



# ANNUAL REPORT Indonesia Domestic Biogas Programme

January – December 2015





# **Annual Report** **Indonesia Domestic Biogas Programme**

January – December 2015

30 July 2016



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## Abbreviations

<b>ASS</b>	After Sales Service (resulting in partner inspection reports)
<b>BAPPEDA</b>	Regional Planning Bureau
<b>BIRU</b>	Biogas Rumah (domestic biogas)
<b>BSM</b>	Bank Syariah Mandiri
<b>BSNI</b>	National Standardization Agency of Indonesia
<b>CLP</b>	Climate Leadership Programme
<b>CPO</b>	Construction Partner Organization
<b>DAK</b>	Specific Allocation Fund ( <i>Dana Alokasi Khusus</i> )
<b>DGNREEC</b>	Directorate General of New Renewable Energy and Electricity Conservation
<b>DOE</b>	Designated Operational Entity
<b>EnDev</b>	Energizing Development
<b>EUR</b>	Euro
<b>FACET</b>	Finance for Access to Clean Energy Technologies in South and Southeast Asia
<b>GIZ</b>	Gesellschaft für Internationale Zusammenarbeit (Agency for International Cooperation)
<b>Hivos</b>	Humanistic Institute for Cooperation with Developing Countries
<b>IDBP</b>	Indonesia Domestic Biogas Programme
<b>INSTIPER</b>	Institut Pertanian Instipar (Agricultural Institute)
<b>Kiva</b>	U.S.-based non-profit organization that allows people to lend money via the Internet to low-income / underserved communities
<b>MDGs</b>	Millennium Development Goals
<b>MEMR</b>	Ministry of Energy and Mineral Resources
<b>MFI</b>	Micro Finance Institutions
<b>NBPSO</b>	National Biogas Programme Support Office
<b>NGO</b>	Non-Governmental Organization
<b>NTB</b>	Nusa Tenggara Barat (province)
<b>NTT</b>	Nusa Tenggara Timur (province)
<b>OEW</b>	Op Eigen Wieken
<b>PBPO</b>	Provincial Biogas Programme Office
<b>PC</b>	Provincial Coordinator
<b>QI</b>	Quality Inspector
<b>RBF</b>	Rabo Bank Foundation
<b>RNE</b>	Royal Netherlands Embassy
<b>RNE</b>	Royal Norwegian Embassy
<b>R&amp;D</b>	Research and Development
<b>SOG</b>	Standard Operating Guidelines
<b>SNV</b>	Netherlands Development Organization
<b>SME</b>	Small-Medium Enterprise
<b>TOT</b>	Training of Trainers
<b>UNDP</b>	United Nations Development Programme
<b>UNEP</b>	United Nations Environment Programme
<b>VER</b>	Voluntary Emissions Reductions

## Output Summary

Programme start (Norway) : 01 January 2014

Programme finish Norway : 31 December 2015

Programme duration at the end of reporting period (31 December 2015): 12 (of 12) months (100%)

No.	Activities	Achievements	Remarks/target																																																																				
1	Number of IDBP /BIRU digesters	May 2009- Dec 2015: <b>16,597</b> units Jan – Dec 2015 : 2,378 units Supported by Norway Embassy : <b>1,054 units</b> Supported by EnDev: 1,324 units																																																																					
2	Functioning rate	97.5% (based on annual Biogas User Survey)																																																																					
3	No of promotion activities Jan-Dec 2015	<b>Community Meeting on biogas awareness and slurry use</b> Total number of activities: 253 community meetings, 11 promotion events  Total number of participants: 22.850 (13,031 men: 57%, 9,819 women: 43%)  <b>Community Meetings</b> <table><tr><th>Province</th><th>Number of meetings</th><th>Number of male participants</th><th>No of female participants</th></tr><tr><td>Lampung</td><td>22</td><td>411 (84%)</td><td>78 (16%)</td></tr><tr><td>West Java</td><td>32</td><td>3517 (65%)</td><td>1867 (35%)</td></tr><tr><td>Central Java &amp; DIY</td><td>122</td><td>7698 (51%)</td><td>7494 (49%)</td></tr><tr><td>East Java</td><td>4</td><td>40 (100%)</td><td>0 (0%)</td></tr><tr><td>Bali</td><td>3</td><td>18 (51%)</td><td>17 (49%)</td></tr><tr><td>NTB</td><td>3</td><td>85 (77%)</td><td>25 (23%)</td></tr><tr><td>NTT</td><td>25</td><td>651 (70%)</td><td>279 (30%)</td></tr><tr><td>South Sulawesi</td><td>42</td><td>611 (91%)</td><td>59 (9%)</td></tr><tr><td><b>Total</b></td><td><b>253</b></td><td><b>13,031 (57%)</b></td><td><b>9,819 (43%)</b></td></tr></table> <b>Events &amp; Participation</b> <table><tr><th>Province</th><th>Number of events</th></tr><tr><td>National</td><td>2</td></tr><tr><td>West Java</td><td>2</td></tr><tr><td>Central Java &amp; DIY</td><td>6</td></tr><tr><td>Bali</td><td>1</td></tr><tr><td>Lampung</td><td>1</td></tr><tr><td>East Java</td><td>1</td></tr><tr><td>NTB</td><td>1</td></tr><tr><td>NTT</td><td>11</td></tr><tr><td>South Sulawesi</td><td>2</td></tr><tr><td><b>Total</b></td><td><b>27</b></td></tr></table> <b>Production of promotion and other materials</b> <table><tr><td>Printed materials</td><td>24,540 pcs (brochure, newsletter, roll-up banner, back wall, shirt, kit, calendar, dummy book, etc.)</td></tr><tr><td>Internet and mobile based</td><td><ul style="list-style-type: none"><li>Website: biru.or.id 65,112 visitors</li><li>Twitter account 625 followers</li><li>Facebook account 2,087 likes; 1,429 friends</li><li>SMS Hotline 18 SMS senders</li></ul></td></tr><tr><td>Media publication</td><td><ul style="list-style-type: none"><li>Radio promo</li><li>Local newspaper</li><li>Online</li><li>National TV Channel</li></ul></td></tr></table>	Province	Number of meetings	Number of male participants	No of female participants	Lampung	22	411 (84%)	78 (16%)	West Java	32	3517 (65%)	1867 (35%)	Central Java & DIY	122	7698 (51%)	7494 (49%)	East Java	4	40 (100%)	0 (0%)	Bali	3	18 (51%)	17 (49%)	NTB	3	85 (77%)	25 (23%)	NTT	25	651 (70%)	279 (30%)	South Sulawesi	42	611 (91%)	59 (9%)	<b>Total</b>	<b>253</b>	<b>13,031 (57%)</b>	<b>9,819 (43%)</b>	Province	Number of events	National	2	West Java	2	Central Java & DIY	6	Bali	1	Lampung	1	East Java	1	NTB	1	NTT	11	South Sulawesi	2	<b>Total</b>	<b>27</b>	Printed materials	24,540 pcs (brochure, newsletter, roll-up banner, back wall, shirt, kit, calendar, dummy book, etc.)	Internet and mobile based	<ul style="list-style-type: none"><li>Website: biru.or.id 65,112 visitors</li><li>Twitter account 625 followers</li><li>Facebook account 2,087 likes; 1,429 friends</li><li>SMS Hotline 18 SMS senders</li></ul>	Media publication	<ul style="list-style-type: none"><li>Radio promo</li><li>Local newspaper</li><li>Online</li><li>National TV Channel</li></ul>	
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No.	Activities	Achievements	Remarks/target
3	No and % of households using credit Jan-Dec 2015	EUR 2,499,091 for 8,123 farmers	
4	No of credit providers (including cooperatives)	46 providers	
5	MFI support	Nestle: 90 Rabobank Foundation: 33 Kiva: 123 Credit Union: 2 Other: 12 Total: 260 farmers	
6	Subsidy disbursed	EUR 2,090,952,45	
7	No of construction partners	Cooperatives: 14 NGOs: 26 SMEs: 27 Total : 67 Construction Partner Organizations (CPOs)	
8	No of target provinces, districts and sub-districts	10 provinces 124 districts 807 sub-districts	
9	No of masons and supervisors trained	Total: 1,105 masons and 188 supervisors Jan – Dec 2015: 98 masons and 12 supervisors	
10	No of users trained	Total: 11,929 users Jan – Dec 2015: 1,594 users (1,207 male, 387 (24%) female)	
11	No of After Sales Service done by CPOs	Overall: 19,255 inspections Jan-Dec 2015: 6,083 maintenance inspections	
12	No of plants inspected by BIRU staff (during construction and after construction and after ASS/After Sales Service)	Overall: 7,121 inspections a. 587 inspections during construction b. 6,154 inspection after construction c. 380 inspections of plants after received ASS Jan-Dec 2015: 604 inspections in total	
13	Bio-slurry promotion activities	a. Bio-slurry trainings Jan-Dec 2015, attended by 1,692 users (1,350 males; 342 (20%) females). b. Bio-slurry ToT 3 times (1 in Central Java, 2 in South Sulawesi), attended by 7 persons from CPO's management and 7 masons. c. "Soil Sampling" Training in Malang, June 11 – 13, 2015. Attended by 16 surveyors, 3 officials of KAN Jabung, MMO and OFO. d. Soil sampling test in 9 provinces (192 samples (92 users and 92 non users), from 14 May until 2 June 2015. e. Soil sample analyses were conducted in 4 laboratories in East Java, West Java and NTB. f. Three demo-plots conducted in Central Java.	
14	Biogas appliances R&D	BIRU Program has certified two new biogas stoves in 2015.  By the end of 2015 the BIRU Program has facilitated development of biogas workshop in Rembang, Central Java.  Based on research and development conducted in 2014, in 2015 BIRU Program has produced a manual book on how to build a biogas purifier.  By the end of 2015 the BIRU Program has started research and development of a tofu bio-digester, and a biogas generator set (gen-set).	
15	Contribution from Gol	South Sulawesi Province Program: EUR 507,802 for 983 units of biogas Lombok Utara Government Program: EUR 108,406 for 422 units of biogas Animal Husbandry Department of Bogor Program: EUR 2,105 for 3 units of biogas	

