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Volume 2: Annexes

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Technical Evaluation of Infrastructure Built with Village Funds

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Acronyms

ADD	*Alokasi Dana Desa*, transfer to villages from district governments
APBDes	Village budget
BKAD	Badan Kerjasama Antar Desa
BPD	Village representative
BPS	Central Bureau of Statistics
DD	*Dana desa*, transfer to villages from central government
gotong royong	Mutual cooperation, village volunteer system
IDR	Indonesian Rupiah
kabupaten	Districts
KDP	Kecamatan Development Project
KTD	*Kader teknis desa,* village technical cadre
kecamatan	Sub-district
MCK	Public laundry/toilet facilities
M&E	Monitoring and Evaluation
MOF	Ministry of Finance
MOHA	Ministry of Home Affairs
MOV	Ministry of Villages
MusDes	Village planning meeting
O&M	Operations and maintenance
Permendagri	Regulation of the Ministry of Home Affairs
PAUD	Early childhood centers
PDTI	District engineers' capable designate to sign off on VIPs
Pendamping	Facilitator
PNPM	*Program Nasional Pembangunan Masyarakat* – National Program for Community Development
PKD	*Pengkajian Kondisi Desa*, Review of current village conditions
RKPDes	Annual village plan
RPJMDes	Medium term village planning
swadaya	Self-help
swakelola	Self-management, village implemented
TPK	Village activity implementation committees
USD	United States dollar
VFS	Village Financial Statistics
VIP	Village infrastructure project
VL	Village Law

ANNEX 1

Annex 1 – Recommendations of the Technical Audit

The recommendations of this evaluation are summarized below:

Improved technical support and supervision

- Village committees should be working with competent design technicians or engineers who provide necessary liaison with relevant government sector personnel to ensure infrastructure quality and that village infrastructure conforms with government policies and programs.
- Technical engineers supporting villages to design and implement construction projects should be directed to document the instructions they have given to village implementation committees and ensure these are placed on project filed.
- Existing design manuals and construction guidelines from previous rural development programs should be reviewed/revised to meet Village Law requirements, and issued to village committees, *PDTI*, and Kabupaten engineers. Such standard designs and specifications for village infrastructure do exist and should be made available and their use mandated.
- Senior government should consider assigning additional technical resources to kabupaten/kecamatan levels, including more *PDTI* or *kader teknis desa (KTD*, village technical cadre), to ensure remote sites receive adequate technical support.
- All infrastructure projects should have accurate and representative drawings and specifications. Standard drawings and details can be used but should be revised to suit the specific dimensions of the proposed infrastructure. Kabupaten engineers or a capable designate (PDTI) should inspect and sign-off all drawings of village infrastructure. Technical inspection by Kabupaten engineer/ designate PDTI should take place at all key stages of the project lifecycle (planning, construction, anniversary of completion). No funding from the Kabupaten should be approved without proper drawings in place.
- Monitoring and evaluation of the construction program should be conducted at key points of the implementation cycle: planning, design approval, construction (e.g. 25% complete, 50%, 100%), and include an operational anniversary inspection (including O&M assessment).

Participatory processes for implementation

- Inter-Village Forums should be held (at least) three times annually with an agenda to include public discussions regarding the development, operations, and maintenance of infrastructure that is shared between communities.
- Quorums for Mus Des (village planning meetings) should be required to guarantee attendance at important sessions (with a stipulated % of women). A survey of villagers' impressions of the structure and format of these meetings may prove useful to order to make changes, encouraging attendance.

- Village populations should be provided an opportunity to comment on SP design criteria, including location, size, orientation and type of proposed infrastructures. Detailed rural infrastructure planning guidelines should be provided to the village committees. These resources should include descriptions of proper public input sessions that should be conducted as part of each VIPs' planning.
- Socialization and training of villages in the concept of user consultation should emphasize the relationship between user consultation, increased functionality of infrastructure and the willingness of village residents to pay for maintenance—the virtuous cycle of utility and sustainability.
- Villages should be guided to allocate sufficient budget for community forums. This could be included in the annual prioritization guidance to villages from MOV.
- Villages should be encouraged to establish procurement committees.

Training

- A simplified version of the Village Law regulations (a step-by-step guideline) should be developed for village committee use, with a training module developed to explain proper procedures and practices. Click here for relevant section.
- Construction quality could be improved by identifying key construction problems and developing training materials to show proper techniques to correct them. Existing training materials for village activity implementation committees (*TPK*) should be inventoried, reviewed and improved/expanded to help villagers understand the various steps that should be executed during VIP implementation and the documentation required.
- Training of village O&M committees should include, amongst other topics, a section on operations and maintenance activities appropriate to the infrastructure and advice on the collection of local user fees to fund such work. Villages should be made aware that *Dana Desa* funding can and should be used for O&M to ensure sustained functionality.
- A procurement training course should be conducted where proper accounting and procurement practices are described and modeled for village committees, each year.
- *PDTI* (district engineers) personnel should be provided annual technical training to improve their construction supervision skills.

Regulatory changes

- Land donation practices need to be improved through the issuance of clear instructions (by project type), including requiring donation letters and land transfer forms.
- MOHA and MOV should add clarification to the regulations, emphasizing that the funded public assets are owned by villages and that future operation and maintenance duties and budgets are the responsibility of the villages. The regulations should define sustainable maintenance methodologies for joint or multi-village infrastructures.

Issues requiring more in-depth diagnosis and analysis

- Water supply and irrigation projects (including those visited as part of this study) should be reviewed by relevant government agencies to determine if there are systemic problems that can be identified and avoided in the future.
- Central government authorities responsible for support and supervision of Village Law implementation should undertake a deeper dive into performance information for villages in Maluku to identify if there may be specific performance issues in villages within that Province that need further attention.

ANNEX 2

Annex 2 – PNPM 2012 Sub-Project Selection Procedure for Technical Evaluation

The 12 provinces in which this study was conducted (spanning Indonesia from west to east and north to south and making sure to include both rich and poor provinces) were analyzed for how many districts (*kabupaten)* they contain. Total number of districts ranged from 3 in Papua to 18 in Aceh. A sampling of three districts was taken for those provinces having ten or more districts. Two districts were selected from those with less than 10 districts. The sole exception to this is Central Java which had four districts selected. A total of 34 districts were selected using this method, in a somewhat random manner ensuring that the various geographical areas of each province were represented.

To start the sub-district (*kecamatan*) selection process, it was next determined that four sub-districts would be sampled in each district. This resulted in 136 sub-districts being selected. The government's BPS spreadsheet designates each sub-district in one of four categories – normal, hard, very hard and extreme. These classifications indicate the level of difficulty of access to and travel within the sub-district. The 'random' selection process was examined to ensure that an appropriate range of these categories were represented in the sample.

The site evaluation target for this technical evaluation was considered at this stage of the sub-district selection process, and a further 29 sub-districts were added to the list, distributed across the provinces in a roughly even manner. The final total comprised 165 sub-districts, of which approximately 45% are considered 'poor' and less than 19% are listed as "not poor".

The selection of the villages within each of these sub-districts was left to the technical evaluation team to determine at each UPK office in the sub-district. Team members obtained a map of the sub-district and used it to identify villages to be included in the assessment. Villages were chosen at random, although local knowledge about the difficulty or impossibility of accessing certain villages were used to plan each day's travels. Efforts were made to include a 'Remote' village in the assessment. A minimum of two villages were visited in each sub-district, and three if time allowed. All sub-projects sponsored by the funding agencies cited above were examined in the selected villages.

