through incentive. Subsequently, the Ministry of Public Works and Housing applies four approaches. The first approach is technical empowerment; i.e., the Ministry of Public Works and Housing develops, issues, and conducts socialization of some standards and guidelines for regional roads and delivers to all local governments across Indonesia. The second approach involves allocating of budget and conducting regional road construction. This method is only applied to special regional roads as directed by the Minister or the President in order to create/improve regional or socio-economic development. The project package is mostly allowed only for rehabilitation/reconstruction, widening, and new construction of
roads and bridges. The contract scheme is an individual link package. The local government has no involvement during the construction process and just receives the output (road). In the third approach, the Ministry of Public Works and Housing assists and approves the yearly program of the Specific Allocation Fund to the local government. The budget for physical construction comes directly from the Ministry of Finance. The program of Specific Allocation Fund is available for all local governments that meet the technical criteria and submit their proposals. The main objective is to improve accessibility and connectivity among the road hierarchies, which lead to regional/socio-economic development. The Specific Allocation Fund program is not allowed for routine maintenance work. The local government has to implement construction and is responsible for output performance. The fourth approach is the implementation of incentive-based program through grants. The Centre of Facilitation for Regional Infrastructure provides assistance, through monitoring and supervising of the program throughout the project cycle. An advisory consultant is assigned to the local government and agencies/departments are involved. The budget for physical construction and incentive is pre-financed by local government and then reimbursed by the Ministry of Finance after verifications. This program is implemented within a three-year period in specific provinces/districts excluding cities that have tourism destination areas in order to boost economic, tourism, and investment. The project package is allowed for road preservation, widening, and road safety; it does not include new road construction work. The contract scheme is a long segment/corridor management contract. The local government has to implement construction works and is responsible for the output performance subject for verification by the central government.

The grant program also includes three other types of work. The Centre of Facilitation for Regional Infrastructure is obligated to provide technical advisory, issue technical regulations, and develop the management manual as a guideline. In carrying out institutional improvement activities to comply with the principle of good governance, the Centre also has to control and give advice on the whole process of road development ranging from surveying, programming, budgeting, procurement, construction, and handover to the road users. Therefore, the main objectives are not only to improve road stability and quality of road service, but also to improve governance of regional road administration.

(5) Challenges in pre-application of the grant program

The introduction and application of incentive-based grant program to the local government was not an easy task. The first step was to develop a concept
and disseminate it to the central and local governments. At the central government level, the proposal was developed by the Ministry of Public Works and Housing and submitted to the Ministry of Finance and National Development Agency in 2012. It was proposed as a pilot project in five provinces: Nusa Tenggara Barat Province, West Java, West Sulawesi, Bali, and Central Java. When the central government approved the program, the local governments were invited and the program was disseminated. It was only Nusa Tenggara Barat Province that submitted a proposal. The main challenge during that time was the lack of willingness and political will of local governments to change their views about delivering better road services despite lack of pre-financing fund. The Ministry of Public Works and Housing had to explain in detail to high-rank local government officials and the local parliament the benefits of this program, which prioritized road preservation, road safety, public participation, and the management of cash flow.

3. INCENTIVE-BASED GRANT PROGRAM FOR REGIONAL ROADS

(1) Basic incentive scheme

Some provincial/municipality/district governments have enough budget for road infrastructure development, yet the road quality service has not met public expectation. The lack of application of good governance leads to this condition. Boesen stated that “good governance,” often broadly defined, has been assumed to be a causal driver of economic and social development, rather than just correlated with growth. Léautier, A.F in Shah, A. stated that such poor governance leads to unwelcome outcomes for access to public services by the poor and other disadvantaged members of the society such as women, children, and minorities. It is clear that the application of good governance will improve the quality of public service delivery. United Nation Development Program has issued nine principles of Good Governance as follows:

1. Participation: All men and women should have a voice in decision making, either directly or through legitimate intermediate institutions that represent their interests. Such broad participation is built on freedom of association and speech, as well as on the capacity to participate constructively.

2. Rule of law: Legal frameworks should be fair and enforced impartially, particularly the laws on human rights.

3. Transparency: This concept is built on the free flow of information. Processes, institutions, and information should be directly accessible to those concerned, and enough information should be provided to render them understandable and monitorable.