No.	Activities	Achievements			Remarks/target																																	
16	External training and workshop participation	<table><tr><th colspan="2">Province</th><th>Number of activities</th></tr><tr><td colspan="2">National</td><td>9</td></tr><tr><td colspan="2">Total</td><td>9</td></tr></table>			Province		Number of activities	National		9	Total		9																									
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17	External workshops organized	<table><tr><th>Province</th><th>Number of activities</th><th>Name of Workshop</th></tr><tr><td>National</td><td>2</td><td>1. LSC Bioslurry carbon</td></tr><tr><td></td><td></td><td>2. 15,000<sup>th</sup> BIRU Journey</td></tr><tr><td>Total</td><td>2</td><td></td></tr></table>			Province	Number of activities	Name of Workshop	National	2	1. LSC Bioslurry carbon			2. 15,000 <sup>th</sup> BIRU Journey	Total	2																							
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18	Internal workshops/ meetings organized	<i>National:</i> 1. Admin and Finance Staff Meeting, Jakarta 15 <sup>th</sup> – 16 <sup>th</sup> January 2015 2. Quality Inspectors Meeting, Jakarta 16 <sup>th</sup> – 17 <sup>th</sup> February 2015 3. Provincial Coordinators Meeting, Jakarta May 27 <sup>th</sup> – 29 <sup>th</sup> May 2015 4. Quality Inspectors Training, Mojokerto 25 <sup>th</sup> – 28 <sup>th</sup> August 2015 5. Quality Inspectors Meeting, Jakarta 26 <sup>th</sup> – 27 <sup>th</sup> November 2015 6. Admin and Finance Staff Training, Jakarta 16 <sup>th</sup> – 18 <sup>th</sup> November 2015 7. Annual Meeting, Ciwidey 15 <sup>th</sup> -19 <sup>th</sup> December 2015																																				
19	No of coordination and consultation meetings with Gol	<table><tr><th colspan="2">Province</th><th>Number of activities</th></tr><tr><td colspan="2">National</td><td>4</td></tr><tr><td colspan="2">Lampung</td><td>1</td></tr><tr><td colspan="2">West Java</td><td>8</td></tr><tr><td colspan="2">Central Java &amp; DIY</td><td>5</td></tr><tr><td colspan="2">East Java</td><td>1</td></tr><tr><td colspan="2">Bali</td><td>1</td></tr><tr><td colspan="2">NTB</td><td>1</td></tr><tr><td colspan="2">NTT</td><td>2</td></tr><tr><td colspan="2">South Sulawesi</td><td>19</td></tr><tr><td colspan="2">Total</td><td>42</td></tr></table>			Province		Number of activities	National		4	Lampung		1	West Java		8	Central Java & DIY		5	East Java		1	Bali		1	NTB		1	NTT		2	South Sulawesi		19	Total		42	
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# 1. Introduction



This is the 2<sup>nd</sup> Annual Report of the Indonesia Domestic Biogas Programme (IDBP) to be submitted to the Royal Norwegian Embassy, for the period of January – December 2015. This report highlights the achievements of the expected results from 2015 activities in accordance with the project agreement between HIVOS and the Embassy.

Based on the HIVOS proposal, 1,000 bio-digesters would be installed with the funding from the Norwegian Embassy in the year 2014. Up to December 2014, 1076 bio digesters or 108% of the targeted digesters have been installed. Another commitment was made until June 2015 to build another 1000 digesters. As of August 2015, a total of 1,054 units or 105% of targeted digesters have been installed in 5 provinces.

In 2015, another 1,324 units with support from EnDev programme have been installed in five provinces, reaching a total of 4,030 EnDev programme funded digesters since 2013 or 101% from 4,000 targeted digesters. The program implementation is explained in detail below, based on the agreed framework.



*A user get free lightning from biogas lamp for daily needs in East Java*

## 2. Programme objectives

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### Overall Objective

The IDBP proposal presents its overall objective as follows: “to contribute to economic prosperity, and support the development of a green economy and mitigation of climate change in Indonesia through the scale up of a national domestic biogas sector development programme to improve waste management and emissions reduction in the livestock and dairy sector.”

The programme aims to expand the use of bio-digester technology by farmers in order to improve the waste management leading to reduction of greenhouse gas emission. The emission reduction calculation is done through a methodology approved by the Gold Standard Foundation. Proper and effective biogas sector development implies the close cooperation of relevant stakeholders (government, non-government and private sector) at all levels and that those stakeholders are sufficiently equipped to fulfil the necessary respective functions. The expansion of the biogas adoption by more farmers will create job opportunities in the biogas sector (contractors, masons, input suppliers, training institutions and the users themselves) and in the long run will help to support the protection of ecosystems and biodiversity as well as public health through reduction of indoor air pollution.

### Specific objective

To promote the development of a market-oriented domestic biogas sector that provides access to affordable clean energy for livestock and dairy farmers through the dissemination and application of biogas technologies, with support for access to finance and enabling policy environment.



### 3. Institutional setting



This second phase of the Indonesia Domestic Biogas Programme is partially funded by The Royal Norwegian Embassy under a Grant Agreement d.d. 4 December 2013, which was extended in 2014 until the end of 2015. The IDBP has an Implementation Agreement d.d. 10 July 2014 with the Directorate of Bio-energy at the Directorate General New Renewable Energy and Energy Conservation under the Ministry of Energy and Mineral Resources of the Republic of Indonesia. In implementing IDBP, Hivos receives technical support from SNV and works directly with a national non-government organization Yayasan Rumah Energi (YRE). Apart from funding from the Norwegian Embassy, IDBP also receives funds from the EnDev Programme and in December 2015 funds were committed by MCA-I for further development of the programme in selected provinces.

A National Biogas Advisory Committee was established in July 2011. The mandate of the Committee is to monitor programme progress and endorse initiatives, including representatives of relevant government agencies, DGNREEC, civil society and the supporting donors. The Committee meets bi-annually.

In 2009 the programme established a National Biogas Programme Support Office (NBPSO) to support the Provincial Biogas Programme Offices (PBPO). The Provincial offices are responsible for local implementation, and are tasked to synchronize and liaise with provincial and district Energy agencies and cooperate with BAPPEDA (local development planning branches) and other relevant government agencies at province and district levels. Other tasks of the PBPO include: biogas promotion, capacity building and development of the biogas sector, quality control, slurry extension and gender mainstreaming.

Through its mandate to develop a market-based and sustainable biogas sector, IDBP has entered into participation agreements with over 60 construction partner organizations (CPOs) which are groomed to provide high-quality biogas digesters to cattle farmers interested in investing in biogas. The PBPOs provide assistance and have an inspection role in order to ensure quality and continuity in the development of the biogas services in each target region.

By 19 November 2012, as an effort to ensure local ownership, HIVOS established Yayasan Rumah Energi (YRE), which has become Hivos' direct implementing partner. YRE is gradually taking over the key responsibilities of IDBP. With this change, HIVOS and SNV take on a more focused role in managing and supervising the programme and strengthening YRE as an institution. YRE branches in the provinces also serve as PBPOs for IDBP. The PBPOs have provincial consultation meetings with local government offices and stakeholders twice a year.





## 4. Overview January – December 2015

### 4.1. Expected result 1:

**2,000 livestock farming households have invested in their own quality assured bio-digester from certified providers, and implement improved waste management practices that reduce the environment and social impacts of production and consumption.**

#### 4.1.1. Indicator: 2,000 digesters installed in 10 provinces in line with IDBP standards for construction, appliances, user training, aftersales services and inclusion of women

Based on the proposal, 1,000 bio-digesters would be installed with the funding from Norwegian Embassy in the year 2014. Up to December 2014, 1,178 bio digesters or 118% of the projected digesters has been installed. Through an amendment a commitment was made to build another 1,000 digesters by the end of August 2015. Finally, more time was given and by December 2015, a total of 1,054 units or 105% of targeted digesters has been installed in 5 provinces. In 2015, another 1,324 units with support from the EnDev Fund has been installed in four provinces in Java, and after August 2015 in additional provinces. This made a total of 4,030 Endev funded digesters since 2013 or 101% from the 4,000 targeted digesters. Detail of program implementation is explained in detail below, based on the agreed framework. EnDev has committed to continue its support after 2015 with an amount of EUR 300,000, while the Norwegian Embassy was only able to add NOK 2,000,000 (ca. EUR 21,000) to the budget by the end of 2015.

*Tabel 1. Bio-digester construction supported by Norway and ENDEV 2013-2015*

No	Province	Norway		ENDEV			Norway –Endev
		2014	2015 (by August)	2013	2014	2015	2013-2015
1	Bali	172	99			13	284
2	West Java				276	66	342
3	Central Java				590	491	1,081
4	East Java			915	925	300	2,140
5	Lampung	80	111			75	266
6	West Nusa Tenggara	675	282			131	1,088
7	East Nusa Tenggara	37	192			92	321
8	South Sulawesi	214	370			156	740
	Total	1,178	1,054	915	1,791	1,324	6,262
	Proposed	1000	1000	4000			
	% achieved	118%	105%	101%			

During 2015 the total number of digester constructed was 2,378 units or 119% of total targeted bio-digester constructed in 2015. IDBP notes that the pace of bio-digester construction has turned to a considerably slower rate, which is partially caused by the limited access to suitable credit schemes for poorer segments of the livestock farmers with low financial capacity in the previously successful target province of East Java.