ANNEX 3

Prov	Kab	Kec	Vill	Province	Kabupaten	Kecamatan	Village	Infra Type	Year	New	Rehab
32	13	9	4	Jawa Barat	Cianjur	Sukaluyu	Sidamulya	A	2015		1
53	12	80	10	NTT	Ngada	Riung	Lokasambi Timur	A	2017	1	
53	9	1	2019	NTT	Ngada	Aimere	Legelapu	A	2015	1	
53	9	1	2020	NTT	Ngada	Aimere	Lekogoko	A	2016	1	
53	9	9	2006	NTT	Ngada	Riung	Wangka	A	2017	1	
11	1	5	2005	Aceh	Aceh Selatan	Meukek	Jambu Pepeun	A	2017	1	
11	1	5	2005	Aceh	Aceh Selatan	Meukek	Jambu Pepeun	A	2017	1	
11	1	5	2022	Aceh	Aceh Selatan	Meukek	Ladang baro	A	2016	1	
11	1	5	2022	Aceh	Aceh Selatan	Meukek	Ladang baro	A	2016	1	
11	18	1	2022	Aceh	Pidie Jaya	Meuredu	Lampoh Lada	A	2015	1	
11	18	1	2022	Aceh	Pidie Jaya	Meuredu	Lampoh Lada	A	2015	1	
11	18	3	2011	Aceh	Pidie Jaya	Jangka Buya	Kiran Krueng	A	2015	1	
11	18	3	2011	Aceh	Pidie Jaya	Jangka Buya	Kiran Krueng	A	2016		1
11	1	6	2020	Aceh	Aceh Selatan	Sama Dua	Payonan Gadang	A	2015	1	
11	1	6	2020	Aceh	Aceh Selatan	Sama Dua	Payonan Gadang	A	2015	1	
11	18	1	2006	Aceh	Pidie Jaya	Meuredu	Manyang Lancok	A	2017	1	
11	18	1	2022	Aceh	Pidie Jaya	Meuredu	Lampoh Lada	A	2017	1	
11	18	3	2011	Aceh	Pidie Jaya	Jangka Buya	Lampoh Lada	A	2016	1	
53	11	52	16	NTT	Sumba Timur	Umalulu	Matawai Atu	A	2017	1	
53	12	10	20	NTT	Ngada	Aimere	Legelapu	A	2017	1	
76	4	6	2004	Sulawesi Barat	Polewali Mandar	Binuang	Mirring	A	2016	1	
76	4	6	2006	Sulawesi Barat	Polewali Mandar	Binuang	Batetangngan	A	2017	1	
81	9	1	2011	Maluku	Buru Selatan	Namrole	Tik Bary	A	2017	1	
81	9	1	2012	Maluku	Buru Selatan	Namrole	Mas Nana	A	2017		1
81	9	1	2012	Maluku	Buru Selatan	Namrole	Neath	A	2017	1	
81	9	5	2015	Maluku	Buru Selatan	Leksula	Neath	A	2017		1
81	9	5	2026	Maluku	Buru Selatan	Leksula	Wainama Olon	A	2016	1	
61	10	20	12	Kalimantan Barat	Melawi	Tanah Pinoh	Bata Luar	A	2016	1	

61	10	20	12	Kalimantan Barat	Melawi	Tanah Pinoh	Bata Luar	A	2015	1	
61	10	70	14	Kalimantan Barat	Melawi	Menukung	Batu Badak	A	2017	1	
61	10	20	12	Kalimantan Barat	Melawi	Tanah Pinoh	Bata Luar	A	2016	1	
61	10	70	10	Kalimantan Barat	Melawi	Menukung	Belaban Ela	A	2016	1	
61	10	70	10	Kalimantan Barat	Melawi	Menukung	Belaban Ela	A	2015	1	
32	3	9	2008	West Java	Cianjur	Sukaluyu	Sukaluyu	B	2016		1
53	12	80	8	NTT	Ngada	Riung	Wangka	B	2016	1	
11	1	6	2017	Aceh	Aceh Selatan	Samadua	Lubuk Layu	B	2016	1	
11	1	6?	2020?	Aceh	Aceh Selatan	Samadua	Payonan Gadang	B	2017	1	
11	18	1	2006	Aceh	Pidie Jaya	Meuredu	Manyang Lancok	B	2061	1	
53	11	52	19	NTT	Sumba Timur	Umalulu	Ngaru Kanuru	B	2017	1	
76	4	9	2002	Sulawesi Barat	Polewali Mandar	Matangnga	Lili	B	2016	1	
76	4	9	2002	Sulawesi Barat	Polewali Mandar	Matangnga	Lili	B	2016	1	
76	4	9	2003	Sulawesi Barat	Polewali Mandar	Matangnga	Rangoan	B	2017	1	
81	9	5	2008	Maluku	Buru Selatan	Leksula	Leksula	B	2017	1	
61	10	20	12	Kalimantan Barat	Melawi	Tanah Pinoh	Bata Luar	B	2016	1	
61	10	70	14	Kalimantan Timur	Melawi	Menukung	Batu Bdak	B	2016	1	
76	4	6	0	Sulawesi Barat	Polewali Mandar	Binuang	2004	B	2017	1	
76	4	6	2006	Sulawesi Barat	Polewali Mandar	Binuang	Batetanga	B	2016	1	
61	10	20	12	Kalimantan Barat	Melawi	Tanah Pinoh	Bata Luar	B	2017	1	
53	11	13	5	NTT	Sumba Timur	Katala Hamu Lingu	Mataway Amahu	C	2017		1
53	12	10	19	NTT	Ngada	Aimere	Lekogoko	C	2016		1
11	1	5	2022	Aceh	Aceh Selatan	Meukek	Ladang Baro	C	2017		1
11	1	6	2020	Aceh	Aceh Selatan	Samadua	Payonan Gadang	C	2017	1	
11	1	5	2022	Aceh	Aceh Selatan	Meukek	Ladang Baro	C	2015	1	
81	9	1	2006	Maluku	Buru Selatan	Namrole	Leku	C	2017	1	
81	9	1	2009	Maluku	Buru Selatan	Namrole	Labuang	C	2016		1
81	9	1	2011	Maluku	Buru Selatan	Namrole	Tikbary	C	2015		1
81	9	1	2011	Maluku	Buru Selatan	Namrole	Neath	C	2016	1	

81	9	5	2015	Maluku	Buru Selatan	Leksula	Neath	C	2015	1	
81	9	5	2015	Maluku	Buru Selatan	Leksula	Neath	C	2017	1	
61	10	70	10	Kalimantan Barat	Melawi	Menukung	Balaban Ela	C	2015		1
76	4	9	2002	Sulawesi Barat	Polewali Mandar	Matangnga	Lilli	C	2017	1	
61	10	20	12	Kalimantan Barat	Melawi	Tanah Pinoh	Bata Luar	C	2017		1
32	3	8	5	Jawa Barat	Cianjur	Mande	Mande	D	2015	1	
32	3	8	2005	Jawa Barat	Cianjur	Mande	Mande	D	2016	1	
32	3	8	2012	Jawa Barat	Cianjur	Mande	Murnisari	D	2015	1	
32	3	8	2012	West Java	Cianjur	Mande	Murnisari	D	2017	1	
32	3	9	2008	Jawa Barat	Cianjur	Sukaluyu	Sukaluyu	D	2017	1	
53	11	13	3	NTT	Sumba Timur	Katala Hamu Lingu	Kombapari	D	2017	1	
53	11	52	16	NTT	Sumba Timur	Umalalu	Mataway Atu	D	2016	1	
53	11	52	19	NTT	Sumba Timur	Umalalu	Ngaru Kanoru	D	2016	1	
53	12	10	19	NTT	Ngada	Aimere	Lekogoko	D	2017	1	
53	12	10	20	NTT	Ngada	Aimere	Legelapu	D	2016	1	
53	12	10	20	NTT	Ngada	Aimere	Legelapu	D	2016	1	
53	12	80	8	NTT	Ngada	Riung	Wangka	D	2017	1	
53	12	80	8	NTT	Ngada	Riung	Wangka	D	2016	1	
53	9	1	2019	NTT	Ngada	Aimere	Legelapu	D	2015	1	
53	9	1	2020	NTT	Ngada	Aimere	Lekogoko	D	2016	1	
53	9	9	2006	NTT	Ngada	Riung	Wangka	D	2015	1	
53	9	9	2006	NTT	Ngada	Riung	Wangka	D	2015	1	
53	9	9	2017	NTT	Ngada	Riung	Lengkosambi Timu	D	2016	1	
53	9	9	2017	NTT	Ngada	Riung	Lengkosambi Timu	D	2016	1	
53	11	19	2002	NTT	Sumba Timur	Katala Hamu Lingu	Matawai Amahu	D	2017	1	
53	11	8	2005	NTT	Sumba Timur	Umalulu	Matawai Atu	D	2015		1
53	11	8	2005	NTT	Sumba Timur	Umalulu	Matawai Atu	D	2015		1
53	11	8	2010	NTT	Sumba Timur	Umalulu	Ngaru Kanoru	D	2015	1	
53	11	19	2001	NTT	Sumba Timur	Katala Hamu Lingu	Kompa Pari	D	2016	1	

