

Country Name	Project on Building Administration and Enforcement Capacity Development for Seismic Resilience
The Republic of Indonesia	Project on Building Administration and Enforcement Capacity Development for Seismic Resilience Phase 2

I. Project Outline

Background	<p>Indonesia is one of the quake-prone countries in the world, and there are many victims in every earthquake because the strength of buildings and houses are too low compared to the risk of a disaster strikes. When the Central Java earthquake occurred in May 2006, JICA implemented “Central Java Earthquake Reconstruction Program.” Under this program, the “Project on Housing Administration Capacity Enhancement” (2006-2007) was implemented as a subcomponent. During the project activities, it was realized that a building standard and building permit (IMB) system existed in Indonesia, but they were not fully operated by local governments.</p> <p>Under such circumstances, Phase 1 of this project was implemented. The Phase 1 project identified necessary approaches for improving the building administration in the target districts/cities. However, the necessity of further dissemination of the project’s output by own capacity of Directorate General of Human Settlements (PUCK), Ministry of Public Works, the implementing agency, was discussed at the end of the project period. Also, while the Phase 1 project focused on seismic resilience of building new houses, the retrofitting of existing houses was also regarded as a necessity. The Phase 2 project was expected to cover such issues.</p>																
Objectives of the Project	<p>[Phase 1]</p> <p>Through improvement of Building Standard, IMB Scheme and Building Management Information System (MIS), the project aimed to improve building administration and enforcement capacity for seismic resilience of new houses in the earthquake-prone target areas, thereby enhancing disaster resilience in Indonesia.</p> <ol style="list-style-type: none"> Overall Goal: Buildings and houses in the whole nation of Indonesia, especially in high-risk areas prone to earthquake disaster will acquire disaster resilience. Project Purpose: Building administration and enforcement capacity for seismic resilience is improved in the target areas. <p>[Phase 2]</p> <p>Through promotion of Building Standard, IMB Scheme and Building MIS, the project aimed to improve building administration and enforcement capacity for seismic resilience of new and existing houses in the earthquake-prone target areas, thereby enhancing disaster resilience in the target areas.</p> <ol style="list-style-type: none"> Overall Goal: Seismic resilience of Non-Engineered Houses in target districts/cities of West Sumatera and North Sumatera, is improved. Project Purpose: Building administration and enforcement capacity for seismic resilience is improved in target districts/cities. 																
Activities of the Project	<ol style="list-style-type: none"> Project Site:¹ <p>[Phase 1] Jakarta and seven target areas (districts/cities) in the provinces of West Sumatera, Bengkulu, and North Sulawesi</p> <p>[Phase 2] Jakarta and nine districts/cities in the provinces of West Sumatera and North Sumatera</p> Main Activities: <p>[Phase 1] Institutional reinforcement of PUCK; improvement of Building Standard and IMB Scheme (with a model Building PERDA (Local Government Regulation)) based on experiments; development of Building MIS.</p> <p>[Phase 2] Preparation of Ministerial Regulation based on research and experiment; promotion of Building Standard, IMB Scheme, and Building MIS; dissemination of retrofitting of non-engineered houses.</p> Inputs (to carry out above activities) <p>[Phase 1]</p> <table border="0"> <tr> <td>Japanese Side</td> <td>Indonesia Side</td> </tr> <tr> <td>1) Experts: 24 persons</td> <td>1) Staff allocated: 15 persons</td> </tr> <tr> <td>2) Trainees received: 27 persons</td> <td>2) Offices for JICA project team</td> </tr> <tr> <td>3) Equipment: 35 sets of computers with printers</td> <td>3) Counterpart (C/P) budget</td> </tr> <tr> <td>4) Local expenses including local consultant fees</td> <td></td> </tr> </table> <p>[Phase 2]</p> <table border="0"> <tr> <td>Japanese Side</td> <td>Indonesia Side</td> </tr> <tr> <td>1) Experts: 15 persons</td> <td>1) Staff allocated: 10 persons</td> </tr> <tr> <td>2) Trainees received: 33 persons</td> <td>2) Two offices</td> </tr> </table> 	Japanese Side	Indonesia Side	1) Experts: 24 persons	1) Staff allocated: 15 persons	2) Trainees received: 27 persons	2) Offices for JICA project team	3) Equipment: 35 sets of computers with printers	3) Counterpart (C/P) budget	4) Local expenses including local consultant fees		Japanese Side	Indonesia Side	1) Experts: 15 persons	1) Staff allocated: 10 persons	2) Trainees received: 33 persons	2) Two offices
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¹ Target areas of each phase is as follows. Among them, the ex-post evaluation team visited the shaded districts for interviews.