Addressing the above concerns, IDBP through YRE had reached an agreement with PT Nestle Indonesia in December 2015 on providing *additional subsidy for 800 biogas users during 2016 and 2017, particularly for low income farmers. It is expected that the additional subsidy scheme will invigorate the rate of construction in East Java.*

*An increased involvement of the Indonesian government and private sector is experienced, especially with regard to the increased financial support from non-government and government entities contributing positively to the construction rate in Lampung, South Sulawesi and West Nusa Tenggara (NTB) throughout 2015. In Lampung, the cooperation with the PLN (State Electricity Company) under its corporate social responsibility scheme, contributes positively to the improved output through the completion of 40 units of bio-digesters in the Districts of Central Lampung (12) and East Lampung (28). It is worth noting here that despite the relatively small number of bio-digesters constructed under cooperation with PLN, the initiative contributes significantly to expanding IDBP message to the broader stakeholder in the energy sector. More importantly, the cooperation set off the way for further potential 100 biogas digester to be built in 2016 under this cooperation.*

*Furthermore, increased government contribution was also evident in South Sulawesi and West Nusa Tenggara. In these two provinces IDBP managed to establish co-financing models with provincial and district governments. It is expected that the current cooperation will continue in 2016 to cover other districts in the two provinces. In maintaining the strategic cooperation with the government, continuous monitoring and coordination meetings with broader stakeholders is on the agenda for South Sulawesi and West Nusa Tenggara.*





## SECURING GOVERNMENT CONTRIBUTION IN THE BIOGAS SECTOR: FINANCIAL CO-SHARING MODELS IN THE IDBP



Since the biogas technology was first introduced in the 1970s, the Gol, primarily through the Department of Agriculture and the Ministries of Cooperatives and Environment had managed to secure the completion of over 3,000 bio-digesters. An additional 2,000 biogas installations were completed under the initiatives of local governments in Java during the 1980s. During this construction period, the Gol provided considerable grants to the households for obtaining a biogas installation. Unfortunately, those heavily subsidised biogas units were mostly ill-maintained and thus abandoned by most of the households.

The inappropriate subsidy scheme is thought to be one contributing factor in the sluggish expansion of the biogas sector in Indonesia. Yet, at the preparation of IDBP it was identified that subsidy would still be an important factor in developing the biogas sector. A baseline study in 2008 found that capacity and willingness to pay for biogas installations was strongly related to the availability of credit and the perceived return on investment for farmers with the financial internal rate of return being 19%. For those using firewood, it was estimated that this would require a subsidy of IDR 2,000,000 (then EUR 167) – between 23-37% of the cost of a biogas digester, depending on its size.

Intensive discussion with DGNREEC and local governments were organized to come up with appropriate scheme towards securing government financial contribution in the expansion of the biogas sector. Innovation such as the procurement of IDBP digesters through the central government Bantuan Langsung Material (Direct Material Support) was done in East Java in 2012. Similar hybrid-like models have been developed in cooperation with the government in other areas, such as in NTB and South Sulawesi.

In NTB, the IDBP through HIVOS signed a cooperation with the Provincial Government and the District Government of Lombok Utara in 2012. The cooperation laid a solid foundation for a co-sharing financial scheme between the IDBP and the local government. This cooperation model reduces the actual percentage of farmer input considerably, but they ensure high quality digesters which are properly maintained and monitored. In South Sulawesi the program is now working the government to access Dana Alokasi Khusus (Special Allocated Funds) for biogas in selected districts.

*It should be noted here however, that despite the growing interest of government agencies in contributing to development of the biogas sector within the framework of IDBP, there is still much to do in bringing awareness to the communities. In this regard, promotion to potential biogas users to invest in bio-digester and consideration for economic and social well-being improvement as the utmost efforts in securing the establishment of market-based biogas sector in Indonesia are required.*

Biogas installations are provided by CPOs, with quality control maintained by the IDBP Programme team. Besides user trainings the CPOs provide After sales services in the form of maintenance visits, and a 3-year warranty is included in the IDBP quality insurance scheme.

Included in the quality insurance strategy is the provision of trainings on biogas plant construction for masons and supervisors. These hands-on trainings, which are key to ensuring construction quality, take around eight days and are attended by twenty masons and supervisors nominated by CPOs who receive a certificate from BIRU after the training is successfully finalized.

With reference to the IDBP Biogas User Surveys (BUS), the current functioning rate of IDBP biogas is 97.5 %.

The project requires construction partner companies to conduct after sales service visits, as part of the three years guarantee of construction. First ASS has to be done 9 months (at minimum) after digester completed and Second ASS has to be done 9 months (at minimum) after first ASS. 60% of total digester since 2009 has been visited for After Sales Service (ASS).

Table 2: ASS (After Sales Service) conducted in

No of Digesters		Visited for ASS 1 (9 month After Sales Service)		Visited for ASS 2 (18 months After Sales Service)	
Digester Year	No of digesters	No of digesters	% of ASS1	No of digesters	% of ASS2
2009	62	58	88	T29	44
2010	1,586	1,573	99	1,275	81
2011	2,995	2,919	97	1,938	65
2012	3,350	3,160	95	2,374	71
2013	3,268	2,757	84	1,463	45
2014	2,958	1,963	66	81	3
2015	2,378	91	4	0	0
Total	16,597	12,521	75	7,160	43

#### 4.1.2. Indicator: At least 30% of participants in community awareness meetings for the promotion of biogas are women

Through the implementation of IDBP it is expected that livestock farming households will invest on their own assured bio-digester which will contribute to the improved waste management practice. To support this, IDBP allocates considerable resources on community awareness raising activities. Of particular importance, the CPOs are expected to deliver the message through promotion meetings to the potential biogas users. From January up to December 2015, 361 awareness meetings have been conducted in 10 provinces where IDBP is implemented.

IDBP considers women groups as central player in bringing awareness to the communities through community meetings and trainings. It is recorded that out of 22,850 participants, the women representation is 43% (9,819). The high percentage of women participating in these meetings mainly comes from the provinces of West Java, Central Java, DIY and Bali.



**IDBP PROFILE: MS RUMINIYATI OF UDANWUH VILLAGE, CENTRAL JAVA**

Awareness raising is not simply a matter of telling people on what supposed to be the right thing to do towards improving their well-being. Nor it is about offering new tools for the sole purpose of replacing the old ones that is deemed obsolete. It is more on working together with the communities in identifying and making the best use of resources available within their proximities towards reducing their vulnerability. More importantly, it requires high endurance for the awareness raising efforts to be successful.

It was Ms Ruminiyati from Udanwuh village in Central Java experience in convincing her neighbors to have bio-digester built in their farm taken as a good example. As an owner of a quail farm, she received complaints from her neighbor concerning the smell of poultry waste from her backyard. Determined to resolve the problems and having heard about IDBP, she invited neighboring stock farmer to seek the information on how to get the bio-digester installed in their village.

Yet good intention only did not necessarily make her effort easy.

Objection to the idea was abundant as the villagers were ill-informed about biogas. Furthermore, her plan to access the financial support from the Community Empowerment National Programme (*Program Nasional Pemberdayaan Masyarakat Mandiri/PNPM Mandiri*) received more opposition from village officials under the notion that the PNPM fund should be administered by village officials. Those did not make the 43-year-old woman give up.

Following a series of s in convincing her fellow poultry farmers, she finally had a 12-cubic-meter biogas digester built in 2014 partly supported by PNPM funds which serves five households with clean energy.

She has since shown great leadership in providing bio-digesters for 15 households, which was acknowledged by the Semarang regent. Now, with 6,000 quails, Ms Ruminiyati and family get free biogas for cooking. They also have started to use the bio-slurry for chili and tomato plants. Now she is running a packaged liquid bio-slurry business and sells each liter for Rp 30,000. She created a group especially for bio-slurry business, called Women Farmer Group Udanmas, meaning “gold rain.”

“Udanmas is expressing my hope, that this ‘waste rain’ village turns into “gold rain” in the future,” she said.

#### **4.1.3. Indicator: 100% HH at least one person receives user training; in at least 50% of HH a woman receives user training**

The BIRU program has paid ample attention to user training to ensure proper operation and maintenance, which contributes to sustained use.

In 2015, 1,594 users participated in the user training, some users who own bio-digester from previous years. Of the total of 2,378 biogas constructed in 2015, there were 648 user participated in the user training, 445 are male (69%) and 203 (31%) are women.

Since 2009, the IDBP user trainings participated by 11,929 households representatives or 72% from a total of 16,597 bio digesters up to date. Out of 11,929 training participants, 8,356 were male (70%) and 3,573 female (30%).

To increase participation of women in the user training, the program has increased gender sensitiveness, through choices of training time, targeted training invitations and training materials that attract women.

#### **4.1.4. Indicator: 150 masons and supervisors trained and certified in digester construction and maintenance**

In 2015, 98 masons and 12 supervisors received participated in the biogas construction training. Since 2009 the number of trained persons are 1,105 masons and 188 supervisors. So far, around 30% are still actively involved in construction of digesters. As masons training is one of the key part to ensure the good quality

construction of bio-digester, the IDBP will continue to work to develop a pool of skilled and qualified personnel building biogas digester.

**4.1.5. Indicator: At least 65% of HH sell or apply bio-slurry for agriculture or fish rearing in a proper manner; at least 30% of bio-slurry processing/trade is conducted by women**

The Annual Biogas User Survey (BUS) of 2015, 74% of the biogas users are using bioslurry as organic fertilizer. The gender of the bio-slurry users was not yet recorded in the BUS survey, but the project was able to identify women players through the business groups as reported in sub chapter 4.2.4.

From the 2015 bioslurry users training data, we see that 40% of the participants are female, indication of women interest in using bioslurry as an extra benefit. Details of the bioslurry users in 2015 will be monitored during the ASS (After Sales Service) 1 and the ASS2.

Table 3. Number of participants of Bio-slurry trainings in 2015

No	Province	Participants of Bio-slurry Training	
		Male	Female
1.	West Java	24	16
2.	Central Java and DIY	525	330
3.	East Java	609	415
4.	Lampung	102	75
5.	NTB	20	21
Total		1,280	857

**4.1.6. Indicator: 100% of targeted Quality Inspection visits completed (10% during construction; 15% after construction; 5% after ASS visits) and logged on program MIS**

IDBP Provincial teams are responsible for monitoring activities, liaison with government, partnership monitoring and quality control. The Quality Inspector staff at provincial level is charged with the task to monitor appropriateness and quality of biogas construction, and support collection of preconstruction agreements, household agreements, completion reports, after sales services reports and quality inspection reports. CPOs are receiving part of the incentive subsidies when they do these After Sales Service visits, which ensures that the users obtain proper support. The following table presents how many after sales service visits have been undertaken during 2015.