53	11	13	3	NTT	Sumba Timur	Katala Hamu Lingu	Kombapari	D	2017	1	
53	11	13	3	NTT	Sumba Timur	Katala Hamu Lingu	Kombapari	D	2017	1	
53	11	13	5	NTT	Sumba Timur	Katala Hamu Lingu	Matawai Amahu	D	2016	1	
53	11	13	5	NTT	Sumba Timur	Katala Hamu Lingu	Matawai Amahu	D	2016	1	
53	11	13	5	NTT	Sumba Timur	Katala Hamu Lingu	Matawai Amahu	D	2016	1	
53	11	52	16	NTT	Sumba Timur	Umalulu	Matawai Atu	D	2017	1	
53	11	52	19	NTT	Sumba Timur	Umalulu	Ngaru Kanuru	D	2017	1	
53	11	52	19	NTT	Sumba Timur	Umalulu	Ngaru Kanuru	D	2017	1	
53	12	10	19	NTT	Ngada	Aimere	Lekogoko	D	2015	1	
53	12	10	19	NTT	Ngada	Aimere	Lekogoko	D	2015	1	
53	12	10	20	NTT	Ngada	Aimere	Legelapu	D	2017	1	
53	12	80	10	NTT	Ngada	Riung	Lengkosambi 1	D	2015	1	
53	12	80	10	NTT	Ngada	Riung	Lengkosambi 2	D	2015	1	
11	1	6	2017	Aceh	Aceh Selatan	Sama Dua	Lubuk Layu	D	2015	1	
11	1	6	2017	Aceh	Aceh Selatan	Sama Dua	Lubuk Layu	D	2015	1	
11	1	6	2020	Aceh	Aceh Selatan	Sama Dua	Payonan Gadang	D	2016	1	
11	1	6	2020	Aceh	Aceh Selatan	Sama Dua	Payonan Gadang	D	2016	1	
11	1	6	2005	Aceh	Aceh Selatan	Meukek	Jambo Papeun	D	2015	1	
11	1	5	2005	Aceh	Aceh Selatan	Meukek	Jambo Papeun	D	2015	1	
11	1	5	2022	Aceh	Aceh Selatan	Meukek	Ladang Baro	D	2017	1	
11	1	6	2017	Aceh	Aceh Selatan	Samadua	Lubuk Layu	D	2016	1	
11	18	3	2016	Aceh	Pidie Jaya	Jangka Buya	Jurong Tengoh	D	2016	1	
11	18	3	2016	Aceh	Pidie Jaya	Jangka Buya	Jurong Tengoh	D	2017	1	
11	1	5	2005	Aceh	Aceh Selatan	Meukek	Jambo Papeun	D	2016	1	
11	1	5	2005	Aceh	Aceh Selatan	Meukek	Jambo Papeun	D	2016	1	
11	1	5	2022	Aceh	Aceh Selatan	Meukek	Ladang Baro	D	2015	1	
11	1	6	2017	Aceh	Aceh Selatan	Sama Dua	Lubuk Layu	D	2017	1	
11	1	6	2017	Aceh	Aceh Selatan	Sama Dua	Lubuk Layu	D	2017	1	
11	18	1	2022	Aceh	Pidie Jaya	Meuredu	Lampoh Lada	D	2016	1	

11	18	3	2011	Aceh	Pidie Jaya	Jangka Buya	Kiran Krueng	D	2016	1	
11	18	3	2011	Aceh	Pidie Jaya	Jangka Buya	Kiran Kreung	D	2017	1	
11	18	3	2016	Aceh	Pidie Jaya	Jangka Buya	Jurong Teungoh	D	2015	1	
11	18	3	2016	Aceh	Pidie Jaya	Jangka Buya	Jurong Teungoh	D	2017	1	
76	4	9	2002	Sulawesi Barat	Polewali Mandar	Matangnga	Lili	D	2015	1	
76	4	6	2004	Sulawesi Barat	Polewali Mandar	Binuang	Mirring	D	2016	1	
76	4	6	2006	Sulawesi Barat	Polewali Mandar	Binuang	Batetangnga	D	2015	1	
76	4	6	2006	Sulawesi Barat	Polewali Mandar	Binuang	Batetangnga	D	2017	1	
76	4	9	2003	Sulawesi Barat	Polewali Mandar	Matetangnga	Rangoan	D	2017	1	
81	9	1	2006	Maluku	Buru Selatan	Namrole	Leku	D	2017	1	
81	9	1	2006	Maluku	Buru Selatan	Namrole	Leku	D	2017	1	
81	9	1	2009	Maluku	Buru Selatan	Namrole	Labuang	D	2016	1	
81	9	1	2011	Maluku	Buru Selatan	Namrole	Tikbary	D	2016	1	
81	9	1	2012	Maluku	Buru Selatan	Namrole	Masnana	D	2017	1	
81	9	5	2008	Maluku	Buru Selatan	Leksula	Leksula	D	2015	1	
81	9	5	2015	Maluku	Buru Selatan	Leksula	Neath	D	2017	1	
81	9	5	2016	Maluku	Buru Selatan	Leksula	Liang	D	2015	1	
81	9	5	2016	Maluku	Buru Selatan	Leksula	Liang	D	2017	1	
81	9	5	2016	Maluku	Buru Selatan	Leksula	Liang	D	2017	1	
81	9	5	2026	Maluku	Buru Selatan	Leksula	Waenama Olon	D	2016	1	
81	9	5	2026	Maluku	Buru Selatan	Leksula	Liang	D	2017	1	
61	10	20	8	Kalimantan Barat	Melawi	Tanah Pinoh	Sukamaju	D	2017	1	
61	10	20	8	Kalimantan Barat	Melawi	Tanah Pinoh	Sukamaju	D	2016	1	
61	10	20	8	Kalimantan Barat	Melawi	Tanah Pinoh	Sukamaju	D	2016	1	
61	10	20	12	Kalimantan Barat	Melawi	Tanah Pinoh	Bata Luar	D	2016	1	
61	10	70	14	Kalimantan Barat	Melawi	Menukung	Batu Badak	D	2017	1	
76	4	6	2004	Sulawesi Barat	Polewali Mandar	Binuang	Mirring	D	2015	1	
76	4	6	2004	Sulawesi Barat	Polewali Mandar	Binuang	Mirring	D	2015	1	
76	4	6	2006	Sulawesi Barat	Polewali Mandar	Binuang	Batetangnga	D	2015	1	

76	4	9	2003	Sulawesi Barat	Polewali Mandar	Matangnga	Rangoan	D	2015	1	
76	4	9	2003	Sulawesi Barat	Polewali Mandar	Matangnga	Rangoan	D	2016	1	
76	4	9	2003	Sulawesi Barat	Polewali Mandar	Matangnga	Rangoan	D	2016	1	
53	11	13	3	NTT	Sumba Timur	Katala Hamu Lingu	Kombapari	D	2017	1	
61	10	20	8	Kalimantan Barat	Melawi	Tanah Pinoh	Suka Maju	D	2015	1	
61	10	20	8	Kalimantan Barat	Melawi	Tanah Pinoh	Suka Maju	D	2015	1	
61	10	20	8	Kalimantan Barat	Melawi	Tanah Pinoh	Suka Maju	D	2017	1	
61	10	70	10	Kalimantan Barat	Melawi	Menukung	Belaban Ela	D	2016	1	
61	10	70	14	Kalimantan Barat	Melawi	Menukung	Batu Badak	D	2015	1	
61	10	70	14	Kalimantan Barat	Melawi	Menukung	Batu Badak	D	2015	1	
61	10	70	14	Kalimantan Barat	Melawi	Menukung	Batu Badak	D	2016	1	
61	10	70	14	Kalimantan Barat	Melawi	Menukung	Batu Badak	D	2016	1	
32	8	2005	2012	Jawa Barat	Cianjur	Mande	Murnisari	E	2016		1
53	11	52	16	NTT	Sumba Timur	Umalulu	Amatay Atu	E	2016		1
11	18	1	2006	Aceh	Pidie Jaya	Meuredu	Manyang Lancok	E	2016	1	
11	18	1	2006	Aceh	Pidie Jaya	Meuredu	Manyang Lancok	E	2017	1	
11	18	1	2022	Aceh	Pidie Jaya	Meuredu	Lampoh Lada	E	2015	1	
11	18	3	2011	Aceh	Pidie Jaya	Jangka Buya	Kiran Krueng	E	2017	1	
11	18	3	2016	Aceh	Pidie Jaya	Jangka Buya	Jurong Tengoh	E	2016	1	
11	18	2015	2006	Aceh	Pidie Jaya	Meuredu	Manyang Lancok	E	2015	1	
11	18	1	2022	Aceh	Pidie Jaya	Meuredu	Lampoh Lada	E	2016	1	
11	18	2016	2012	Aceh	Pidie Jaya	Jangka Buya	Jurong Teungoh	E	2015	1	
61	10	70	10	Kalimantan Barat	Melawi	Menukung	Balaban Ela	E	2017	1	
76	4	9	2002	Sulawesi Barat	Polewali Mandar	Matangnga	Lilli	E	2017	1	

ANNEX 4

Annex 4 – Technical Evaluation Methodologies

1. Rural Infrastructure Village Infrastructure Project Types

In order for this audit's results to be able to be compared with the 2012 PNPM audit, the same classification system for VIP types was used. The VIP types identified for the audit are:

Table 1: 2018 Sub-project types

Type	Village Infrastructure Project Type	Examples of Sectors Represented Within This Sample
A	Building	Schools, early childhood education centers, MCK (public laundry/toilet), community meeting hall, etc.
B	Bridge	Pedestrian, vehicle
C	Water Supply	Gravity fed (GFWS), borehole, pond, reservoir, etc.
D	Road	Road works, drainage
E	Irrigation	Irrigation headworks and canals

Analysis within this report is based upon the above sub-project types, and the findings for each specific sub-project type apply across all sectors, unless otherwise specified. For example, the technical evaluation's conclusions regarding reinforced concrete practices will apply equally to buildings, to concrete bridges, road structures and retaining walls, to concrete reservoirs, and to concrete drainage channels, etc.