Province	West Sumatera			North Sumatera								Bengkulu	North Sulawesi		
	Tanah Datar Dist.	Pesisir Selatan Dist.	Padang Pariaman Dist.	Langkat Dist.	Simalungun Dist.	Tapanuli Tengah Dist.	Nias Utara Dist.	Nias Dist.	Nias Barat Dist.	Sibolga City	Gunungsitoli City	Bengkulu Utara Dist.	Manado City	Bitung City	Tomohon City
Phase 1	X	X	X									X	X	X	X
Phase 2			X	X	X	X	X	X	X	X	X				

	3) Equipment: miniature models, cameras 4) Local expenses including local consultant fees	3) Local cost
Project Period	[Phase 1] September 2007 – March 2011 (Extended period: July 2010 – March 2011) [Phase 2] July 2011 – July 2014	Project Cost ² [Phase 1] (ex-ante) no information, (actual) 421 million yen [Phase 2] (ex-ante) 298 million yen, (actual) 390 million yen
Implementing Agency	[Phase 1] Directorate General of Human Settlements (PUCK), ³ Ministry of Public Works (PU) [Phase 2] PUCK; Research Institute for Human Settlements (PUSLITBANGKIM), Ministry of PU	
Cooperation Agency in Japan	Ministry of Land, Infrastructure, Transport and Tourism	

II. Result of the Evaluation

<Constraints on Evaluation>

- Data for many of the indicators were available only from the four target areas (local governments) the ex-post evaluation team visited as detailed information on each local government is not available from the central government. The team could not visit more target areas due to time constraints. Accordingly, the team assessed the status of achievement of such indicators based only on the available data.

< Special Perspectives Considered in the Ex-Post Evaluation >

- The team evaluated the two phases together in the following way: for Relevance, evidence was confirmed for each phase, based on which the two phases were evaluated as combined; for Effectiveness/Impact, the status of achievement of the project objectives were judged for each phase, based on which the two phases were evaluated as combined (with more weight given to the Phase 2 project which had been built upon the achievement of the Phase 1 project); for Efficiency, each phase was evaluated, based on which the two phases were evaluated as combined; for Sustainability, the two phases were evaluated as combined.
- For each phase, the continuation status of project effects was assessed based on selected Output and Project Purpose Indicators, which can measure a series of building administration activities developed/improved by the project, namely, regulation (Building PERDA), system operation (Building MIS), building permits (IMB), and construction certificates.
- For the Phase 1 project, this ex-post evaluation followed the terminal evaluation and put less weight to Project Purpose Indicator 1, which the terminal evaluation team had found less associated with the Outputs.

1 Relevance

<Consistency with the Development Policy of Indonesia at the Time of Ex-Ante Evaluation and Project Completion>

[Phase 1] The “National Mid-Term Development Plan (RPJMN) 2004-2009” and “RPJMN 2010-2014” supported the improvement of the building administration and enforcement capacity under the agendas for housing development and law enforcement development.
[Phase 2] “RPJMN 2010-2014” was still effective during the project implementation period.

<Consistency with the Development Needs of Indonesia at the Time of Ex-Ante Evaluation and Project Completion >

[Phase 1] [Phase 2] There was a need for the improvement of building administration in the earthquake-prone target areas as described in “Background” above. In September 2009, the West-Sumatra earthquake occurred, which further increased the needs and resulted in the extension of the project period. Also, according to PUCK’s “Strategic Plan (RENSTRA) 2010-2014,” one of the challenges in the human settlement was to improve technical requirement and administration system for promoting seismic-resistant and fire-resistance building.