Table 4. IDBP Quality Inspection (Quality Checklist) in 2015 from total 2,378 biogas digesters

Quality Inspection During Construction in 2015		Quality Inspection After Construction in 2015	
Target (10%)	Achieved	Target 15%	Achieved
237	56	357	505

As can be seen from the table most of the recorded visits have taken place after construction and before ASS has taken place. Visits during construction and after the ASS were below target, while the overall number of visits was slightly below target: 604 out of 712 (85%). The project has to check at least 27% of the digesters, while in 2015 604 of 2,378 digesters were checked (25%). Provincial Coordinators have been instructed to increase the number of inspections, especially during construction and after the ASS visits have taken place. (It should be noted that the actual number of visits during construction is actually much higher, but not all these visits are recorded.)

## 4.2 Expected result 2:

**The biogas sector has moved from demonstration to replication through increased capacity of existing and new providers to service the sector, with the adoption of product and service standards, quality assurance and monitoring, linkage to finance, and engagement of business intermediaries and partners in sector development.**

### 4.2.1. 20 BSPs have established Participation Agreements and adopt IDBP Standard Operating Guidelines

In 2015, total 60 partners were registered as IDBP Construction Partners Organization (CPO) in which 17 of them are new partners, joining the project in 2015.

Table 5. List of new CPOs of 2015

No.	Name of new CPO	Province
1.	Yayasan Mata Hati	West Java
2.	Yayasan Kontak Indonesia	West Java
3.	Koperasi Peternak Garut Selatan	West Java
4.	KUD Puspa Mekar	West Java
5.	CV. Tiara Wibawa Perkasa	Central Java
6.	CV. H&B Putra Mandiri	Central Java
7.	LSPI At-Tayseer	Central Java
8.	CV. Nur Indah Karya	South Sulawesi
9.	CV. Pratama Butiti Jaya	South Sulawesi
10.	CV. Mega Muliya	South Sulawesi
11.	CV. Joy	Sumba (NTT)
12.	Lembaga Sosial Waimaringi	Sumba (NTT)
13.	Yayasan Harapan Sumba	Sumba (NTT)
14.	Yayasan Satu Visi	Sumba (NTT)
15.	Yayasan Forum Perempuan Sumba (Foremba)	Sumba (NTT)
16.	Pinbuk Banten	West Java
17.	CV. Bina Energi Mandiri Persada	Central Java

### 4.2.2. 20 BSPs have received technical support and capacity building for business and institutional development

The first quarter of 2015 proved to be quite challenging for IDBP. 17 new partners were recruited. The newly recruited partners needed intensive support especially in the digester marketing and promotion, construction and the administrative process. In addition to the 17 new partners, 50 existing partners also required intensive assistance and monitoring, especially in the marketing efforts they undertook, as well as access to credit. Old and new partners were in areas where a credit facility is not available. BIRU facilitated these partners as from 2014 to access loans from KIVA, a micro-finance institution from the U.S. In 2015, IDBP facilitated seven partners to access Kiva loans.

### 4.2.3. 24 local Lending Partner Organizations (cooperatives, BRP, MFI) are linked to credit providers to channel loans for smallholder livestock enterprises.

One prominent challenge in promoting development of a market-oriented domestic biogas sector is that most of the livestock farming households are lacking cash to pay upfront for their bio-digester. In general, households can only secure a considerable amount of cash after crop harvesting season, which is usually

already allocated for the payment of inputs bought before the harvest. Also, unfortunately large segments of the biogas target market in rural areas do not have access to credit with affordable rates of interest.

Within this context it is of particular importance for IDBP to link up with credit support providers. Since 2010, IDBP manages to establish partnerships with 25 lending partners (see annexes) as biogas credit providers, such as Nestle, Rabobank Foundation, KIVA, Credit Union, and other institutions. Through these partnerships, the total loan amount of IDR 37,853,733,988 (equal to EUR 2,499,091) has been disbursed to the biogas users in 10 provinces.

In 2010 IDBP through HIVOS signed an agreement with Nestle to allocate a portion of its corporate social responsibility fund for members of Nestle dairy cooperatives through a financial scheme. Under this agreement Nestle provides interest-free loans for the cooperatives member who are interested in obtaining their own bio-digester.

In 2015, Nestle interest-free loans only reached 90 farmers to construct bio-digesters, showing signs of saturation among Nestle milk suppliers. The total loan amount that has been disbursed during this year amounted to IDR 549,724,984 (equal to EUR 36,293). In total, the NESTLE-IDBP partnership has disbursed a total loan amount of IDR 24,200,136,575 (equal to EUR 1,597,685) to 5,189 dairy farmers in East Java province. In an effort to reach the poorer segments of the milk cooperatives PT Nestle has taken the initiative to make an incentive subsidy available as a match to the IDBP subsidy. The initiative will start in 2016 and the funds are channeled through Hivos-partner YRE.

In 2010, a partnership between HIVOS and Rabobank Foundation (RBF) was also established. From 2010 to 2015, RBF and its partners have supported 1,121 farmers to access credit for biogas (West Java and Central Java). The total amount of disbursed loans is IDR 5,118,499,500 (equal to EUR 337,921). In 2015, the loans from RBF have supported 33 farmers to obtain their biogas digester with the amount of IDR 221,508,506 (EUR 14,624) in West Java and Central Java Provinces. These loans are channeled through Rabo Bank International Indonesia to their selected dairy cooperatives partners with a 3-5 year repayment period and 8% interest rate per year. Most of the RBF Lending Partners are dairy cooperatives.

In June 2014, IDBP through Yayasan Rumah Energi (YRE) has officially partnered with KIVA; a U.S. based non-profit organization with the mission to connect people through lending to alleviate poverty by means of leveraging the internet and a worldwide network of microfinance institutions. As such, KIVA works through global networking that allows people to lend money via internet to low-income/underserved entrepreneurs in over 70 countries. The goal in this partnership is for IDBP (through YRE) to be able to reach potential farmer groups who live in remote areas and/or cannot be served by the usual commercial banking schemes.

Through YRE IDBP is channeling KIVA loans through the construction partners (CPOs). Since its commencement in September 2014, with a USD 50,000 credit limit, YRE is channeling KIVA biogas credit to Central Java, South Sulawesi, Lampung, West Nusa Tenggara and Yogyakarta Provinces users. The loans have supported 153 farmers to have their bio-digester constructed, with a total loan amount of IDR 844,000,000 or EUR 55,720.6.



Table 6: Kiva loans disbursement 2014-2015

IDBP Working Area	KIVA Borrower	Loan Disbursed	
		IDR	EUR
Central Java	37	222,000,000	14,656.37
South Sulawesi	5	15,000,000	990.30
Lampung	49	294,000,000	19,409.78
NTB	41	236,500,000	15,613.65
Jogjakarta	21	76,500,000	5,050.51
<b>Total</b>	<b>153</b>	<b>844,000,000</b>	<b>55,720.60</b>

In 2015 the demand for KIVA loans increased significantly. The credit facility has supported 123 farmers to construct biogas in 4 provinces. Of particular importance, KIVA loan repayment runs smoothly and there are no delinquents reported so far. The repayment methods preferred by biogas users are monthly, every 3 months and every 4 months. The last two repayment methods are in accordance with harvesting time<sup>1</sup>.

In response to the increased credit demand, IDBP through YRE proposed to KIVA to increase the credit limit up to USD 200,000. In 2015 the increased tiers were not approved, as Kiva is looking for more financial security in YRE, which YRE should demonstrate in the mid of 2016. In response to the high demand for Kiva loans, and securing more loans for bio-digesters in 2015, YRE is seeking a partnership through Indonesian MFI's that have become Kiva Field Partners in Indonesia.

Another effort to extend the range of credit facilities is continued through approaching National Based Networking MFIs such as Credit union and Sharia Cooperatives. In July 2015, IDBP through YRE signed a MoU with Inkopdit (Patron of Indonesia Credit Union Cooperatives/CUCO) to construct 1,500 bio digesters and bio slurry related businesses to Credit Union (CU) members in IDBP work area within two years. Inkopdit through Puskopdit (CU Provincial Coordination Office) and primary Credit Unions are committed to look for potential farmers among its member who are interested to build a bio digester. Credit Union will implement their own funds in the form of a productive credit facility, with an interest rate of 18% p.a. and maximum 18 months repayment. IDBP constructing partners (CPOs) will perform the bio digester construction, based on their nearest location to a CU member.

The implementation of the partnership kick-started through a Cooperation Agreement with Puskopdit Lampung in 2015 which was followed by provision of biogas credit support to 2 members of a Primary Credit Union in Lampung Tengah. If successful, this cooperation will be expanded to West Java, Central Java, Jogjakarta, East Java, Bali and NTT (Sumba).

#### **4.2.4. 100 entrepreneurial operations established and active in the processing and sale of bio-slurry; at least 30% of bio-slurry operations are run by women**

IDBP have successfully introduce bio-slurry business to 150 entrepreneurs, from seven business groups in Java and Sulawesi, based on this data, there are 30% of bio slurry processing or selling conducted by women.

The concentration of women business activities are mostly in West Java and Central Java. There are 10 women participating in the vermin/compost business in West Java, and 35 female entrepreneurs in Central Java. The vermin and compost production, fish fodder mixture, and compost to be sold as organic fertilizer. In Central Java, the women produce liquid fertilizer, using quail's bio-slurry. The bioslurry business is possible since (i) the site location is near the houses so it is easy for the women to taking care their children,

<sup>1</sup> It is common practice for small farmers to schedule the payment of their debts at the time of crop harvesting period. The practice is known as Yarnen/ bayar setelah panen (pay after harvest)

(ii) the technology for producing liquid organic fertilizer and composting is easy and simple, and (iii) the production cost is low.