4. Responsiveness: Institutions and processes should serve all stakeholders.

5. Consensus orientation: Good governance should mediate differing interests in order to reach broad consensus on the best interests of the group and, where possible, on policies and procedures.

6. Equity: All men and women should have equal opportunity to maintain or improve their well-being.

7. Effectiveness and efficiency: Processes and institutions should produce results that meet needs while making the best use of resources.

8. Accountability: Decision makers in government, the private sector and civil society organizations should be accountable to the public as well as to institutional stakeholders. This accountability differs depending on the organization and whether the decision is internal or external to an organization.

9. Strategic vision: Leaders and the public should have a broad and long-term perspective on good governance and human development, together with a sense of what is needed for such development. There should also be an understanding of the historical, cultural, and social complexities in which that perspective is grounded.

Furthermore, Janssen suggests that an open government system should be applied in order to improve good governance. Janssen defines open government as a mechanism to enable effective public participation. Accordingly, the components of open government are: (i) Openness, (ii) Transparency, (iii) Accountability, (iv) Participation, and (v) Trust. Janssen also suggests the application of information technology to help meet the objectives of open government.

In developing countries, the application of good governance is rather difficult without strict regulations and incentives. Dixit in Davies, at.al commented and highlighted the diverse nature of incentive systems that can be used to influence outcomes. Prendergast in Davies, at.al stated that ‘incentives matter’; that is, that they shape outcomes. However, incentive need not be high-powered or financial, and optimally depends on the structure of the interaction between relevant parties. The incentive impacts on markets, quasi-markets in the public sector included, depending on the structure of those markets, as well as the conduct of actors (producers and ‘consumers’) in those markets. However, where incentives are sufficient to drive performance, there is a risk that in a multi-output environment, these incentives will degrade outcomes where incentives are weakest or non-existent. It is necessary to construct a balanced output incentive scheme.
The incentive-based program was initially launched in 2013 in Nusa Tenggara Barat Province. It was expanded to West Lombok District (2017–2019), and Probolinggo District (2019–2021). Since 2019, the government has also launched a similar program, called RRGP for 15 provinces/districts.

(2) Pre-financing and reimbursement

PRIM/RRGP uses a mechanism different from other programs of the central government’s support funds to the local government. The program seeks to create a new mindset on road management among local governments; i.e., road operators should prioritize routine maintenance work and backlogs and minor works over new road construction and road improvements. The program involves not only the Public Works Department, but also related local government institutions, such as the local planning agency, tourism department, transportation department, finance department, and procurement unit. The program employs a reimbursement method, where the local government must do pre-financing of construction work and requires some good governance initiatives. The local government will get the reimbursement and incentive for their completed output based on verification results. The verification and reimbursement are conducted in three stages and reimbursement grants will comprise of: (i) incentive for good governance – around 10% of the physical work budget, and (ii) reimbursement of the physical works program, 40% for PRIM and 100% for RRGP. The incentive for good governance consists of many items that increase at every stage of the verification process. In 2013, there were only four items, which were increased in 2020 to about 62 good governance items that should be fulfilled by the local government. Since 2016, a deduction in incentive has been imposed when an item is not fulfilled computed as follows:

\[ d_i = \frac{x}{n} \times i \]  

where

- \( d_i \): Incentive deduction (Rp)
- \( x \): number of governance items that are not performed
- \( n \): total number of verification items for governance items per year
- \( i \): allocated incentive amount per year (Rp)

All the procedures, mechanism, and guidance of the program are set out in the management manual for strict implementation.

(3) Governance items by local government

There are some examples of good governance items that should be fulfilled by each local government\(^9,\ 10\). At the portfolio level, the governor/mayor should develop and issue the decree on the road network development plan as a basis for the future. At the program and project level, the Public Works Department has to develop annual and medium-term road programming and budgeting based on accurate data. The Public Works Department must conduct a road survey – both visually and with the use of tools – to collect IRI data, traffic volume, road damage (cracks, potholes, bleeding, disintegration, etc.), off-carriageway condition, blackspots, and disaster locations. These data will be inputted to the road management system, a tool for road programming and budgeting. In order to guarantee the use of the road management system, the governor/mayor should issue the decree as a legal basis. The result of the road management system and budget allocation should be presented to and reviewed by the Road Transport and Traffic Forum. The Forum’s members consist of 50% from government proponents and 50% from non-government proponents, including women and disabled people.