<Consistency with Japan’s ODA Policy at the Time of Ex-Ante Evaluation>

[Phase 1] [Phase 2] In the “Country Assistance Program for the Republic of Indonesia” (2004), “creation of democratic and fair society” is mentioned as one of the three pillars. The pillar deals with “improving the skills of local government employees” and “improving local administrative systems” under “governance reform (assistance for decentralization).” Furthermore, the pillar includes also “environmental conservation and disaster prevention” which mentions “urban living environment, including urban slums (including countermeasures for natural disasters).”

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement of the Project Purpose at the time of Project Completion>

[Phase 1] The Project Purpose was partially achieved by the time of project completion. The project developed and promoted a model Building PERDA (that stipulated the improved Building Standard (Key Requirement) and IMB Scheme) and Building MIS (software and users’ guides). However, the actual use of Building MIS and granting of IMB was limited (Indicators 2 and 3), and construction certificates called Functional Reliability Certificates (SLF) were not issued (Indicator 4) mainly because Building PERDA was drafted but still in the legislation process in each target area. The number of officials in charge of IMB (Indicator 1) increased in some target areas.

[Phase 2] The Project Purpose was partially achieved by the time of project completion. The promotional materials for Building Standard and the IMB manual developed under the project including those for retrofitting were utilized among the stakeholders (Indicator 1). However, no target areas issued IMB according to the IMB manual since the operation of the manual was still in the trial stage (Indicator 2).

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

[Phase 1] The project effects have partially continued to the time of ex-post evaluation. First, Building PERDA was enacted in Padang Pariaman in December 2010 and during the period between 2011 and 2016 in all other target areas. Second, however, Building MIS developed by this project (known as SIMBG) is no longer used as the Ministry of PUPR developed a new system into a more comprehensive website which is not only about data for building, but also for monitoring for IMB (based on PERDA, PERBUP (district head regulations)/PERWAL (mayor regulations)), SLF data, and other data on building, as known SIMPBG. Further, the Ministry of PUPR

² Ex-ante evaluation sheets for both phases are not available. The planned project cost for the Phase 2 project was taken from the Implementation Plan (JICA document) as of March 2011.

³ PUCK was abbreviated as DGHS, DGCK or DJCK in some documents. PUCK was reorganized to Directorate of Building Management, Ministry of Public Works and Housing (PUPR).

is developing a new online system again called SIMBG. Nonetheless, Directorate of Building Management, the Ministry of PUPR acknowledged that the system developed under this project motivated them to develop a system to cover all types of buildings, which was realized in their SIMPBG and new SIMBG. Therefore, it is fair to say that the knowledge and experience of using this project's SIMBG contributed to the development of the new systems. Also, the data collection process for the current system is a continued effect of this project. Third, IMB are granted using SIMPBG, while the specific data is available only from the target areas visited. Fourth, SLF are not issued in the target areas (districts) since, according to the Public Works (PU) Agencies of the districts, they did not establish the Expert Team of Building that is mandated to issue SLF (with qualification to analyze and give recommendation of SLF for building function) due to budget limitation. Nevertheless, it should be noted that some other districts have already established the Expert Team of Building and started to issue SLF based on Building PERDA.

[Phase 2] The project effects have partially continued to the time of ex-post evaluation. First, Directorate of Building Management of the Ministry of PUPR has promoted Building PERDA through socialization for provinces every year. The Ministerial Regulation on seismic resilient houses and buildings, which had been drafted by PUCK under the project, was enacted in 2016 as Ministerial Regulation No. 05/PRT/M/2016 on IMB and then amended in 2017 to Ministerial Regulation No. 06/PRT/M/2017. The content is not only about seismic resilience for non-engineered houses but also all components for IMB requirements for all kind of buildings (non-engineered buildings, engineered buildings, and special buildings) and houses. This Ministerial Regulation became the basis for local governments in establishing Building PERDA. Among the Phase 2 target areas, except for Padang Pariaman (targeted by both phases and enacted Building PERDA in 2010), all districts/cities but Simalungun (on which information was not available) enacted Building PERDA during the period between 2012 and 2017. Second, as for IMB, similar to the Phase 1 target areas, IMB are granted using SIMPBG, while the specific data is available only from the target areas visited. Also, the data is not differentiated between newly-constructed and retrofitted houses. Moreover, it was heard in all target areas visited (including the Phase 1 target areas) that law enforcement is still weak because the role of Municipal Police is not strong in IMB monitoring. Also, zoning code of land use that is not updated inhibits the IMB issuance.⁴

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

[Phase 1] The Overall Goal has been partially achieved by the time of ex-post evaluation. By 2017, Building PERDA was enacted in 468 districts/cities, accounting for 93% of districts/cities in Indonesia (Indicator 1). This shows a good commitment for Indonesia for building administration and attributed to this project in that the prototype of PERDA developed under this project was incorporated to the Ministerial Regulation, which later became the guideline for PERDA. On the other hand, the number of IMB in entire Indonesia was not available (Indicator 2).