2. Technical Evaluation Field Instruments

The technical evaluation teams used field instruments for each VIP type, developed for this audit using the 2012 PNPM audit field tools as a guide. The technical portion of the tools differ slightly for each infrastructure type (according to each infrastructure's unique components), but are otherwise largely similar.

The field instruments consist of a set of eight checklists that were to be completed at each village for each sampled VIP. The Field Tools are: 1) VIP Location and Technical Evaluation; 2) Environmental and Social Safeguards; 3) Cost Effectiveness; 4) O&M/Sustainability; 5) Key Issues; 6) Brief VIP Description / Notes; and 7) Process Assessment. The Field Tools are attached to this report in Annex 8 – Sample Village Law Evaluation Field Instrument.

These Field Tools were developed in consultation with the WB, prior to and during the first week of the assignment. Auditors were trained to use the tools in West Java.

The technical instruments contain data fields that were filled in with a checkmark or notation at the VIP site itself. Other parts of the field instrument would often be completed afterwards,

during meetings at a village office or community center. Following is a general summary of the data fields in each of the individual Field Tools:

Field Tool 1 – VIP Administrative Data and Technical Evaluation of Infrastructure – This two-page field tool is unique to each VIP type. The five VIP types are divided into a number of components, each rated separately (the rating system is defined below in Section 5.2). Components for the sub-project type Building, for example, started at the base: Foundation, Ground Beam, Wall, Column, etc., proceeding up to the Roof Structure. Where a particular component had several distinct aspects that should be evaluated separately, the component was subdivided into aspects, for example: Ring Beam – Reinforcement, and Ring Beam - Dimension. A complete list of each VIP types' components and aspects is provided in Annex 9.

Field Tool 2 – Environmental and Social Safeguards – This single page field tool is common to all VIP types. Auditors confirmed via a site inspection that appropriate environmental standards had been followed during the VIP implementation. Land acquisition records were examined and the auditors questioned village leaders about their adherence to Village Law social safeguard mechanisms.

Field Tool 3 – Cost Effectiveness – This field tool consists of two pages that feature sections for each infrastructure type that contain key measurements and dimensions of components and aspects for each structure or service (e.g. road or water supply). The unit costs are derived from this information and compared to similar Kabupaten costs (that are calculated by the auditors using data from current marketplace).

Field Tool 4 – Operation and Maintenance/Sustainability – This field tool is comprised of two pages. The first page contains data fields unique to each VIP type. The second page collects standard information from village O&M committee members and requires the team to examine VIP documentation and make notes from each O&M Plan.

Field Tool 5 – Key Issues – The field tool for this data set is unique to each VIP type. It contains a variety of common problems or issues that typically are found in rural infrastructures. The Building Key Issues list, for example, contains a checklist for the following visible problems: inadequate overlap of roof sheeting; improper connection of roof to truss; unreinforced, inadequate, or improperly located splices in truss members; missing steel strapping in truss; etc. The identification of these issues contributes to the understanding of the technical ratings assigned in Field Tool 1. The number of key issues available for each VIP type are as follows: Building 37 items, Bridge 25, Water Supply 27, Road 23, and Irrigation 23.

Field Tool 6 – Brief VIP Description and Notes – Auditors were asked to give a short, concise description of the VIP (length, area, number of rooms, etc.). This sheet also provided space for extra field-written notes and commentary.

Field Tool 7 – Process Assessment – This tool gathered information for the following topics: village infrastructure prioritization; environmental and social safeguards; effectiveness of public accountability and governance; and women's participation.

3. Field Visits

The technical details for the field trips and coordination with the provinces was started about a month prior to mobilization. The WB sent letters of introduction to the provincial authorities, including a request for permission to undertake a field study of infrastructure completed under Village Law.

The detailed planning of field work started approximately one week prior to the auditors' visits. Auditors called senior provincial infrastructure engineers and informed them of the destinations for the WB technical audit evaluation. Auditors asked for help from the provincial government, as well as from district level personnel. Sufficient personnel were offered to accompany and help with the field visits. Provincial and district coordination teams coordinated with sub-district apparatus.

Auditors provided the following information to the Province and District contacts:

- The independent Audit Team wants to visit village infrastructure developed using Village Law funds, learn about the planning, design, and implementation processes of village development, including understanding the infrastructure's utilization;
- Evaluate, if possible, 5 types of infrastructure in each village: building, bridge, water supply, road/drainage, and irrigation;
- The selection of subject villages within the districts should include remote communities;
- The audit team wants to inspect the planning documents at each village office before visiting and evaluating the selected VIP s in the field.

Generally the audit teams made the final village selections after arriving at the sub-district office, where they could discuss the audit requirements with the sub-district head and other officials, as well as the assistant consultants at the district, sub-district and village levels. Daily activities and travel times were carefully planned so that remote villages could be included in the audit

Auditors visited villages according to a pre-arranged schedule. Village leaders were generally well prepared for the visit, with files pertaining to Village Law VIPs available for inspection.

The auditors met with the head of the village, as well as members of the village implementation teams. Meetings could include village secretary, treasurer, cadres, consultants, chief of hamlet, chairman/secretary/treasurer from the VIP implementation team, and the local facilitator, or other interested individuals from village groups, including *BPD*.

Generally the heads of the villages explained the processes by which the Village Law SPs would take place. Lists of the VIPs that had received support through Village Law funding mechanisms

were provided to the auditors. One or more VIPs were selected in each village (up to three VIPs), depending upon the availability of various infrastructure types. The auditors actively sought to include water supply, bridge and irrigation VIPs in the sample (as they were less common) and tried to ensure that a variety of construction-years were included in the sample (2015, 2016 and 2017).

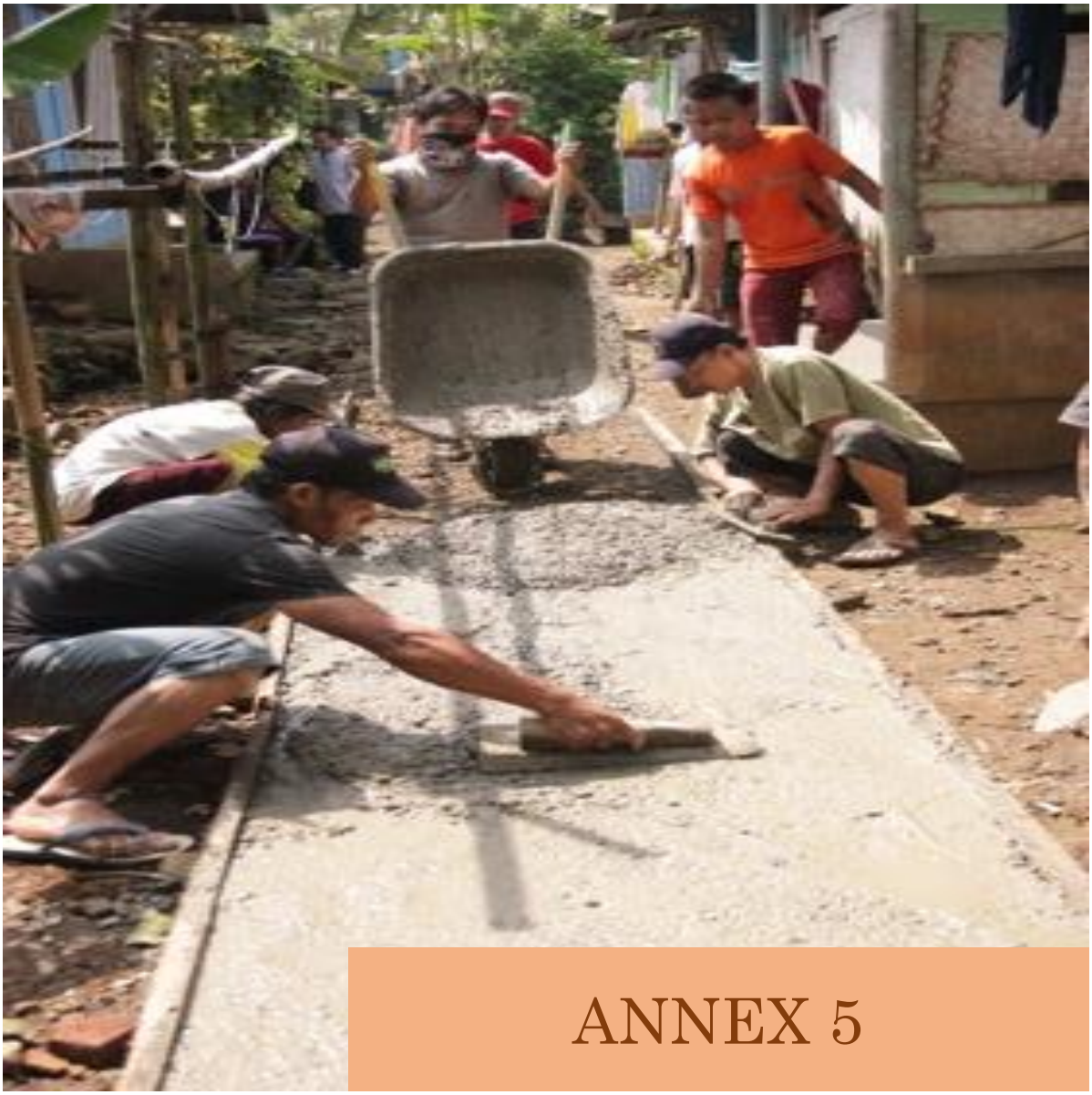
Representatives of village government would accompany the audit team members to view the VIPs. The auditors took many photographs to record details of the VIPs and illustrate their written findings.