When the initial proposed project package is approved, it should be announced on the Road Transport and Traffic Forum and local government website. The Public Works Department should conduct the detailed engineering design guided by the Centre of Facilitation for Regional Infrastructure. Once the design document is completed, the Public Works Department and procurement unit shall develop a bidding and contract document, as well as attend the procurement training. Standard bidding and contract documents should add specifications declaring that: (i) all the consultants/contractors must have good performance, never had a Show Cause Meeting level III and did not have penalties within the last two years, and (ii) include a clause on the obligation of the contractor to prioritize and conduct routine/backlog and minor works. If these works are not performed, the monthly certificate for the other major works will be suspended.

The Show Cause Meeting, which is categorized into three levels, is a meeting conducted by the Project Manager when the project becomes critical and may potentially go beyond schedule. Show Cause Meeting I is conducted during the 0%–70% phase of the construction schedule based on the contract, but the actual progress is delayed more than 10% from the initial schedule. Show Cause Meeting II is conducted when the construction schedule is about 70%–100% based on the contract, but the actual progress is delayed more than 5% from the initial schedule. Show Cause Meeting III is conducted when the construction schedule is about 70%–100% based on the contract, but the actual progress is delayed more than
10% from the initial schedule and will be completed in the following budget year 11)

Contracts must be signed at the agreed time promptly after contractor and supervision consultant are selected, and any amendment must be verified by the contract observer. The project manager, contractor, and supervision consultant have to follow supervision works as provided during training and upon signing of the integrity pact. In addition, the head of the Public Works Department must sign a letter of integrity to conduct work in the best effort to meet the technical specifications and if he/she fails, he/she will get sanctioned by the project manager, consultant, and/or contractor. The project manager, together with the contractor and supervision consultant, must conduct pre-construction meetings and public consultation attended by the Road Transport and Traffic Forum and project-affected people.

During the implementation of construction, the public, through the Road Transport and Traffic Forum, may monitor and give input in order to assure that the project is relevant to them. The Road Transport and Traffic Forum has to conduct monthly meetings, develop the Standard Operating Procedure, and update its website and respond to public complaints.

In addition, to support good governance, the Public Works Department should provide at least five qualified technical staff who are familiar with road surveying, programming/budgeting, technical design, and supervision/project management. In the third year (end of the program), the Public Works Department should establish a road maintenance management team who will manage all road program/projects regardless of the source of funds. Subsequently, the procurement unit should establish and issue an e-catalogue for routine maintenance work in order to improve transparency and guarantee that routine maintenance is done during the whole year (12 months).

The program also seeks to empower sectors/activities other than those specific to road development, such as tourism development plan, training for independent tourism groups, and developing action plan for GESI (gender, equity and social inclusion).

(4) Governance process

Physical work output should meet the technical and functional criteria related to regulations and guidelines. The priority of work is routine maintenance, backlog and minor works on roads, periodic maintenance, off-carriageway treatment, and road safety. Major work including reconstruction and widening and new road development is not allowed, so as not to cause land acquisition issues and other social problems, considering budget and time constraints. Technical assistance will be extended to the local government and two technical assessments will be done before the verification by the central government in order to assure the quality of work.

The overall process of the grant mechanism is shown in Fig.2. In the preparation stage, the central...
government determines the priority province/district within the national strategic center and develops the selection criteria. Then, the Ministry of Public Works and Housing invites these provinces/districts to submit proposals and related documents for the grant program. The Ministry of Public Works and Housing will evaluate the proposal and make a recommendation to the National Development Agency and Ministry of Finance for further decision. At the same time, while waiting for the decision, the Ministry of Public Works and Housing and the potential local government will conduct training on road programming and budgeting using the road management system. The local government will also prepare the design and other necessary documents for tendering.