[Phase 2] The Overall Goal could not be verified by the time of ex-post evaluation. Regarding SLF for newly-constructed houses (Indicator 1), the only available information is that in Nias Barat, 26 SLF for all types of buildings including non-engineered houses were issued in 2017 after Investment and One-Door Permit (PMPTSP) Agency was established in the same year. No information was available on SLF for retrofitted buildings (Indicator 2).

<Other Impacts at the time of Ex-post Evaluation>

[Phase 1] [Phase 2] Through the interviews with the Ministry of PUPR and related organizations in the four districts visited the ex-post evaluation team found neither negative impacts of the project nor positive impacts other than those already mentioned above.

<Evaluation Result>

Therefore, the effectiveness/impact of the project is fair.

[Phase 1] Achievement of Project Purpose and Overall Goal

Aim	Indicators	Results								
(Project Purpose) Building administration and enforcement capacity for seismic resilience is improved in the target areas.	Indicator 1: Number of officials for IMB in Indonesia.	Status of the Achievement: partially achieved (Project Completion) Total 139 officials. In the seven target areas. The number increased in West Sumatra where big earthquakes occurred in 2007 and 2009 and did not increase in North Sulawesi where no big earthquake occurred then.								
	Indicator 2: Number of areas of formulated Building MIS.	Status of the Achievement: partially achieved (partially continued) (Project Completion) Total two target areas. The project distributed Building MIS to all seven target areas and some other districts/cities, and PUCK distributed it to all 33 provinces and some districts/cities. Among them, Padang Pariaman and Bantul started to use Building MIS. (Ex-post Evaluation) All seven target areas, but they now use a new and more comprehensive system developed by the Ministry of PUPR, to which this project's Building MIS contributed.								
	Indicator 3: Number of earthquake-resistant buildings endorsed by the Building Permits issued in the course of the project activities.	Status of the Achievement: partially achieved (partially continued) (Project Completion) Against 7,773 application for IMB, 2,579 IMB were granted in Padang Pariaman using Building MIS as of 31 July 2010. In the other six target areas, no permits were issued as Building PERDA were still in the process of legislation (In Padang Pariaman, a Governor's Decree on use of Building IMS for IMB was issued as a provisional measure for reconstruction). (Ex-post Evaluation) The number of IMB granted for new construction (houses/total buildings) in the target areas visited is as follows. Data was not available from other target areas.								
		<table border="1"> <thead> <tr> <th></th> <th>2015</th> <th>2016</th> <th>2017</th> </tr> </thead> <tbody> <tr> <td>Tanah Datar</td> <td>0/262</td> <td>141/182</td> <td>136/208</td> </tr> </tbody> </table>		2015	2016	2017	Tanah Datar	0/262	141/182	136/208
	2015	2016	2017							
Tanah Datar	0/262	141/182	136/208							

⁴ In Tanah Datar, for example, there was a case that in the current map in Regional Spatial Plan (RTRW), the land use for a housing area is still marked as a Protected Sustainable Food Area that makes the owner of the housing area cannot obtain IMB. Therefore, there is a need to revise and update the map in RTRW to clear the land use issue for IMB.

		Padang Pariaman	46/100	35/143	39/125
	Indicator 4: Number of earthquake-resistant buildings endorsed by the Site Inspections conducted in the course of the project activities.	Status of the Achievement: not achieved (not continued) (Project Completion) SLF was not issued. (Ex-post Evaluation) SLF was not issued.			
(Overall Goal) Buildings and houses in the whole nation of Indonesia, especially in high-risk areas prone to earthquake disaster will acquire disaster resilience.	Indicator 1: Number of areas of formulated Building Standards for earthquake-resistant performance, Key Requirement and IMB Schemes.	(Ex-post Evaluation) achieved Number of local governments (districts/cities) where Building PERDA enacted:			
		2015	2016	2017	
		Accumulation: 398	Accumulation: 440	Accumulation: 468	
		Total per year: 143	Total per year: 42	Total per year: 28	
	Indicator 2: Number of building permits in Indonesia.	(Ex-post Evaluation) not verifiable Data is not available.			