4. Field and Office Evaluation Methodologies

The field tools were taken to the villages in paper format and were completed by the auditors in the villages. The forms provided areas where simple checkmarks would record Yes or No to specific questions. Other areas required budget data input (for the cost effectiveness study), dimensions of the infrastructure, etc. The auditors were encouraged to write notes on the field tools, describing unique aspects as necessary. These notes were particularly encouraged for when "low" ratings were being assigned to the infrastructure component or aspect under evaluation. The auditors were asked to explain the "why?" for negative ratings, allowing for discussion and analysis of these items.

The written field data was turned into digital spreadsheets later by the auditors and sent to the audit team leader and WB. The digital data from these spreadsheets was extracted and assembled into tabular form. The data was grouped by infrastructure type,province, remoteness, etc. and analyzed.

Photographs were gathered and filed according to village administrative number.



ANNEX 5

Annex 5 – Infrastructure Component Ratings and Construction Deficiencies

The technical ratings of VIP components and aspects have been discussed in 5.2 Quality, question B2 of this report. The technical ratings data for the complete VIP sample were aggregated, sorted and studied, according to VIP type.

The data can similarly be sorted and studied within each VIP type. This annex will look at each VIP type in turn. A study of the ratings applied to each VIP type's unique components and aspects can yield valuable insights to current design and construction methodologies being employed by villages and how they might be improved in future cycles.

1 Buildings

Roughly half of the buildings examined during this technical evaluation were considered to have met the specifications set out for them (**47% of aggregated components Meet Spec**) with a further **36% considered Slightly Below Spec**. The auditors found **16% of the building components to be Below Spec**.

The field auditor team examined buildings by dividing them into 21 components/ aspects that were individually assessed and rated. An examination of this data shows that those components/aspects most often considered Slightly Below or Below Spec are as shown in the following table

Table 1 Annex 8: Building Components/Aspects Considered Slightly Below Spec

Building Component/Aspect (No. of VIP Rated)	Percentage of VIP Rated Slightly Below Spec	Percentage of VIP Rated Below Spec
Ring Beam (26)	38% (10)	12% (3)
Truss – Structural (16)	56% (9)	-
Truss – Connection to Ring Bea (16)	31% (5)	13% (2)
Roof – Connection to Purlin (13)	31% (4)	23% (3)
Plastering (33)	55% (18)	9% 3()
Painting (31)	55% (17)	16% (5)
Doors and Windows (32)	38% (12)	16% (5)
Toilet (23)	35% (8)	35% (8)
Septic Tank (15)	20% (3)	53% (8)
Ramp for disabled (12)	58% (7)	17% (2)

Discussion:

Ring beams are those structural members that connect the columns at the top of building walls. The dimensions and connections of these beams (either wood or reinforced concrete depending on

the structural design) is an important facet of the building's strength in hurricanes or earthquake events.

Trusses were evaluated in regards to two aspects: structural standards and conformance with drawings (56% Slightly Below Spec); and proper connections to a building's ring beam (31% Slightly Below and 13% Below Spec). These figures are high. Trusses and their connections are often poorly detailed on the design drawings. Auditor's notes about these can be found in the Key Issues section of the field tools. Key issues for buildings are poor drawings (15 of 33 VIP), improper connection of roof to truss (9 of 33 VIP), etc. Key Issues are discussed in the main body of the Final Report, section 6.2 Quality, question B2.

The use of proper connections from a building's trusses to the ring beam is very important in Indonesia, a country that experiences high winds on a regular basis. This detail was noted missing from design drawings. Local builders will often disregard vague drawings in favour of using traditional methods of wood joinery. Depending upon the locale, the resulting trusses can often be lacking in sufficient strength to survive strong winds or earthquake shaking. The use of bolts to connect the truss to the ring beam or columns of a building is imperative.

Roofs can start to leak within a few years if the roof sheeting has been improperly installed or if other elements of the roof structure allow vibration during strong winds (roof connection to purlin: 31% Slightly Below Spec, 23% Below Spec). Proper fasteners (wind ties, cleats) and attention to correct roof construction methodologies will prolong the life of galvanized sheet steel roofs.

Doors and windows were noted as being 38% Slightly Below Spec (12 VIPs) and 16% Below Spec (5 VIPs) within a sample of 32. These ratings are directed at sagging and fractured panels that are only a few years old. Properly constructed doors and window panels, using high-grade wood, should last a decade before needing major repair or refurbishment. The use of lower-grade woods, inadequate millwright techniques and inexpensive hardware serve to cheapen a building for its users.

Eight of 15 **septic tank** facilities inspected had no portal or lid to allow access to the tank for inspection or cleaning. Drawings typically do not show this feature.

Ramps and accessibility features for the disabled were missing for 2 of 12 buildings requiring such facilities, with another 7 have some deficiencies (overly steep ramps).

2 Bridges

The technical quality ratings for bridges built using village funds is good, but could use some improvements: 55% Meets Spec, 34% Slightly Below Spec, 11% Below Spec).

The following table provides an abbreviated list of bridge components, showing those that exhibited problems.

Table 2 Annex 8: Bridge Components Ratings (% and No. of VIP)

Bridge Component	Percentage of VIP Rated Slightly Below	Percentage of VIP Rated Below Spec
Foundation (15 VIPs evaluated)	40% (6)	-
Erosion Protection (13)	54% (7)	15% (2)
Abutments (15)	47% (7)	-
Wingwalls (12)	50% (7)	14% (2)
Apron/Ramp/Road Access (15)	33% (5)	33% (5)
O&M (15)	33% (5)	40% (6)

Discussion:
Fifteen (15) bridges that were improved through Village Law funding were evaluated during the fieldwork.

The bridge components that most often are rated Slightly Below or Below Specification are as follows, with explanations and suggestions for corrective measures that might be taken on future Village Law VIPs. Note that all components are not found on all bridges, so that some components are represented in a subset of the bridge sample.

Erosion protection measures were inadequately designed or implemented at 54% of the bridges (7 of 13 visited). The auditors were instructed to write detailed explanations for components rated Slightly Below and Below Spec. Public Works engineers should consider these descriptions and suggestions for improvement.

The auditors found faults with important parts of bridge structures: **Abutment** and **Wingwall** components were rated Slightly Below 47% and 50%, respectively, while 14% of wingwalls were deemed Below Spec. Proper orientation and design/ implementation is important for these components of bridges. Abutments and wingwalls are particularly susceptible to damage in flooding disasters. Erosion protection measures should be carefully planned and executed/maintained.

Apron/ramp/road accesses were considered Slightly and Below Spec 33% for both ratings. These bridge approaches are often allowed to degrade, with settlement and pot holes developing as materials slip into the watercourse. Regular maintenance of these areas is important. Adequate erosion protection measures are a key element for the protection and ease of use of bridges.

3 Water Supply Systems

The technical quality ratings for water supply systems built using village funds is not good, and could use some improvements: 34% Meets Spec, 30% Slightly Below Spec, 35% Below Spec).

The following table provides an abbreviated list of water supply components, showing those that exhibited problems

Table 3 Annex 8: Water Supply Component/Aspect Ratings (% and No. of VIP)

Water Supply Component/ Aspect	Percentage of VIP Rated Slightly Below	Percentage of VIP Rated Below Spec
Watershed protection (7)	71% (5)	-
Water system design (13)	15% (2)	77% (10)
Borehole (2)		100% (2)
Reservoir – Structural Integrity (	78% (7)	22% (2)
Reservoir – Easy to clean (7)	43% (3)	29% (2)
Public taps – Locations (8)	38% (3)	25% (2)
Public taps –Fixtures (7)	29% (2)	43% (3)
Public taps – Platforms (6)	50% (3)	50% (3)
O&M (12)	17% (2)	58% (7)

Discussion:

Watershed protection was observed in 5 systems of 7 to have some deficiencies. This finding is often directed at hillsides being used intensively for agriculture. The proximity of sanitary facilities too close or uphill of water sources is sometimes seen.

Water system design was faulted by the auditors for problems with 10 of 13 systems examined. Poor design can result in low pressures within the system, unequal distributions within villages, periodic lapses in service, pipe blockages, etc.

Two boreholes were examined during this audit and both were found to be Below Spec and not delivering any water. It is unknown if the geology of the areas is lacking sufficient ground water or if the borehole pump systems have been installed incorrectly.

Reservoirs - Structural integrity: All of the reservoirs inspected during the audit had flaws, 78% were considered Slightly Below, with a further 22% rated Below Spec. The reservoirs exhibited poor concrete, cracks, missing overflow pipes (resulting in slimy outside walls).