Once both Ministries make a decision, the Ministry of Finance will allocate a budget and issue the letter of grant agreement. When the local government agrees with the terms of the letter, the Ministry of Finance and the local government will sign the grant agreement, which mentions the grant allocation, period of grant, and output that must be achieved by each local government. Subsequently, the local government will carry out the procurement process for the contractor and supervision consultant. After the contract is signed between the Public Works Department and the contractor, basically between March and April, pre-construction meetings and public consultations should be done promptly before civil work is started. During the construction, the supervision consultants should do their job, and the Centre of Facilitation for Regional Infrastructure through Program Implementation Consultant will give advice and monitor the project.

After the contract of between project manager and both contractor and supervision consultant are signed and all items of good governance are fulfilled for the first verification, the local government will request for the verification. The Technical team consisting of proponents from the Ministry of Public Works and Housing, the Ministry of Transportation, the Ministry of National Development Planning, the Ministry of Home Affairs, and the Ministry of Tourism will conduct the first verification in March/April.

In order to keep and maintain the quality of work, the Centre of Facilitation for Regional Infrastructure, through the verification consultant, will conduct a technical assessment especially for the civil works between June and October before Verifications-2 and 3, respectively, are done. The consultant will conduct a visual inspection and physical test to check whether the civil works comply with the management manual, technical specification, and other related technical guidelines. In case of some defects, the local government and contractor should fix them before verification is conducted. Verification-2 is conducted around July. Reimbursement is made based on the amount of money already paid to the contractor, with maximum of 50% of the incentive fund based on the items of good governance that can be fulfilled.
Verification-3 is conducted around November. Reimbursement for civil works is made based on the output performance referring to the reference unit cost for each road treatment as mentioned in the management manual. Meanwhile, incentive for the good governance items will be reimbursed at a maximum of 50% of the total incentive fund based on the fulfilled items only. Total reimbursement must not exceed the grant value that is already stated in the grand agreement. Based on the verification result, the secretary-general of the Ministry of Public Works and Housing will issue a letter of recommendation for reimbursement to the governor/mayor, which will be used by the local government to request a reimbursement fund from the Ministry of Finance.

(5) Monitoring by central government

In order to run and manage the program, an organization structure is established involving several ministries as shown in Fig.3. The central government, in general, will design the policy and program by establishing a preparation committee and a technical team. The preparation committee will mainly determine policy, criteria, and selection process for grant receivers, as well as determine grant recipients based on the evaluation of grant proposal submitted by the local government.

The technical team is headed by the secretary-general of the Ministry of Public Works and Housing and will be composed of proponents from the above ministries who will conduct the verification and periodic monitoring and evaluation of the program. The main tasks of the technical committee are managed by the Centre of Facilitation for Regional Infrastructure. Therefore, the Centre of Facilitation for Regional Infrastructure conducts and leads daily program management, monitoring, and verification process. The Centre of Facilitation for Regional Infrastructure proposes the annual budget for PRIM/RRGP, issues the management manual, issues the reimbursement recommendation, and conducts training. The Centre of Facilitation for Regional Infrastructure is supported by two consultants: a program implementation consultant (in the central and regional office), and a verification/technical assessment consultant in the program management unit. In each local government, there are around three engineers/experts or consultants related to engineering, road management, and cross-cutting issues aspects.

4. CASE STUDY

(1) Experience from Nusa Tenggara Barat Province and Lombok Barat District

Nusa Tenggara Barat Province and Lombok Barat District are located in the Lombok Island as part of the Mandalika national tourism center area. The first incentive-based program that was run for road maintenance of the provincial road in Nusa Tenggara Barat Province started in 2013 and ended in 2019 under the PRIM scheme. Since it was the first incentive-program, PRIM in Nusa Tenggara Barat Province was basically intended for three years but was extended for three more years to achieve better results, apply more good governance items, and gain experience before it was replicated to other regions. The program was to carry out maintenance and rehabilitation work of some 1,485 km of provincial roads, of which only around 60% were in stable condition in 2012. In the first three years, the local government had difficulties following the program. These were due to the introduction of some new governance approaches, such as the implementation of sustainable programming and budgeting through the road management system, application of long segment contract, activation of the Road Transport and Traffic Forum and public consultation, and related concerns related to the maintenance and off-carriageway/road safety aspect and other output performances. But then, in the following year until the end of the program, the stakeholders in Nusa Tenggara Barat Province became familiar with the program.