Table 6. Bioslurry Business Development by Farmer Groups

No	Province	District	Product	Group Name	Number of Member		
					F	M	Total
1	West Java	Lembang	Vermin-compost	Karya Ibu	10	0	10
2	Central Java	Kab. Semarang	Liquid fertilizer	KWT Udan Mas	35	0	35
3	East Java	Malang	Worm cultivation	Kelompok cacing KUD Karang-ploso	0	68	68
4	South Sulawesi	Bone	Liquid fertilizer	Waji Mandiri	0	5	5
		Maros	Liquid fertilizer &	Koperasi Serba Usaha Bulu- saukang	0	10	10
			Solid fertilizer				
		Bulukumba	Liquid fertilizer	Kelompok Tani Ternak Multiagro	0	12	12
			Solid fertilizer	Padaidi	0	10	10
Total				45		105	150

#### 4.2.5. Local foundation YRE is recognized by government as a core actor in biogas sector development in Indonesia

Recognition by the government for the role of YRE will significantly contribute to reaching a sustainable biogas sector in Indonesia. While Hivos, and als SNV, has provided considerable support for the institutional and organizational development of the agency, YRE has worked also intensively to gain a key position in the biogas sector. This was done by participating in many coordination meetings and events with the government (such as EBTKE Connect), but also through YRE branding for example through celebrating 15,000 digesters with additional support from local government. YRE has received various invitations from the government, for example to participate in Bioenergy Week Forum, and YRE was endorsed by DGNREEC to participate in the Zayed Future Energy Prize. In many government involved meetings in biogas, YRE was presented and acknowledged as Hivos's key BIRU implementing partner. Hivos has a staff member working part-time at the Indonesian Ministry of Energy and Mineral Resources, advocating for Hivos' renewable energy activities.

YRE is strategically seeking for financial security to be able to continue its efforts in establishing the biogas sector in Indonesia. 25% of its asset were invested in a business entity, by August 2015. The company is registered to the Ministry of Justice and Human Rights. After all papers were done in early 2016, the company is ready to operate and expected to support its mission in further developing the biogas sector in Indonesia.

#### 4.2.6. Five new biogas appliance designs are developed, tested and certified for use.

In order to be fully operational well and to ensure sustained use, the BIRU biogas digester requires 8 different appliances: mixer, galvanized gas pipe, main gas valve, water drain, kitchen gas tap, manometer, stove and (optional) a gas lamp.

Prior to the IDBP, none of the essential biogas appliances for the proposed biogas installations was manufactured locally. As such, the IDBP supports the research and development of biogas appliances. All these appliances, except for one, are now produced in Indonesia by different manufacturers and approved by BIRU. Only the main gas valve is still imported, but can be bought easily throughout Indonesia. Thus



far, the IDBP has approved five different biogas cooking stoves and two biogas lamps manufactured by various suppliers. A number of companies now also manufacture and sell items like water drains, gas taps and simple manometers. Currently, only two biogas stove manufacturers are supplying the IDBP after they passed the efficiency test and have thus been recognized and standardized by the IDBP in 2015.

In 2015 the IDBP agreed to support LSPI At-Tayseer (one CPO in Rembang, Central Java) to develop a biogas appliances manufacturing workshop which resulted in the production of two appliances: biogas gas tap and a metal pipe conjunction. At the moment the workshop is in the process of designing a standard biogas stove which is expected to be approved by IDBP for production in mid-2016.

Other research by IDBP in 2015 is the biogas purification appliance to reduce H<sub>2</sub>S, and CO<sub>2</sub> within the biogas. A manual book on how to manufacture the appliance is now available. Further, by the end of 2015 the IDBP also supported the research by students of Bogor Agricultural Institute on tofu waste bio-digester. The purpose of the research is to investigate the exact retention time and the percentage of biogas that can be produced by the tofu production waste. It is expected that the research will finish by the end of March 2016. Finally, IDBP works together with Yogyakarta Agriculture Institute – INSTIPER to study efficiency of biogas energy used in the preliminary design of a biogas generator set. The output of the research is a prototype of a biogas generator-set by the end of March 2016.

### 4.3. Expected result 3:

**Establishment of enabling policy environment for a sustainable biogas sector, through the development of new funding models for government interventions, standardization of biogas appliances, and establishment of a Domestic Biogas Expertise Centre**

#### 4.3.1. Two (2) biogas appliance designs (e.g. stove, lamp) are standardized and registered by the Indonesian government

The national government has relied heavily on inputs from the IDBP in standardizing the biogas fixed dome reactor design. In particular, the success of the programme in constructing large numbers of functional digesters, which attract user satisfaction ratings in excess of 90%, has been instrumental in convincing national and local governments of the benefits of fixed dome digesters over other less satisfactory designs.

Biogas appliances improvement and testing was continued in this period. 4 types of stoves were tested by Institute Technology Sepuluh November, which were found to have more than 50 % efficiency. This criteria meets the Indonesian Government national standards that are stated in the National Standard of Indonesia (SNI 7368:2011) used for thermal efficiency level. Based on the efficiency results, competitive price and attractive looking, these stoves are recommended for user, however continued monitoring on the performance will be carried out, including through bi-annual Kitchen Performance Tests (KPT).

#### 4.3.2. National and/or local governments allocate funds to support market-based domestic biogas dissemination

The Directorate General for New Renewable Energy and Energy Conservation (DGNREEC), Directorate Bio-Energy, of the Indonesian Ministry of Energy and Mineral Resources (MEMR) is a key national counterpart for the IDBP. The DGNREEC chairs the six-monthly BIRU programme Advisory Committee meetings. The government has allocated funding and provided hands on support for the implementation of activities, including setting up follow up meetings with stakeholders in different provinces promoting the BIRU programme.

In addition to the role of the national government, BIRU should express its appreciation to the local governments in NTB and South Sulawesi for their role in developing innovations on co-financing scheme for biogas dissemination. The IDBP is aware however, that although the current co-financing models with local governments provides a supporting environment for business development of CPOs, it is of particular

importance for those CPOs to swiftly improve their management capacity in moving forward to access the local government tender procurement for biogas promotion in the near future.

In the first semester of 2015, the provincial government of West Nusa Tenggara and South Sulawesi have made a commitment to allocate a total of EUR 295,293 (IDR 4,134,102,908), to support domestic biogas. With the fund, 705 farmer households will get access to BIRU digesters. Some of the provincial and district government use co-financing mechanism where farmers and BIRU still contribute to the total price of a digester. However, some local governments are still unwilling to apply the system due to the nature of the funding sourced from the State Budget which does not allow to be used as a matching fund. The details of the allocated funds from the government is explained below.

*Tabel 7. Government Agencies Financial Contribution for Bio-digester Construction in 2015*

Province	Name of Agencies and Allocated Fund	Units of biogas
Lampung	State Electricity Company (PLN) EUR 8,571 (IDR 120,000,000)	40
South Sulawesi	DGNREEC EUR 242,857 (IDR 3,400,000,000)	400
	Department of Energy and Mineral Resources of South Sulawesi EUR 125,357 (IDR 1,755,000,000)	270
	Mining and Energy Agencies Barru District South Sulawesi 2015 EUR 43,628 (IDR 610,788,750)	67
	Natural Resource Management Agencies Ministry of Energy and Mineral Resources Wajo South Sulawesi 2015 EUR 42,743 (IDR 598,398,158)	65
	Maros District Government EUR 42,185 (IDR 590,590,000)	71
	Bantaeng District Government EUR 38,523 (IDR 539,326,000)	80
	Pangkajene Kepulauan Government EUR 14,113 (IDR 197,584,200)	30
Nusa Tenggara Barat	Provincial Energy Departments Ministry of Energy and Mineral Resources Lombok Utara 2015 EUR 128,214 (IDR 1,795,000,000)	422
West Java	Animal Husbandry Department of Bogor EUR 2,278 (IDR 31,897,800)	3

#### **4.3.3. Establishment and functioning of a Domestic Biogas Expertise Centre**

A Biogas Expertise Center was initiated in 2010 at the Ministry of Energy and Mineral Resources whose memberships are senior technical staff at the ministry. Within this center a Senior Biogas Advisor of SNV was assigned to provide training to those staff on various aspects of biogas i.e. technology, quality management, project management, monitoring, standardization and introduction on best practices on biogas projects around the region. As a result, a national biogas design and stove standards are available.

In 2015 IDBP with support of SNV completed the design of a medium scale digester (size 20m<sup>3</sup>, 50m<sup>3</sup> and 100m<sup>3</sup>), which is specifically targeted for medium/home industry; namely tofu factory and large livestock farming. In addition to designing the medium-scale biogas digester, IDBP conducted a range of research activities for the development of a tofu waste digester. The research aims specifically at determining the amount of biogas produced per liter of tofu waste and the level of reduction of Chemical Oxygen Demand (COD) and Biological Oxygen Demand as parameter of water pollution.

#### **4.3.4. National and local government, private sector and civil society engage actively in coordination of domestic biogas sector development, attending at least one regional or national coordination meeting annually**

An advisory committee meeting was organized in Solo, Central Java on 19 October 2015. In addition to the representatives of the local government agencies in the IDBP provinces, several local government representatives from other areas, namely West Kalimantan, South East Sulawesi and Jambi were also present to learn about the IDBP approach in biogas promotion. At the local level, the IDBP teams at the provinces maintain close coordination through regular coordinating meetings with the government and other stakeholders (see Annex 8 for list of meetings).



## 5. Other Relevant Activities

### 5.1. IDBP Carbon Credit Mechanism

The carbon credit mechanism is progressing. In 2015, a total 37,822.54 tCO<sub>2</sub>e is reduced from the construction of 14,219 units digesters, or 105,878.64 tCO<sub>2</sub>e from the total 16,597 units installed. With this amount of emission reduced, the BIRU program is able to monetize the carbon credit and used it for further development of biogas sector in Indonesia.

As an addition, IDBP started the process to attaining carbon credits derived from agricultural activities that have contributed to carbon sequestration. IDBP invited by the Gold Standard committee to test-case the generation of carbon credits through improved land use and use of local resources. Carbon credits can potentially be generated this way because the bio-slurry can be used to make organic fertiliser, which replaces chemical fertiliser and sequesters carbon in the soil.