Reservoirs - Easy to Clean: 5 of 7 water supply reservoirs were rated Slightly Below (43%) and 29% Below Spec. Drawings should clearly show details of the location and installation of a clean-out pipe and valve at the base of reservoirs. Access portals should be located above these pipe outlets.

Public tapstand locations, fixtures and platforms: These aspects of water systems were consistently poorly rated, with between 29 – 50% being Slightly Below Spec and 25 – 50% being Below Spec. Tapstands are where the village population access the water systems – these aspects of water supply systems should be improved for the sake of the users.

O&M: poor or a lack of proper maintenance practices were observed at 9 of 12 systems visited (with 7 of these considered Below Spec). Auditors wrote comments such as “There is no organizational maintenance team & no maintenance activities”.

4 Road, Drainage and Retaining Wall

Roads were rated using a field tool that identified 12 aspects that are typical road problems or common issues. These are outlined in the following table. Each road evaluation aspect is noted as being most closely associated with functional cause (or two in some cases); these are Poor Design, Improper Construction Techniques, and Faulty Materials. For an example, a road that has been constructed too narrow for its proper and safe use might have as a cause either Poor Design or Improper Construction Techniques.

The roads were walked during the audit and each 100 m section inspected under the criteria for 12 aspects (see table below), and given a rating for "% Affected by Problem". Two of these aspects, #3 and #12, were also noted with an indication of how many missing drainage structures or safety concerns were apparent.

Table 5 Annex 8: Typical Road Problems – Classification of Cause

Problem	Poor Design	Improper Construction Techniques	Faulty Materials
1 Poor Cross Sectio (Crown/Camber)		✔	
2 Inadequate Roadside Ditches		✔	
3 Missing Drainage Structure	✔		
4 Improper Constructio Materials			✔
5 Slippery when wet			✔
6 Very muddy during rainy seaso	✔	✔	
7 Unstable slope above (to steep)	✔		
8 Unstable slope below (too stee	✔	✔	
9 Narrow width	✔	✔	
10 Surface below standard		✔	✔
11 Pavement below standard		✔	✔
12 Safety concerns	✔		

The ratings for each 100 m length were averaged for each road VIP to determine where the majority of Village Law road design or implementation problems lie.

The following table shows the relative percentages of causal factors affecting the roads – design, construction techniques, or materials (some problems commonly stem from two causes).

Table 6 Annex 8 : Typical Road Problems – Aggregated % Affected by Causal Factor

	Poor Design	Improper Construction Techniques	Faulty Materials
% of Road Lengths Affected by Causal Factors	8%	49%	30%

Discussion:
Here it can be seen that fully half of the roads inspected during this audit were adversely affected by improper construction techniques and just slightly less so by poor materials (30% of road VIPs).

5 Irrigation

The technical quality ratings for irrigation systems built using village funds is good, showing the involvement of government sector forces: 56% Meets Spec, 33% Slightly Below Spec, 11% Below Spec.

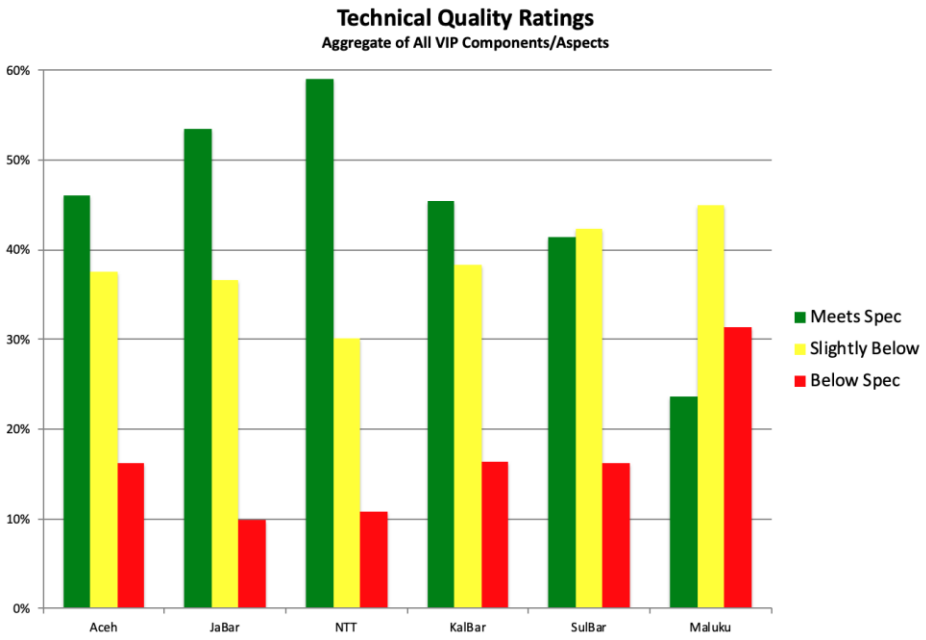
The following table provides an abbreviated list of water supply components, showing those that exhibited problems.

Table 7 Annex 8 : Irrigation Components/Aspects Ratings (% and No. of VIP)

Irrigation Component/Aspect (No. of SPs reporting)	Percentage of VIP rated Slightly Below Spec	Percentage of VIP Rated Below Spec
Slopes – Fill (8)	38% (3)	-
Slopes – Cut (8)	25% (2)	-
Field outlets (10)	40% (4)	30% (3)
Control structures (2)	-	100% (2)

Discussion:
Slopes – fill and cut: several of the irrigation schemes feature slopes where the steepness of the gradient were considered to be inappropriate. Overly steep slopes are more easily adversely affected by erosion forces.

Field outlets and system control structures: irrigation canals should be equipped with field outlet controls so that water can be easily directed to fields or diverted away. Irrigation systems should also have concrete (or well-built mortared stone) control structures at key parts of the system, where flows are diverted or split between command areas.


Technical Quality Ratings
Aggregate of All VIP Components/Aspects
60%
50%
40%
30%
20%
10%
0%
Aceh
JaBar
NTT
KalBar
SulBar
Maluku
Meets Spec
Slightly Below
Below Spec

ANNEX 6

2018 PRF Beneficiary Assessment and Technical Audit
Bridge

Prov	Kab	Kec	Vill	Infra Type	Brief Sub-Project Description: brief description of the SP will provide a few sentences that include type of infra, size (or length, width, etc.) of infra, approximate number of users, special characteristics of infra, etc.	Notes and Comments from Audit:
32	03	09	2008	B	- The rehabilitation of concrete bridge in Sukaluyu village was carried out by the community on a self-managed basis, funded through the Village Fund of Fiscal Year 2016, consisting of widening the 7,5 meter wide 1.20 meter bridge deck floor and replacement of the 6.20 meter long iron railing; - This activity is an enhancement of function - by increasing the floor width of the bridge - from the old bridge that has been built in 2011, with the aim that the infrastructure is more secure and comfortable to use.	- No TOS and list of analysis; - in the plan drawing is not explained the rehabilitated part; - no maintenance/O&M team was formed; - no community land effected by sub-project development.
53	12	80	8	B	Strong construction, workmanship less tidy	0
11	1	6	2017	B	0	0
11	1	5	2017	B	0	no routine maintenance, no real price survey - only apply kabupaten price list,
11	18	1	2006	B	0	Ada keretakan pada bagian non-struktural jembatan akibat gempa besar yang menghantam Pidie Jaya pada Desember tahun 2016. Tapi keretakan ini terlihat tidak membahayakan.

2018 PRF Beneficiary Assessment and Technical Audit
Building

Prov	Kab	Kec	Vill	Infra Type	Brief Sub-Project Description: brief description of the SP will provide a few sentences that include type of infra, size (or length, width, etc.) of infra, approximate number of users, special characteristics of infra, etc.	Notes and Comments from Audit:
32	13	9	4	A	This building is rehabilitation intended for early childhood, building area 7.5 m x 9.15 m The roof frame uses steel, function is well except toilet because it is not connected with water, Number of students is 23 children	This building has no good drainage so that potential water puddles in front of the building, Functioning as a school is supposed tolet works properly.
53	12	80	10	A	Installation of Electricity and Clean Water is waiting	0
53	9	1	2019	A	1. The building is built in Gemo hamlet. The beneciaries are some household close by. 2. There is no maintenance team. Ony household that stay close to MCK maintenances. 3. There is no erotion protection for this SP 4. There is no information Standard price for building from kabupaten. 5. NA on Land Acquisition means land owner donates his land but there is no letter recieved confirmation.	1. There was a Facilator in 2016. The building was designed by KPMD (village cadre) assisted by TA from kabupaten.
53	9	1	2020	A	1. The building is bulit on Village land 2. There is no maintenance team. 3. There is no erotion protection for this SP 4. There is no information Standard price for building from kabupaten.	1. SP has proposal, design & budget 2. Good quality of building. Electricity & water supply are okay.