In 2017, the central government claimed that the PRIM program in Nusa Tenggara Barat Province was successful and wanted to expand to another location within the Nusa Tenggara Barat Province. The central government selected Lombok Barat. This district was managing around 571.58 km of road of which only 60% was in stable condition (2017). The Lombok Barat government had already learned from the Nusa Tenggara Barat Province experience in running the PRIM program. The result was better than those of Nusa Tenggara Barat Province in terms of fulfillment of good governance and quality of physical work. The stability of road networks increased and was steady. The Lombok Barat government also introduced the Corridor Management Contract in which several road links within one/two sub-districts were packaged under a single contract as shown in Table 2. This would improve the efficiency of contractor and supervision works. In 2019, the local gov-

| No | Year | Package | Number of Road Links | Length (km) | Contract Value (billion Rupiah) |
|----|------|---------|----------------------|-------------|--------------------------------|
| 1  | 2017 | P1      | 12                   | 56.69       | 15.2                           |
| 2  | 2017 | P2      | 38                   | 145.47      | 13.7                           |
| 3  | 2018 | P1      | 14                   | 66.74       | 15.8                           |
| 4  | 2018 | P2      | 28                   | 131.27      | 12.5                           |
| 5  | 2018 | P3      | 19                   | 91.27       | 16.29                          |
The low level of stability of provincial and district roads in Nusa Tenggara Barat Province and Lombok Barat was mainly due to the poor quality of construction, inappropriate and inadequate design, insufficient maintenance work, as well as insufficient funding for maintenance, especially routine maintenance, and the lack of essential road facilities/assets, such as

| No | Principle | Definition |
|----|-----------|------------|
| 1  | Participation | Establishment of active RTTF (Road Transport and Traffic Forum) comprised of 50% NGO or society allowed active participant of all component in road provision under the PRIM/RRGP. The RTTF members join in every step of road development cycle. Public consultation is conducted during the design process and after the Pre-Construction Meeting (PCM) which is attended by RTTF and affected people along the project corridor |
| 2  | Rule of law | The program is run based on the legitimate Program management Manual (PMM) which is agreed by related stakeholder and signed by echelon I of MPWH All the local government under PRIM/RRGP program and related institutions of center government should follow this PMM |
| 3  | Transparency | Projects under PRIM/RRGP are published in website of Local government and RTFF Collaboration with CoST (Construction Sector Transparency) and RTTF website display 40 CoST’s Infrastructure Data Standards (IDS) One of the local governments (West Lombok District) is already accepted as member of CoST. |
| 4  | Responsiveness | All people can complain related to road provision through RTTF and responded by RTTF within a day |
| 5  | Consensus orientation | The budget allocation program is proposed by local government considering the ability of their local budget Number and kind of Item of good government is developed together among local government and central government stakeholder All consensus of the program is regulated under the PMM and review yearly based on the previous performance |
| 6  | Equity | The program is encouraged participation of women, disability and indigenous people through RTTF or directly involved in the physical work Based on the Peer Review (2017), females accounted for about 7%-13% of personnel provided by contractors; 0%-5% for swakelola; 7%90% for supervision consultants; 17% in meetings of RMMT (Road Management and Maintenance Team); 10%-15% in public consultations; and 14%-20% in other activities. PRIM/RRGP have helped make roads better which in turn improved mobility by women and girls and their accessibility to markets, schools, and health facilities and expanded their choices. Improved shoulders on PRIM/RRGP roads have increased road safety and convenience, especially for children (male and female) and disability walking to school/other places Women made sales to workers during implementation of road maintenance and to the public afterwards (fruits, petrol). New businesses were created by women after road conditions were improved. Incomes also increased for businesses owned by women, mainly due to higher traffic volumes. |
| 7  | Effectiveness and efficiency | Road development program is based on the corridor analysis and using PKRMS as a tool in programming and budgeting The process and involvement of every institution is clearly determined within the PMM and all institutions have clear task and making the best use of resources. |
| 8  | Accountability | Road program is determined among local and central government Procurement of the Contractor and supervision consultants should follow the Standard Bidding Document and PMM The reimbursement process is done through tight verification process During the selection process of Grant receiver candidate, the Head of local government should submit the letter of intent stated to improve governance of road sector provision Some item of good government already considering the sustainability of the system even after the program is finish such as the local government should apply the PKRMS The NTB province already commit to implement the E-catalogue for routine maintenance and contracting out about Rp700 billion for 3 years nest (2020-2023) The SOP of RTTF which is developed under the PRIM program widely disseminated out to other local government across Indonesia by Ministry of Transportation New SAF scheme-Road Safety- is already introduced to improve the road safety issue as an impact of PRIM/RRGP program and RTTF is become a requirement to receive this SAF scheme. |
| 9  | Strategic vision | The NTB Province already established Road Maintenance Management Team (RMMT). The RMMT was established to support the DPU in taking the lead role in road management and increase chances of sustainability. RMMT will consist of divisions in charge of planning, programming, budgeting implementation, and coordination with RTTF and other related stakeholders. |