Source: Terminal Evaluation Report; website of Directorate of Building Management, Ministry of PUPR; interviews with the Public Works Agencies in Tanah Datar and Padang Pariaman; interview with Directorate of Building Management, Ministry of PUPR.

[Phase 2] Achievement of Project Purpose and Overall Goal

Aim	Indicators	Results																				
(Project Purpose) Building administration and enforcement capacity for seismic resilience is improved in target districts/cities.	Indicator 1: The manuals / regulations / guidelines developed in the Project are understood and utilized among stakeholders in target districts/cities.	Status of the Achievement: achieved (Project Completion) The terminal evaluation team confirmed from interviews the promotional materials for Building Standard are used for understanding of the standard among the community, house builders and local government officials as well as of the IMB manual for each target area among related organizations.																				
	Indicator 2: The number of target districts/cities which issue building permits by adopting improved IMB is increased.	Status of the Achievement: partially not achieved (partially continued) (Project Completion) Data not collected as the improved IMB Scheme was just legislated. (Ex-post Evaluation) The number of IMB granted in the target areas visited is as follows. Data was not available from other target areas, and data specifically for retrofitted houses was not available, either.																				
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(Overall Goal) Seismic resilience of Non-Engineered Houses in target districts/cities of West Sumatera and North Sumatera, is improved.	Indicator 1: The number of newly constructed Non-Engineered Houses with seismic resistance is increased in target districts/cities.	(Ex-post Evaluation) not verifiable In Nias Barat, 26 SLF were issued for newly-constructed buildings in all types including non-engineered houses in 2017. Data on non-engineered houses only was not available. For other areas, no data was available.																				
	Indicator 2: The number of retrofitted Non-Engineered Houses is increased in target districts/cities.	(Ex-post Evaluation) not verifiable Data was not available.																				

Source: Terminal Evaluation Report; website of Directorate of Building Management, Ministry of PUPR; interviews with the Public Works Agencies in Nias Barat, Nias, and Padang Pariaman; interview with Directorate of Building Management, Ministry of PUPR.

3 Efficiency

[Phase 1] Although the planned project cost is not recorded in the available documents, the actual project cost may have significantly exceeded the plan (ratio against the plan: more than 210%) if assuming that the planned cost was less than 200 million yen as this project was classified into a small-scale project whose cost is less than 200 million yen. However, the cost overrun could be more or less justifiable as it was confirmed that the additional budget was used for the additional target location (i.e., reconstruction assistance in West Sumatra Province after the occurrence of the 2009 Sumatra Earthquake in September 2009). Regarding the project period, as well, although the actual period exceeded the plan (ratio against the plan: 120%), it could be justifiable with the fact that the project was extended for the additional target location. Therefore, the efficiency of the project is fair.

[Phase 2] While the project cost exceeded the plan, the project period was as planned (ratio against the plan: 131% and 100%, respectively). Therefore, the efficiency of the project is fair.

[Both phases] Combining these results, the efficiency of the Phase 1 and Phase 2 projects as combined is fair.

4 Sustainability

<Policy Aspect>

[Phase 1] [Phase 2] "RPJMN 2015-2019" contains the activity regarding IMB promotion/operationalization and assistance and monitoring of building implementation under the Program of Assistance and Development for Human Settlement Infrastructure. Also, based on its "RENSTRA 2015-2019," the Ministry of PUPR facilitated 200 districts/cities⁵ to implement related IMB and SLF.

<Institutional Aspect>

⁵ No information was available on whether the target areas of Phase 1 and Phase 2 of this project were included.