In order to meet the monitoring requirements of the Gold Standard, BIRU undertook in 2015 a Kitchen Performance Test (KPT) that is supposed to be conducted once every two years, which aims to define the efficiency of biogas use compared with other fuels, and a leakage test to know whether the unused energy or high emitting energy (non renewable or fossil fuel) – because of declining usage among biogas users – induce non users to use high emitting energy more.

### 5.2. Market Survey (group 2)

In cooperation with the DGNREEC and in anticipation of the upcoming support of Millenium Challenge Account Indonesia (MCA-I) for biogas promotion and renewable energy, the possible expansion of IDBP to other provinces has been assessed in 2015 in 7 new provinces.

The market surveys in these new provinces, led by Hivos and YRE was conducted in 2 groups. The first Market Survey exercise was conducted during January to April 2015. The survey concluded with the provinces of Jambi, West Kalimantan and Southeast Sulawesi as potential areas for the development of IDBP.

During June to October 2015, another market survey was done in 6 provinces, namely North Sulawesi , NTT (outside Sumba), Central Kalimantan, Gorontalo, North Sumatera (Nias Island) and Bengkulu. The potential areas based on the second round of the survey are North Sulawesi, NTT (outside Sumba Island) and Bengkulu.

### 5.3. An enabling policy environment for gender inclusive development.

IDBP expanded the gender mainstreaming activities into each aspect of program implementation. BIRU program drafted and tested the Gender training to build a common understanding of BIRU Program and partners that gender plays a key role in program implementation. The purpose of the Gender training is to foster an organization-wide commitment to gender integration; to provide guidance on integrating gender into BIRU programming and using the GALS (Gender Action and Learning System) methodology. At the end of training the staff is expected to understand why gender is important in understanding causes, and impact of the BIRU program; able to integrate gender into the design, planning, monitoring and evaluation (DMEL); and able to undertake GALS for a specific gender analysis and identify interventions strategies to incorporate gender equality and women's empowerment in the program.



## 6. Challenges and lessons learned

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### 6.1 Creative way to prevent a Non Performing Loan.

The CPOs are responsible for the execution and administering of KIVA loan to the biogas user groups. In order to minimize the risk of non-performing loans, some CPOs, namely LKM Rukun Makmur (Central Java), Yayasan Mitra Membangun Masyarakat Sejahtera (NTB) and Lembaga Pengembangan Pertanian Nahdatul Ulama (Lampung) assign their staff to work with a borrowers group, creating a saving account for installment and collecting bio-slurry from each Kiva borrower to create bio slurry related businesses.

### 6.2 Expanding cooperation with local financial Institutions.

IDBP needs to perform more advocacy and start up partnerships with National Based MFIs Network such as Credit Union and Sharia Cooperatives and also commercial banking institutions to develop the biogas sector in Indonesia. This is useful because these institutions are linked with the government policy to increase 25% mix of Renewable Energy sector in year 2025.

### 6.3 Conduct advocacy to Indonesia Finance Authority (OJK) and Bank Indonesia.

IDBP needs to conduct advocacy to those GoI agencies, as financial institution policy makers. This advocacy should lead to build a recommending credit and policy scheme for commercial banks and micro finance institutions in developing the biogas sector in Indonesia. This activity will be conducted in 2016.





# Annex

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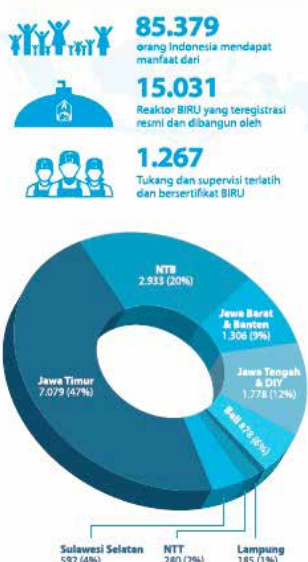
## Annex 1: BIRU Office addresses

BIRU OFFICE ADDRESSES			
No	Province	Address	Phone and Fax
1	Jakarta	Jl. Pejaten Barat No. 30 A Jakarta 12550	Ph : +62 21 7821090 +62 21 7821086 Fax : +62 21 7804443
2	West Java	Jalan Tanjidor No 19 Turangga, Bandung Jawa Barat	Ph/Fax : +62 22 7308287
3	Central Java	Jl. Diponegoro no 17 RT 005 RW 009 Karang Anom Klaten Utara 57437, Jawa Tengah	Ph Fax : +62272-325968
4	East Java	Jl. Bunga Monstera 21, Kelurahan Tulusrejo, Kec Lowokwaru, Malang, 65119	Ph : +62 271 -486737 Fax : +62 271 471053
6	West Nusa Tenggara & Bali	Jalan Kebyar Nomor 7 Mataram, Mataram - Nusa Tenggara Barat	Ph/Fax : +62 370 630580
7	South Sulawesi	Jl. Todopuli Raya Timur Kompleks Villa Surya Mas Blok E/03 Kel. Borong Kec. Manggala Kota Makassar - SULAWESI SELATAN	Ph/Fax : +62 411 831044
8	Lampung	Perumahan Bumi Puspa Kencana 3 Estate, Blok A no. 2, Rajabasa, Bandar Lampung	Ph : +62721-801 2903
9	Sumba	Jl. Ikan Hiu Samping TK Mutiara Perumnas, RT 41 RW 07 Kelurahan Kambajawa, Kecamatan Kota Waingapu, Nusa Tenggara Timur	Ph/Fax : +62387-2564534

## Annex 2: Promotion and Marketing Materials

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**Pencapaian BIRU**  
Mei 2009 - Juni 2015



Leaflet Sumba:



Folded Brochure BIRU:



Brochure KIVA:



Brochure Bio-Slurry:



Warta BIRU Vol. 4 - Newsletter:



BIRU T-Shirt:



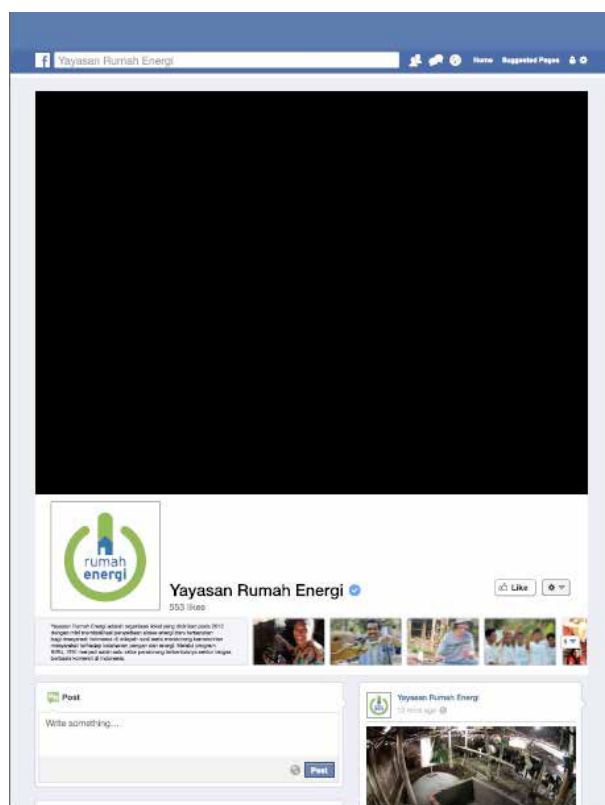
Banner Stakeholder Meeting Lampung:



Sticker Vinyl #PooPower - Sumba:



EBTKE Conex 2015 wall:



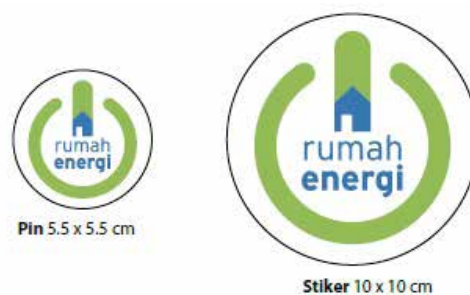
EBTKE Comex Goodie Bag:



EBTKE Conex Mug:



EBTKE PIN & Sticker YRE:





ID Plan Central Java:



BIRU 15,000 Journey Brochure:



BIRU 15,000 Journey Banner:



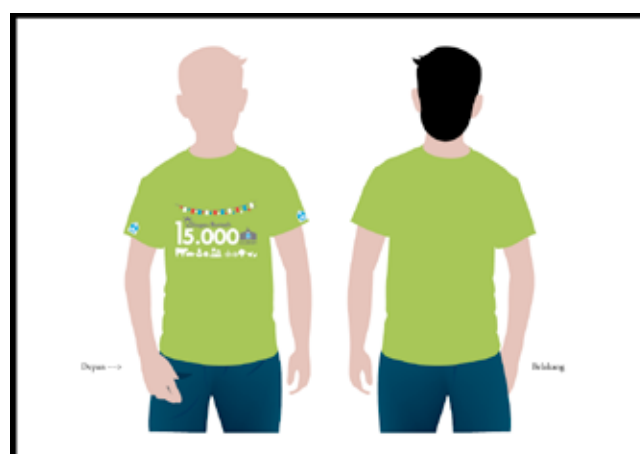
BIRU 15,000 Journey Backdrop:



BIRU 15,000 Journey Backwall:



BIRU 15,000 Journey Shirt:



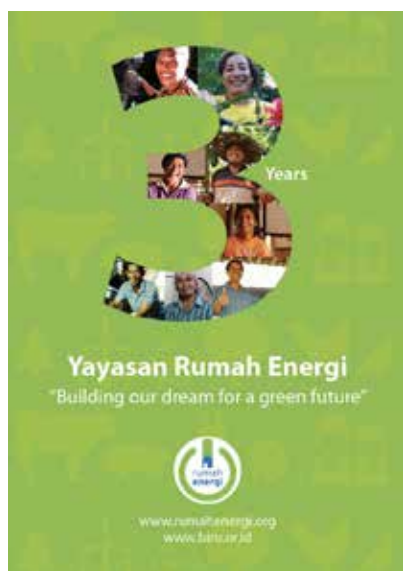
Season Greeting 2016



YRE Calendar 2016:



YRE Anniversary 2015 Banner:



Revamp BIRU Profile &amp; Factsheet:



## Lembar Fakta Program BIRU

Juni 2015

Hingga 30 Juni 2015

Jumlah reaktor yang terbangun di 10 Provinsi  
(112 kabupaten, 661 kecamatan)



Ikhtisar:

**95%** penduduk Indonesia masih menggunakan energi konvensional

**5%** sumber energi di Indonesia berasal dari energi terbarukan

Sekitar **1 juta** orang berpotensi menggunakan biogas

Total 18,3 juta Euro kontribusi donor pembangunan BIRU di Indonesia (2009-2015)	
Kedutaan Kerajaan Belanda	6.566.363 Euro
Pemerintah Indonesia	385.000 Euro
OEK - Belanda	240.000 Euro
Bank BNI/Go	90.90 Euro
EnDev (Australia, Jerman, Belanda, Norwegia, Inggris)	1.000.000 Euro
Kedutaan Norwegia	732.000 Euro
Hivos	1.537.491 Euro

Direktorat Jenderal BIRU Kementerian ESDM mendorong pembangunan Program Biogas di Indonesia. Program BIRU yang dilaksanakan oleh Hivos, SNV dan Yayasan Rumah Energi serta pemangku kepentingan lainnya.