(2) Application results
Prior to the implementation of the grant program, the government of Lombok Barat became a member of the Construction Sector Transparency organization, which promotes the accountability and transparency of infrastructure provision.
effective drains. In these regions as elsewhere, budgets were allocated for larger capital projects while maintenance was given lower priority (demonstrating ineffective planning, programming and budget prioritization). Chosen projects did not meet the required criteria due to lack of proper planning and programming. Work was poorly specified and supervised; i.e., poor design and implementation. Public works agencies had limited capacity, such as inadequate resource base.

The implementation of PRIM/RRGP program has improved the delivery system of road facility and output of the road quality services, which led to improvements in the good governance aspect as it meets nine good governance principles as shown in Table 3. The success of incentive-based grant program implementation is driven by strong and strict management and monitoring of the central government through the Directorate General of Highways and the Centre of Facilitation for Regional Infrastructure in the Ministry of Public Works and Housing.

In terms of physical work, there were some improvements. The physical contract was patterned after the long segment or corridor management scheme rather than small package contract. The contract was made for 50–135 km length of road, and used different S-Curve and bill of quantity for each category of works (routine maintenance, periodic maintenance, backlog and minor works, holding, rehabilitation, reconstruction and/or widening, road safety, and emergency works). In the contract, road safety and road facility became a concern as it was allocated around 10%–12% of the contract value. Zebra crossing and school zone safety areas were provided for public facilities and schools. The road shoulder was constructed using K175 of concrete pavement 15 cm thick to serve as emergency lane, and for maintaining water flow, and vegetation control. Drainage along the road was provided and cleaned during the whole year (Fig.4). Where the right of way was narrow, a V-shaped drainage was designed, which functioned both as drainage and shoulder. In an urban area, a pedestrian sidewalk was provided, which considered gender and disability issues (Fig.5).

Another achievement is the establishment of e-catalogue or online system for routine maintenance work. This website system issues the catalogue electronically and gives information on the list, type of work, and technical specifications of routine maintenance. Through this system, the Public Works Department announces routine maintenance work online and allows submission of proposal by contractors. This ensures transparency, openness, competitiveness, and on-schedule delivery of routine maintenance works.

By implementing the PRIM concept and mechanism, the road stability in Nusa Tenggara Barat Province and Lombok Barat has been steadily improving. As experienced from the Nusa Tenggara Barat Province, road stability increased from 52.9% (2010) to 83.65% (2019). In Lombok Barat, it increased from 55.28% (2015) to 62.77% (2019). Figure 6 shows a
comparison between provinces/districts that implement and those that do not implement the PRIM program in the same region. In the PRIM-implementing areas, road stability is in a steadily improving pattern, whereas in the non-PRIM implementing areas, the stability fluctuates, and does not show any positive tendency; it rather shows that roads deteriorate faster two years after the PRIM program was launched.

5. EVALUATION OF THE PRACTICE

(1) Improvement of institutional scheme
The success of the PRIM/RRGP is due to collective efforts of the three main components of stakeholders, which consist of road organizations, road providers, and road users (community representatives). Therefore, the roles of these stakeholders cannot be separated. Governance of road organizations and public involvement in road supervision can increase transparency, through the Road Transport and Traffic Forum.

The implementation of the incentive-based grant program is just an initial stage in the improvement of good governance in regional road management. Some of the successful physical works especially relocated to the application of K-175 concrete shoulder will be implemented in the Specific Allocation Fund program.