Prov	Kab	Kec	Vill	Infra Type	Brief Sub-Project Description: brief description of the SP will provide a few sentences that include type of infra, size (or length, width, etc.) of infra, approximate number of users, special characteristics of infra, etc.	Notes and Comments from Audit:
32	8	2005	2012	E	This sub-project is financed by village funds for Fiscal Year 2016, the total cost Rp. 217,467,000.00 including Tax da Pph (11.5%). The channel length is 592 m, and the small dam has a width of 3 m. There is no community self-help. The function of buildings to irrigate rice fields in the rainy season, and before the dry season, whereas while the dry season there is no water. The widespread area of rice field service is not found in the document, the results of field interviews they estimate about 8 Ha.	No local material price survey document was found but found prices agreed by TPK and suppliers. The price of the value is much higher than the price of the audit team's survey results. RAB is created for a total subproject because it is based on a typical image only, there is no measurement survey at the subproject location, and no RAB details of the work. There is no written certification of the accuracy of volume and quality of work. There is no organizational maintenance team & no maintenance activities.
53	11	52	16	E	Optimal Fungtion	0
11	18	1	2006	E	0	0
11	18	1	2006	E	Saluran irigasi ini adalah sambungan saluran irigasi yang dibangun dengan dana desa tahun 2015 diatasnya.	Saluran ini lebih tepat sebagai saluran pembuang (drainage) dari pada saluran irigasi karena lebih banyak berfungsi sebagai saluran pembuangan dari pada saluran untuk mengairi sawah. Pemeliharaan dilakukan hanya pada saat diperlukan (masa tanam yang perlu air) oleh petani terkait.

Prov	Kab	Kec	Vill	Infra Type	Brief Sub-Project Description: brief description of the SP will provide a few sentences that include type of infra, size (or length, width, etc.) of infra, approximate number of users, special characteristics of infra, etc.	Notes and Comments from Audit:
32	3	8	5	D	1. There are no SP proposal and information about number of beneficiaries. So there is no data of men, wowen, and chilldren who get benefit from the SP. 2. NA on Land Aqcuisition means there is no land donation because road concrete road on top old gravel road. 3. I didn't see the design of SP. All information about SP that fill in this form according to actual situation (on site). 4. We have no information about Road-Standar Unit Cost from Kabupaten and Facilitator. 5. SP has no O&M committee	According to survey materials from supplier near Kecamatan office, however TPK didn't do survey materials. They used materials price following Kabupaten unit cost standar, that is more expensive than supplier price near Kecamatan Mande office at the same year they constructed the SP.

2018 PRF Beneficiary Assessment and Technical Audit
Water Supply

Prov	Kab	Kec	Vill	Infra Type	Brief Sub-Project Description: brief description of the SP will provide a few sentences that include type of infra, size (or length, width, etc.) of infra, approximate number of users, special characteristics of infra, etc.	Notes and Comments from Audit:
53	11	13	5	C	Pipe Connection is poor Pipe is not dumped	0
53	12	10	19	C	Pipe Connection is Good, Pipe is not dumped	0
11	1	5	2022	C	Pipanisasi (rehab pipa) dengan dana desa tahun 2017 ini merupakan kelanjutan rehabilitasi perpipaan air bersih dengan dana desa tahun 2015. Rehabilitasi pipa ini untuk mengganti pipa air bersih yang yang telah rusak yang dulunya dibangun dengan dana PNPM tahun 2012, sepanjang 800m. Dana desa tahun 2015 mengganti 250m; dana desa tahun 2017 mengganti 500m.	Gambar kontruksi yang tersedia adalah sangat minim (tidak lengkap); tidak menggambarkan sistem secara keseluruhan dan bagian-bagian yang direhab/diganti.
11	1	6	2020	C	0	0

ANNEX 7

VILLAGE LAW 2018 TECHNICAL EVALUATION
Infrastructure Type A – BUILDING
Checklist 1

Province		Construction Year	
Kabupaten		Remoteness: ☐ Not remote	
Kecamatan		☐ Remote, Border Area, Disadvantaged	
Village		Swakelola ☐ Contractor ☐ Joint ☐	
Village ID		New construction ☐ Rehabilitation ☐	
Source of funding	Dana Desa Alokasi Dana Desa Other (specify):	Inspection date:	Inspection by:

Evaluation Details					
Buildings, e.g. School, Community Centre, Toilet block (detached from the building) etc.	Evaluation Result				
	Meets Spec.	Slightly Below Spec	Below Spec.	Not inspected	Not applicable
1 Foundation					
2 Ground beam/plinth beam					
3 Wall					
4 Column					
5 Ring beam					
6 Truss					
a. Structural assembly and components					
b. Connection to ring beam					
7 Roof structure					
a. Roof sheeting/tiles/fasteners					
b. Connections to purlin					
8 Floor					
9 Plastering					
10 Ceiling					
11 Painting					
12 Doors and windows					
13 Toilet					
14 Septic tank					
15 Ramp and handrail					
16 Service utilities					
a. Water					
b. Electrical installation					
c. Drainage					
17 Other structures					
18 Operation and Maintenance					

Beneficiaries: Men _____ Women _____ Children _____ Total _____

Households:_____

4A Operation and Maintenance/Sustainability

Province		
Kabupaten		
Kecamatan		
Village		
Project ID		

Building

1 Major repairs or rehabilitation performed			Yes/No
2 Major repairs or rehabilitation required			Yes/No
3 Environmental		✓	nature of defect
4 Design			
5 Construction			
6 Materials			
7 O&M			

Other - Make notes next page

8.1 Repair costs			Rupiah
8.2 Estimate costs			Rupiah

	Village labour	Contractor	Gov't	
9 Repair by whom				✓

10 Repair date		MM/YYYY

Routine maintenance (make notes next page)

11 Roof repair		✓ active areas
12 Mechanical (hinges, locks, etc.)		
13 Plumbing		
14 Concrete repair		
15 Plaster repair		
16 Washing		
17 Painting		
18 Drainage		

19 No entry

Village Law
2018 Technical Evaluation

5A Key Issues
Key Infrastructure Issues Noted During Technical Evaluation

Province	
Kabupaten	
Kecamatan	
Village	
Project ID	

KEY ISSUES - BUILDING

Design

- 1 ☐ Lack of construction details on drawings
- 2 ☐ Inaccurate drawings of connection details
- 3 ☐ Improper steel reinforcement design
- 4 ☐ Constructed dimensions differ from plan

Roof/Truss

- 5 ☐ Inadequate overlap of roof sheeting
- 6 ☐ Improper connection of roof to truss (no cleat, etc.)
- 7 ☐ Unreinforced splices in truss members
- 8 ☐ Missing steel strapping
- 9 ☐ Use of nails rather than bolts
- 10 ☐ Undersized/missing truss members
- 11 ☐ Improper connection of truss to ring beam

Steel Reinforcement

- 12 ☐ Short development length in steel reinforcing
- 13 ☐ Improperly bent reinforcing cage stirrups
- 14 ☐ Lack of tie bar wiring
- 15 ☐ Missing anchors, foundation to ground beam
- 16 ☐ Missing anchors, column to wall

Concrete/plaster

- 17 ☐ Absence of concrete mix design
- 18 ☐ Honeycombing in concrete
- 19 ☐ Exposed/shallow reinforcing steel
- 20 ☐ Improper materials or poorly mixed concrete
- 21 ☐ Undersized concrete column/beam
- 22 ☐ Improper plastering technique
- 23 ☐ Poor plastering and finishing

Sanitary Facilities

- 24 ☐ Toilet building not provided
- 25 ☐ No water connection to public system
- 26 ☐ Poor drainage/ponding on floor
- 27 ☐ Exposed PVC pipe
- 28 ☐ No access lid to septic tank
- 29 ☐ High watertable in septic tank

Electrical

- 30 ☐ No junction box at wiring connections
- 31 ☐ Low/unattached wiring in public area
- 32 ☐ Broken switch
- 33 ☐ Wiring installed but not energized

Miscellaneous

- 34 ☐ Broken mechanical fixtures
- 35 ☐ No handicap ramp/too steep
- 36 ☐ Ponding on the floor
- 37 ☐ Poor drainage around building

2 Environmental and Social Safeguards

Province		
Kabupaten		
Kecamatan		
Village		
Sub-Project ID		

Environmental Practices

1 Site inspection confirms that appropriate environmental standards were followed during construction ☐ ✓or ✗

Land Acquisition

2 Voluntary land donation conditions met ☐ ✓or ✗ or n/a

Social Safeguards

3 Village Law social safeguard mechanisms followed ☐ ✓or ✗

Notes and commentary:

Village Law
2018 Technical Evaluation

3 Cost Effectiveness
Key Infrastructure Information and Dimensions for Unit Cost Calculations

Province	
Kabupaten	
Kecamatan	
Village	
Sub-Project ID	

Building

	Width (m)	Length (m)	= Area	Rooms
1 Building dimensions				

Materials	Reinf. Conc.	Wood	Steel	
2 Structural				✓
3 Trusswork				✓

4 Building Costs Budget		Rupiah
5 Actual cost/sq.m.		Rupiah/sq.m.
6 Standard unit cost/sq.m.		Rupiah/sq.m. (from Kabupaten records)