**85.379 Orang** Indonesia mendapat manfaat dari penggunaan BIRU di 10 Provinsi Lampung, Jawa Barat & Banten, Jawa Tengah & DIY, Yogyakarta, Jawa Timur, Bali, Nusa Tenggara Barat, Nusa Tenggara Timur dan Sulawesi Selatan.

**15.031 Unit** reaktor BIRU telah terbangun sejak Mei 2009 hingga Juni 2015.

**1.267 Tenaga** pembangun dan pengawas telah dan bersertifikat BIRU dalam membangun reaktor biogas.

**Rp. 112,5 milyar** (7.545.364 Euro) investasi patok dalam bentuk uang tunai dan/atau bahan bangunan, dan tenaga kerja.

Kredit Pinjaman yang terdistribusi sebesar **Rp. 24 milyar** dari Nasdik, **Rp. 5 milyar** dari Rabobank Foundation, **Rp. 670 juta** dari Kiva, dan total lebih dari **Rp. 7 milyar** dari lembaga keuangan mikro lainnya.

Maksimalisasi Limbah Nouran ternak **721 ton/hari**.

Setiap reaktor biogas menggunakan gas rumah kaca sebesar **±2,6 ton CO<sub>2</sub>e/tahun**.



BIRU Book Dummy:



### Annex 3: List of Construction Partners

No.	Name of Construction Partners	Province
SME		
1.	CV Mitra Artha Utama	West Java
2.	CV Karsa Tekad Mandiri	East Java
3.	CV Qaryah Thayyibah	Central Java
4.	CV Sarana Sejahtera	Central Java
5.	UD Bontomarannu	South Sulawesi
6.	CV Fitria Jaya Abadi	Lampung
7.	Mandiri Energi Mason Group	East Java
8.	Sumber Makmur Mason Group	East Java
9.	Mandiri Mason Group	South Sulawesi
10.	Regol Mason Group	Lampung
11.	Abadi Mason Group	Bali
12.	Dewata mason Group	Bali
13.	Langit Biru Mason Group	East Java
14.	Mitra Sarana Kuba Mason Group	South Sulawesi
15.	Sangkareang Mason Group	NTB
16.	Boyolali Mason Group	Central Java
17.	CV. Bina Energi Mandiri Persada	Central Java
18.	CV. Jaya Perkasa Utama	West Java
19.	CV. Ritma Green Sinergy	South Sulawesi
20.	Paroso Mason Group	NTB
21.	Persada Mason Group	East Java
22.	Harapan Bersama Mason Group	Lampung
23.	Mabarakka Mason Group	South Sulawesi
24.	LKM Rukun Makmur	Central Java
25.	Pusat Inkubasi Bisnis Usaha Kecil (Pinbuk)	Central Java
26.	CV. Joy	Sumba
27.	CV. H&B Putra Mandiri	Central Java
28.	Pinbuk Banten	West Java
29.	CV. Nur Indah Karya	South Sulawesi
30.	CV. Pratama Butiti Jaya	South Sulawesi
31.	CV. Mega Muliya	South Sulawesi
NGO		
32.	Yayasan Pemerhati Lingkungan Hidup (PiLaH)	NTB
33.	Pusat Studi Pembangunan NTB	NTB
34.	Yayasan Mitra Membangun Masyarakat Sejahtera (YM3S)	NTB

No.	Name of Construction Partners	Province
35.	Yayasan Sumberdaya dan Lingkungan untuk Pelestarian Pembangunan (YSLPP)	NTB
36.	Yayasan Sion	Central Java
37.	Yayasan Trukajaya	Central Java
38.	Lembaga Pengkajian Kemasyarakatan dan Pembangunan (LPKP)	East Java
39.	Lembaga Pengembangan Pertanian Nahdatul Ulama (LPP-NU)	Lampung
40.	Yayasan Suara Bhakti	Central Java
41.	LPTP	Central Java
42.	Lembaga Pendidikan dan Pemberdayaan Anak Bangsa (LPPAB)	East Java
43.	Yayasan Lembaga Pembinaan Masyarakat Desa (YLPMD)	Lampung
44.	Yayasan Manikaya Kauci	Bali
45.	Yayasan Alam Lestari	Sumba (NTT)
46.	Lembaga Sosial Waimaringi	Sumba (NTT)
47.	Yayasan Harapan Sumba	Sumba (NTT)
48.	Yayasan Satu Visi	Sumba (NTT)
49.	Yayasan Forum Perempuan Sumba (Foremba)	Sumba (NTT)
50.	Idep Selaras Alam	Bali
51.	Yayasan Mata Hati	West Java
52.	Yayasan Kontak Indonesia	West Java
53.	LSPI At-Tayseer	Central Java
<b>Cooperative</b>		
54.	KPRI Prisma	NTB
55.	KAN Jabung	East Java
56.	KUD Semen	East Java
57.	KPSP Setia Kawan	East Java
58.	KUD Sumber Makmur Ngantang	East Java
59.	KUD Tani Wilis	East Java
60.	Koperasi SAE Pujon	East Java
61.	KUD Sri Wigati	East Java
62.	KUD Tani Makmur	East Java
63.	KSU Bulu Saukang	South Sulawesi
64.	Koperasi Andini Luhur	Central Java
65.	Koperasi Jasa Peduli Kasih	Sumba (NTT)
66.	KPGS	West Java
67.	KUD Puspa Mekar	West Java

## Annex 4: List of IDBP Area (Sub-district and District)

Province	District/city	Year	Sub-district	District	Sub District
				2009 - 2015	
East Java	Kabupaten Malang	2010	Pujon, Ngantang, Jabung, Kasembon, Dau, Karangploso, Wagir, Singosari	1	8
		2011	Poncokusumo, Bantur, Gondonglegi, Pakis, Medowo, Lawang, Wonoagung	0	7
		2012	Bayem, Pait, Pondok Agung, Blimbing, Tumpang, Sukosari, Turen	0	7
		2013	Pagelaran, Kedung Kandang, Wajak	0	3
		2014	Sumber Manjing Wetan, Sumber Puncung, Gedangan	0	3
		2015	Ngajum	0	1
	Kediri	2010	Kandangan, Kepung, Puncu, Pagu, Wates, Ngancar	1	6
		2011	Plosoklaten, Gurah, Kandat	0	3
		2012	Medowo, Mlancu, Segaran	0	3
		2014	Kras, Ringinrejo	0	2
		2015	Mojoroto, Ngadilurih, Nganjuk	0	3
	Jombang	2011	Wonosalam, wulung, Bareng	1	3
		2012	Galengdowo	0	1
	Blitar	2010	Gandusari	1	1
		2011	Semen, Wlingi	0	2
		2012	Sanan Kulon	0	1
		2013	Kanigoro, Talun, Srengat, Garum, Doko, Ponggok	0	5
		2014	Wonodadi, Sukorejo, Udanawu	0	3
		2015	Kademangan, Udanawu	0	2
	Pasuruan	2010	Tutur, Purwodadi, Puspo	1	3
		2011	Grati, Blarang, Lumbang, Nongkojajar, Tlogosari, Wonosari, Nguling, Lekok	0	8
		2012	Ngembal	0	1
		2013	Pasrepan	0	1
	Mojokerto	2011	Pacet	1	1
		2013	Trawas	0	1
	Tulungagung	2011	Ngunut, Sendang, Pagerwojo, Kedung waru, Rejotangan, Sumber Gempol	1	6
		2014	Karangrejo, Pucang Laban	0	2
	Kota Batu	2011	Junrejo	1	1
		2014	Bumiaji, Batuaji	0	2
	Probolinggo	2011	Krucil	1	1
		2014	Maron, Bantaran, Tiris	0	3