[Phase 1] [Phase 2] The current organizational structure for building administration covers the importance of the IMB issuance at both central government level (Directorate of Building Management and PUSLITBANGKIM, both under the Ministry of PUPR) and the local level (PU Agency and PMPTSP Agency). At the national level, Directorate of Building Management provides assistance and support for building administration to local governments, and PUSLITBANGKIM is in charge of research and socialization on technical specifications of building resilience (thus not directly involved in IMB promotion). At the local level, the PU Agency handles technical matters of IMB Scheme such as mapping, land controlling and checking of the structure of houses/buildings for seismic resilience, while the PMPTSP Agency handles the administration matters including issuing IMB in each of the four target districts the ex-post evaluation team visited.⁶

The number of staff allocated to each key organization (14 persons at Directorate of Building Management, Ministry of PUPR, 2-4 persons at the PU Agency in the four target districts visited by the ex-post evaluation team, 7-12 at the PMPTSP Agency in the same districts) is considered enough according to each organization. However, they mentioned that they need coordination and support from the Ministry of Home Affairs, whose Directorate General of Regional Development has authority to assist local governments, in socialization and controlling the IMB issuance and also the Municipal Police for law enforcement.

<Technical Aspect>

[Phase 1] [Phase 2] From the interviews, it is considered that the technical level of Directorate of Building Management, Ministry of PUPR covers the required skills (communication/persuasive skills and knowledge of IMB to support local governments). As mentioned above, Directorate of Building Management conducts socialization on IMB Scheme for provinces. Also, the Center of Training and Education of the Ministry of PUPR conducts training on IMB Scheme for the PU Agency, the PMPTSP Agency, and Legal Divisions/Office in each district/city. On the other hand, the local governments visited lack human resources with specific skills, especially in mapping (GIS) and urban and regional planning for monitoring of the land use as the requirement for the IMB issuance as well as IT skills to operate the online system. To address lack of some expertise in a single organization, each institution has counterpart to work together for IMB issuance, for example, PU Agencies work with the PMPTSP Agencies for calculating IMB Retribution.

<Financial Aspect>

[Phase 1] [Phase 2] Each related organization has covered the budget for general required activities related to IMB socialization including for seismic resilience, but no specific budget has been allocated for IMB promotion and operationalization for non-engineered houses. Padang Pariaman does not have the budget for socialization for IMB; thus, they only do the socialization informally with individual households.

Budget related to IMB (Unit: Rupiah)

	2015	2016	2017	2018
Directorate of Building Management, Ministry of PUPR (building management activities)	1,253,614	1,202,533	1,666,127	1,970,129
PUSLITBANGKIM, Ministry of PUPR (research and socialization on building resilience)	9,960,108	9,960,108	9,960,108	9,960,108
PU Agency, Nias Barat District (land use controlling and land management)	N/A	N/A	N/A	108,600,000
PU Agency, Nias District (land use controlling)	200,000,000	200,000,000	200,000,000	200,000,000
PMPTSP Agency, Nias District (retribution and socialization)	55,000,000	55,000,000	55,000,000	55,000,000
PU Agency, Tanah Datar District (spatial plan controlling activities)	59,000,000	59,000,000	59,000,000	59,000,000
PMPTSP Agency, Tanah Datar District (socialization)	145,000,000	145,000,000	145,000,000	145,000,000

Source: Each organization

<Evaluation Result>

Therefore, the sustainability of the effects through the project is fair.

5 Summary of the Evaluation

Both the Phase 1 and the Phase 2 projects partially achieved the respective Project Purposes (improved building administration for newly-constructed houses (Phase 1) and newly-constructed and retrofitted houses (Phase 2) in the respective target areas) as the improved Building Standard and IMB Scheme had not been fully implemented by the time of project completion. The regulatory framework has been established and continuously promoted/socialized to the time of ex-post evaluation, but IMB Scheme has yet been enforceable sufficiently and some essential data is not available. Accordingly, the Overall Goal of the Phase 1 project (improved building administration in entire Indonesia) has been partially achieved and that for Phase 2 project (seismic resilience in the target areas) is not verifiable.

Regarding the sustainability for both phases, some problems were observed in the institutional, technical, and financial aspects mainly due to lack of coordination for law enforcement, insufficient human resources with specific technical skills and the budget specifically for seismic resilience of non-engineered houses, the target of the projects. As for the efficiency, both project cost and project period exceeded the plan in the Phase 1 project, and the project cost exceeded the plan in the Phase 2 project.