(2) Sources of successful good governance
The application of good governance principles through incentive-based grant program in PRIM/RRGP has successfully changed the mindset and culture of related road stakeholders in delivering road provision. The political commitment, strong coordination, and synergy among stakeholders of both the central and local government have made this program running well and successful. Other factors are needed, such as the commitment from all stakeholders to implement the management manual and improvement of the management manual in the following year.

(3) Sustainability of the implementation
The management manual has already set some good governance items in anticipating the sustainability of the program, such as the establishment of road maintenance management team. Therefore, the PRIM/RRGP experience may be applicable to other road programs within the local government. At the level of the central government, there are some positive impacts, such as the issuance of technical regulations related to regional road management based on the PRIM/RRGP experience. The road management system manual must be applied in every local government; the Specific Allocation Fund must be implemented for road safety; and some PRIM/RRGP mechanisms must be applied to the Specific Allocation Fund for the road sector. Another factor is a regular and sustainable training development program for related stakeholders.

(4) Challenges and falling short of expectations
Based on the PRIM/RRGP experience, there are some problems/difficulties mainly in the fulfillment of good governance items related to the Road...
Transport and Traffic Forum, and lack of human resources capacity. Some local governments have inadequate human resources capability to implement the road management system and good design especially when dealing with road safety and off-carriageway design. Regarding physical work, some contractors lack equipment and human resources for proper construction. Therefore, regular training, advice, and strict monitoring from the central government are needed, especially in the aspects of design of road safety, programming/budgeting, design of road safety aspect, procurement and construction supervision for the Public Works Department, contractors, and consultants.

(5) High motivation of local government

The PRIM/RRGP program in one local government only runs for three years; subsequently, the local government should commit to consistently apply the PRIM/RRGP principles and mechanism in delivering road provision. The results will reflect on the increase of road stability and improved economic and social conditions. The central government will monitor progress through a road network performance index submitted by the local government when they submit proposals for the Specific Allocation Fund.

(6) Important functions of monitoring by central government

The Ministry of Public Works and Housing through the Centre of Facilitation for Regional Infrastructure manages the whole program. The program management unit is established and assisted by two advisory consultants. The unit and consultants work daily to monitor, evaluate, control, and advice local governments directly or through the consultant.

The local consultant reports to the central consultant; the central consultant reports to the unit. If there is a problem in the field, the unit will meet with the consultant, and if necessary, go to the project site. The Centre of Facilitation for Regional Infrastructure, together with other relevant agencies, should deliver regular training to the Public Works Department, consultant, and contractor. The Centre of Facilitation for Regional Infrastructure plays an important role in designing and developing the program, improving the management manual, and monitoring the project. The Centre of Facilitation for Regional Infrastructure and the unit should be supported by qualified staff and experienced consultants.

6. CONCLUSIONS

The paper explains the effectiveness of the incentive-based approach in road provision based on practical application of the PRIM program in Nusa Tenggara Barat Province and Lombok Barat district. It can be concluded that the application of the incentive-based scheme could improve good governance, stability, and road services, as well as provide value for money. It also changes the mindset of road-related stakeholders to prioritize preservation works over the construction of new roads. Public involvement in road supervision is also an important factor for improving the governance of road provision. The sustainability of the system introduced by this program should be maintained by the local government and applied in all the road projects regardless of the source of funds.

There must be a commitment also from the central government to expand this program to all the local governments. It can be introduced through the Specific Allocation Fund program. Consequently, it requires budget for consultant advisory in every local government. The Ministry of Finance should provide the funds not only for the physical program, but also for the advisory and verification consultants. The Ministry of Public Works and Housing should also give more advice to the Department of Public Works, contractor, and consultant in order to improve their capacity and commitment in applying the technical guidelines in the field. The Ministry of Transportation should give advice to the local government to improve the capacity and function of the Road Transport and Traffic Forum in road delivery services. The Forum should have more members from the public sector and empower them to participate in road delivery ranging from planning until the implementation process. The Ministry of Home Affairs should improve and control the institutional capacity especially related to coordination among departments/agencies within the local government.

In a wider context, the incentive-based approach can be applied to other developing countries where the level of good governance and quality of road service are still low. Multi/single donor agencies in developed countries can give loans/grants to the central government of developing countries and apply this mechanism to the local government in order to keep and sustain the output performance.

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