Bridge

	Length (m)	Width (m)	= Area (sq.m.)
1 Bridge deck			

Materials

	Reinf. Conc.	Wood	Masonry	Steel	
2 Bridge deck					✓
3 Beams					✓
4 Columns					✓
5 Abutments					✓
6 Railings					✓

7 Bridge Costs Budget		Rupiah
8 Actual cost/sq.m.		Rupiah/sq.m.
9 Standard unit cost/sq.m.		Rupiah/sq.m. (from Kabupaten records)

3 Cost Effectiveness

Gravity Fed Water Supply

	Length (m)	Diameter (cm)	Plastic ✓	Steel ✓
1 Transmission pipe				
2 Distribution pipe				

3 Pipe supply and Installation Costs Budget		Rupiah
4 Pipe installation - Actual cost/m		Rupiah/m

5 Standard unit cost/m (steel)		Rupiah/m	(from Kabupaten records)
6 Standard unit cost/m (plas)		Rupiah/m	(from Kabupaten records)

Road, Drainage, Retaining Wall

	Length (m)	Width (m)	Earth ✓	Gravel ✓	Concrete ✓	Asphalt ✓
1 Road						

Spot Improvements	Length (m)	Width(m)	Diam (m)	Height(m)
2 Drainage culvert				
3 Drainage channel				
4 Retaining wall				

5 Road installation Costs Budget		Rupiah
6 Drainage installation Costs Budget		Rupiah
7 Retaining wall installation Costs Budget		Rupiah

8 Road installation - Actual cost/sq.m		Rupiah/sq.m
9 Drainage installation - Actual cost/m		Rupiah/m
10 Wall installation - Actual cost/m		Rupiah/m

11 Road - Standard unit cost/m		Rupiah/sq.m	(from Kabupaten)
12 Drainage - Standard unit cost/m		Rupiah/m	
13 Retaining wall - Standard unit cost/m		Rupiah/m	

Irrigation

	Length (m)	Width (m)	Depth (m)	Earth ✓	Masonry ✓	Concrete ✓
1 Canal						

2 Canal Costs Budget		Rupiah	
3 Actual cost/m		Rupiah/m	
4 Standard unit cost/m		Rupiah/m	(from Kabupaten records)

4 Operation and Maintenance/Sustainability

	How good is the O&M Plan?		
20	Does this SP have a maintenance plan?		Yes/No
21	Linkages to line Ministries?		Yes/No
22	Clear division of responsibilities and costs		Yes/No
23	Contains estimated costs: Routine		Yes/No
	Capital repair		Yes/No
	O&M Committee		
24	In place and functioning		Yes/No
25	O&M user fee in place		Yes/No
26	User fee for what services?		**Specify all** (water, road, school, etc.)
27	Contributions from other sources		Yes/No
28	Current funds within O&M account		Rupiah
29	Affordibility of user fees		% of users who are able to easily pay
30	Government inputs to schools, medical clinics adequate/timely?		Yes/No
31	Labour/material input Community		% annually
	Government		% annually
	O&M Training		
32	O&M training received		Yes/No
33	Ongoing capacity development		Yes/No
34	Annual training budget		Rupiah
	Climate Resiliency - DRM		
35	Is the sub-project safe from flooding?		Yes/No
36	Erosion protection measures sufficient?		Yes/No
37	Low landslide risk; no steep slopes		Yes/No
38	Low forest fire risk; clear area between building and forest		Yes/No

Brief Sub-project Description, Notes and Commentary, Best Practices

Brief Sub-Project Description: Provide a few sentences that include type of infra, size (or length, width, etc.) of infra, materials used to build infra, approximate number of users, special characteristics of infra, etc.

Notes and Comments from Audit:

Best Practices:

* What examples of good practice can be drawn to enhance technical quality, operation and maintenance and sustainability for future Village Law sub-projects?

* What are the key lessons learned from the sub-projects undertaken? What practices should be replicated and/or avoided in future sub-projects? Provide a list of key recommendations.

7 Process Assessment - Village Administration (One Questionaire/Village)

1	Did the process of infrastructure prioritization within the village follow Village Law requirements? Is there an awareness of the official requirements?		
		Fully met requirements	
		Somewhat met requirements	
		Did not meet requirements	
2	Did the procurement process (either swakelola or contractor) follow all laws and norms? Is there an awareness of the laws pertaining to procurement?		
		Fully complied with laws	
		Somewhat complied with laws	
		Did not comply with laws	
3	Accountability and Governance Examine records and meeting minutes from *Badan Kerjasama Antar Desa* and documents from Inter-Village Community Forum. How many persons have been participating in these meetings and how effective are these community committees? Are the records being kept in an orderly fashion?		
		Lots of participation. Highly Effective	
		Some participation. Effective	
		Limited participation. Moderately Effective	
		Little participation. Ineffective	
4	Women's participation in prioritization, procurement and community meetings		
		Lots of participation (>50%). Highly Effective	
		Some participation (about 50%). Effective	
		Limited participation (<25%). Moderately Effective	
		Little participation (<10%). Ineffective	

Technical Evaluation Checklist Building		
Sub-Project name		Village ID

Overall Project Assessment

19 The project **construction quality** is:	Highly Satisfactory	☐
	Satisfactory	☐
Comments:	Moderately satisfactory	☐
	Moderately unsatisfactory	☐
	Unsatisfactory	☐
	Highly Unsatisfactory	☐

20 Design completeness (dimensions, details, engineer's signature, code compliance, etc.):	Good	☐
	Average	☐
Comments:	Poor	☐

21 Sub-project functionality is:	High	☐
	Average	☐
Comments:		
	Low	☐
	None, not finished	☐

22 Was there adequate design consultation with users:	Yes	☐	No	☐
Comments:				

Sub-Project File Inspection and Evaluation

23 File completeness (meeting notes, land donation records, design drawings, etc.):	Yes	☐	No	☐
24 Kabupaten Engineer and TF inspection notes to file:	Yes	☐	No	☐
25 Final sub-project inspection report, in file and fully completed:	Yes	☐	No	☐
26 As-Built Drawing:	Yes	☐	No	☐

27 Quality of Technical Facilitation:	Good	☐
	Average	☐
	Poor	☐

28 Frequency of TF site visits:		
	Number of visits	☐
Construction period (no. of months)		

ANNEX 8

Annex 8 – Infrastructure Components and Aspects for Technical Evaluation

Building

1	Foundation
2	Ground beam/plinth beam
3	Wall
4	Column
5	Ring beam
6	Truss
	a. Structural assembly and components
	b. Connection to ring beam
7	Roof structure
	a. Roof sheeting/tiles/fasteners
	b. Connections to purlin
8	Floor
9	Plastering
10	Ceiling
11	Painting
12	Doors and windows
13	Toilet
14	Septic tank
15	Ramp and handrail
16	Service utilities
	a. Water
	b. Electrical installation
	c. Drainage
17	Other structures
18	Operation and Maintenance

Bridge

1.	Layout
2.	Foundation
3.	Erosion protection
4.	Abutments
5.	Pier/supports
6.	Wingwalls
7.	Concrete
8.	Deck beams
9.	Deck
10.	Submerged concrete laneway

11. Handrail
12. Connections (nails, bolts)
13. Apron / ramp / access to road
14. Other structure
15. Operation and Maintenance

Water Supply

15. Water Source
a. Smell, colour
b. Chemical analysis
c. Watershed protection
16. Water system design
17. Borehole and pump system
18. Reservoir
a. Structural integrity
b. Easy to clean
19. Transmission and distribution pipe – proper installation
20. Public taps
a. Number and locations
b. Fixtures
c. Platform
d. Drainage
e. Fencing
21. Water pressure and quantity
8. Other structures
9. Operation and Maintenance

Road, drainage

1 Cross Section (Crown/Camber) *
2 Inadequate Roadside Ditches *
3 Missing Drainage Structure
4 Improper Construction Materials
5 Slippery when wet
6 Very muddy during rainy season
7 Unstable slope above (too steep)
8 Unstable slope below (too steep)
9 Narrow width
10 Surface below standard
11 Low shoulder *
12 Safety concerns
13 Retaining Wall

a. Structural integrity (batter, etc.)
b. Weep holes
c. Erosion protection
d. Construction techniques
e. Dimensions
14 Culvert
a. Layout
b. Construction techniques
15 Small bridge
a. Layout
b. Construction techniques
16 Operation and Maintenance

Irrigation

22. System layout
23. Reservoir design
24. Weir
25. Water level controls
26. Ditches
27. Culvert and pipes
28. Embankments
a. Fill slope – 1 vert.:4 horiz. maximum
b. Cut slope – 1 vert.: 2 horiz. max.
29. Irrigation channel
a. Dimensions
b. Field outlets
9. Channel control structures
10. Retaining Wall
a. Structural integrity
b. Erosion protection
11. Operation and Maintenance