Considering all of the above points, this project (Phase 1 and Phase 2 combined) is evaluated to be partially satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- **Monitoring and coordination:** The Ministry of PUPR, the Ministry of Home Affairs, and the local government need to improve monitoring and coordination between the central government and local government to remove the bottlenecks for the IMB implementation. For this purpose, staff at Directorate of Building Management, PUPR, the PU Agency, the PMPTSP Agency, and Directorate General for Regional Development of the Ministry of Home Affairs should hold a seminar/meeting once a year on seismic resilience for non-engineered house to socialize the IMB process; to monitor; to update the data for PERDA, PERBUP/PERWAL, SLF, the Expert Team for Building, and data for buildings; to control the implementation of IMB Scheme; and to avoid illegal land use.
- **Technical personnel:** The local government should address the issue of the absence of the required technical skills for the IMB

⁶ In Padang Pariaman, unlike the other three districts, the PU Agency works for IMB for non-house buildings and the PMPTSP Agency has more burdens such as checking structure of houses for seismic resilience.

issuance. For this purpose, the PU Agency should allocate at least 1 staff for mapping/GIS, urban/regional planning, environment, civil engineering for seismic resilience structure to complete skill in IMB promotion and operationalization, updating the latest land use for map, and also for the specification of IMB granted data for non-engineered house in local government. Also, the PMPTSP Agency should allocate at least 1 staff for IT to operate the online system for IMB process to complete skill in IMB promotion and operationalization in the local government.

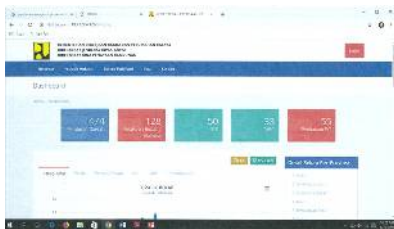
- The Expert Team for Building: The Ministry of PUPR and the local government (the PU Agency and the PMPTSP Agency) from Tanah Datar, Padang Pariaman, Nias, and Nias Barat should develop and accelerate PERBUP/PERWAL on the establishment of the Expert Team for Building as the basis for the issuance of SLF because SLF data in Indonesia is very few and needs experts to review and provide recommendation on building function. Developing PERDA on IMB for Law Enforcement in each region in Indonesia by mentioning the role of Municipal Police in the implementation is desirable because a strong legal document is needed to strengthen the law enforcement.
- Incentives for the society and builders and law enforcement: The society and builders are already concerned with seismic resilience for their house structure, but law enforcement in local government is lacking. To encourage them to proceed with difficult drawing design, there is an urgent need to find the best incentives. For this purpose, the PU Agency and the PMPTSP Agency could consider the followings:
 - (i) Building partnership with banks as an incentive for the society and developers for the IMB issuance as a requirement for loan;
 - (ii) Taking IMB into account as a main requirement for the issuance of property ownership certificate (Sertifikat Hak Milik/ SHM) to get a formal recognition from the government on the ownership of land and house. In this case, monitoring and controlling of the requirement needs to be strengthened at the central level (Ministry of PUPR and the National Land Agency (BPN/ Badan Pertanahan Nasional/Kementerian Agraria dan Tata Ruang) and at the local level (PU Agency and PMPTSP Agency);
 - (iii) Providing discount/ less cost (10%-20%) for property tax (Pajak Bumi dan Bangunan/ PBB) to those who have IMB.

Lessons Learned for JICA:

- In a future project for strengthening a building permit system for seismic resilience, components for monitoring and law enforcement could be fully taken into consideration. In this project, despite the improvement of IMB Scheme, the number of IMB granted was not fully available due to lack of data disaggregated by type of buildings (non-engineered houses or buildings) and construction (newly-constructed or retrofitted). Also, an increase in the number of houses with seismic resilience were not confirmed. It was due to the weak law enforcement resulting from insufficient coordination with Municipal Police as well as lack of incentive mechanisms (e.g., taking IMB into account as a main requirement for property ownership certificate and bank loan; providing discount/less cost for property tax to those who have IMB).



A seismic resilient house in West Nias constructed by ex-trainee of Phase 2 Project



Screenshot of SIMPBG developed by Ministry of PUPR



Completed foundation of non-engineered seismic resilient house in Nias District