Province	District/city	Year	Sub-district	District	Sub District
				2009 - 2015	
East Java	Trenggalek	2011	Bendungan, Pule, Kelutan	1	3
		2015	Gandusari, Suruh	0	2
	Lumajang	2010	Senduro	1	1
		2011	Tempeh , Kunir, Kandang tepus, Kedung jajang	0	4
		2013	Sukodono, Padangan, Rowokangkung	0	3
		2014	Tekung, Pasirian, Pasirjambe	0	3
		2015	Randuagung	0	1
	Jember	2011	Ambulu	1	1
		2015	Wuluhan, Tanggul, Tempurejo, Tempursari, Gumuk Mas, Puger	0	6
	Ngawi	2011	Bringin, Geneng, Pitu, Ngawi, Ngrambe	1	5
		2014	Sine, Mantingan	0	2
	Ponorogo	2011	Pudakwetan, Sooko	1	2
		2012	Kauman, Krisik, Pulung, Ponorogo, Siman, Jambon	0	6
		2013	Ngrayun, Balong, Sukorejo, Slahung	0	4
		2014	Badegan, Mlarak, Bungkal, Babatan	0	4
	Magetan	2011	Bulugunung, Panean	1	2
		2014	Maospati	0	1
	Madiun	2013	Dolopo	1	1
	Gresik	2014	Sidayu, Dukun, Menganti	1	3
		2015	Ujung Pangkah	0	1
	Banyuwangi	2013	Bangurejo, Siliragung	1	2
	Sumenep	2013	Ganding	1	1
	Total East Java			19	152
Central Java	Sragen	2010	Kedawung, Plupuh	1	2
		2011	Gemolong, Sambirejo, Sragen	0	3
		2012	Ngrampal, Miri	0	2
		2013	Sambung Macan, Karang Malang	0	2
		2014	Masaran, Gondang, Sidoharjo	0	3
		2015	Gesi	0	1
	Tegal	2014	Margasari	1	1
	Wonogiri	2010	Wonogiri, Ngadirojo	1	2
		2011	Giriwolyo	0	1
		2012	Nguntoronadi, Tirtomoyo	0	2
		2013	Baturetno, Batuwarno, Jatipurno, Puhpelem	0	4

Province	District/city	Year	Sub-district	District	Sub District
				2009 - 2015	
Central Java		2014	Wuryantoro, Sumberejo	0	1
	Banjar negara	2011	Bawang, Pejaweran, Manadadi	1	3
		2013	Mandiraja	0	1
	Karanganyar	2011	Jumantono, Jatipuro, Jatiyoso, Tawangmangu, Matesi, Sambat	1	6
		2012	Mojogedang, Lempong, Jaten, Jenawi, Ngargoyoso, Jumapolo	0	6
		2013	Kerjo, Bolong	0	2
		2014	Tasikmadu, Gondangrejo, Karangpandan	0	3
		2015	Kebakkramat	0	1
	Sukoharjo	2010	Nguter	1	1
		2011	Gatak, Bendosari, Palokarto, Tawang Sari	0	4
	Grobogan	2011	Purwodadi, Wirosari	1	2
		2012	Krajan	0	1
		2014	Geyer	0	1
		2015	Pulokulon	0	1
	Wonosobo	2010	Selomerto	1	1
		2011	Kepil	0	1
		2012	Wadaslintang	0	1
		2015	Mojotengah	0	1
	Klaten	2011	Cawas, Kemalangan, Bayat, Jogonayan, Karanganom	1	5
		2012	Jogonalan, Kalikotes, kebon arum, Kebon dalem, Kemalang, Manisrenggo, Polanharjo, Prambanan, Trucuk, Tulung, Balerejo, Delanggu	0	12
		2013	Karangdowo	0	1
		2014	Karangnongko	0	1
		2015	Besaran, Gantiwarno, Pedan	0	3
	Boyolali	2010	Mojosongo, Teras, Selo	1	3
		2011	Karanggede, Sambi, Simo, Musuk, Ampel, Klego	0	6
		2012	Andong, Bendungan, Cepogo, Angsuk, Kemusu, Lencohkelo	0	6
		2013	Banyudono	0	1
		2014	Sidomulyo, Nogosari	0	2
		2015	Nogosari	0	1
	Magelang	2011	Dukun	0	2
		2012	Salam, Srumbung, Ngablak, Sawangan	0	4
		2013	Borobudur, Grabak	0	2

Province	District/city	Year	Sub-district	District	Sub District
				2009 - 2015	
Central Java		2015	Magelang Selatan, Mertoyudan, Muntilan, Pakis	0	4
	Temanggung	2010	Temanggung, Kaloran	1	2
		2013	Tlogomulyo, Kranggan, Parakan	0	3
		2014	Bulu, Bansari	0	2
		2015	Gemawang, Pringsurat	0	2
	Kabupaten Semarang	2010	Tengaran, Suruh, Ungaran, Sumowono, Gunung pati, Getasan, Pabelan, Bergas, Tembalang, Susukan	1	10
		2011	Plupuh, Ungaran Barat, Banyubiru, Kaliwungu	0	4
		2012	Bancak	0	1
		2013	Kedung Mungdu, Tuntang, Bandungan, Bawen	0	4
		2014	Ambarawa	0	1
		2015	Kebumen	0	1
	Salatiga	2010	Argomulyo	1	1
		2011	Sidorejo	0	1
		2012	Tingkir	0	1
		2014	Sidomukti	0	1
	Blora	2011	Japah	1	1
		2012	Sambong	0	1
		2013	Ngawen	0	1
		2015	Jepon, Jiken	0	2
	Banyumas	2011	Sokaraja	1	1
	Jepara	2011	Keling	1	1
		2012	Mlonggo, Pakisaji, Pecangaan, Tahunan, Mantingan	0	5
		2013	Mayong	0	1
	Batang	2011	Subah, Tersono	1	2
	Rembang	2012	Rembang	1	1
		2013	Lasem, Pamotan, Sedan, Gunem	0	4
		2014	Pancur	0	1
		2015	Krangan, Sulung	0	2
	Kendal	2011	Bojo	1	1
		2013	Singorojo	0	10
	Pati	2012	Gabus, Jakenan	1	1
		2013	Tayu	0	1
		2014	Wedarijaksa, Sukolilo, Pati	0	3
		2015	Donorojo, Juwana, Margoyoso, Tambakromo	0	4

Province	District/city	Year	Sub-district	District	Sub District
				2009 - 2015	
Central Java	Pemalang	2012	Pemalang	1	1
		2014	Randudongkal	0	1
	Kebumen	2014	Mirit	1	1
	Kudus	2015	Gebog	1	1
	Tuban	2015	Bancar	1	1
	Brebes	2012	Paguyangan	1	1
Yogyakarta	Bantul	2010	Pundong, Bambanglipuro, Jetis, Srandakan,	1	4
		2011	Pleret	1	1
		2012	Kretek, Piyungan, Banguntapan, Pandak, Pundong, Sedayu, Sewon	0	7
		2013	Dlingo, Sanden, Imogiri	0	3
		2014	Pajangan, Srandakan	0	2
	Gunung Kidul	2011	Nglipar	1	1
		2012	Panggang, Sapto Sari	0	1
		2013	Ponjong, Wonosari	0	2
		2014	Playen, Patuk, Semanu, Semin, Tanjung Sari	0	5
		2015	Gedang Sari, Karang Mojo, Ponjong	0	3
	Sleman	2010	Cangkrikan	1	1
		2011	Sawangan, Ngluwar, Candi Mulyo	0	3
		2013	Turi, Ngemplak, Berbah, Tempel, Moyudan, Ngaglik	0	6
		2014	Pakem, Gamping	0	1
		2015	Minggir, Mlati	0	2
	Kota Yogyakarta	2014	Gondomanan, Mantrijeron	1	2
	Kulon Progo	2012	Galur, Kokap	1	2
		2013	Kalibawang, Lendah	0	2
		2014	Nanggulan	0	1
		2015	Sentolo	0	1
Total Centra Java/Yogya				31	246
West Java	Kabupaten Bandung	2010	Pangalengan	1	1
		2011	Kertasari, Pacet, Arjasari, Ciwidey, Pasirjambu, Majalaya	0	6
		2012	Soreang	0	1
		2014	Cileunyi, Cilengkrang, Cimeunyan, Rancaekek, Cikancung	0	5
	Cianjur	2011	Gekbrong, Cipanas	0	3
		2015	Sukaresmi, Pacet	0	2
	Sukabumi	2011	Cicurug, Sukaraja, Cibodas	1	3



Province	District/city	Year	Sub-district	District	Sub District
				2009 - 2015	
West Java		2012	Purabaya	0	1
		2013	Sukalarang, Cikembar	0	2
		2014	Nyalindung, Surade	0	2
		2015	Kalapanunggal, Kabandungan	0	2
	Bandung Barat	2010	Lembang, Cisarua	1	2
		2012	Parongpong	0	1
		2014	Ngamprah	0	1
	Depok	2015	Sawangan, Tapos, Cipayung	1	3
	Garut	2010	Bayongbong, Cigedug, Bluburlimbangan, Cisarupan	1	4
		2011	Cikajang	0	1
		2012	Tarogong kaler, Selawi, Pamengpeuk, Karangpawitan	0	4
		2013	Cihurip, Banjarwangi	0	2
		2014	Cikancung	0	2
	Subang	2011	Ciater, Sagalaherang, Jalancagak	1	4
		2013	Ciasem	0	1
	Sumedang	2010	Tanjungsari	1	1
		2011	Pamulihan, Sukasari, Tandanghari, Jatinangor, Darmaraja, Parakamuncang, Cimanggung	0	7
	Purwakarta	2011	Bungursari	1	1
		2014	Cibatu, Wanayasa, Manis, Cempaka	0	4
	Bogor	2011	Nanggung, Cisarua, Megamendung	1	3
		2012	Bojong Gede	0	1
		2014	Cariu	0	1
		2015	Kemang, Jasinga	0	2
	Kota Bandung	2011	Dago, Puncrut	1	2
	Indramayu	2011	Sliyeg	1	1
		2012	Sindeng	0	1
		2014	Arjasari	0	1
	Kuningan	2011	Cigugur	1	1
		2014	Maleber	0	1
	Cirebon	2011	Talun	1	1
		2012	Gempol	0	1
	Tasikmalaya	2012	Karangnunggal	1	1
	Bekasi	2013	BojongManggu, Tambun Selatan	1	2
		2014	Jati Sampurna, Cikarang Utara, Cikarang Pusat, Pondok Melati, Cibarusah	0	5

Province	District/city	Year	Sub-district	District	Sub District
				2009 - 2015	
West Java		2015	Babelan, Pondok Melati, Serang Baru, Sukakarya, Sukawangi, Tambun Utara	0	6
	Ciamis	2014	Lumbung	1	1
		2015	Baregbeg	0	1
	Pangandaran	2015	Padaherang	1	1
Banten	Pandeglang	2011	Citeureup	1	1
		2012	Bojong, Koroncong, Carita, Panimbang	0	4
	Serang	2013	Waringin kurung	1	1
	Tangerang	2012	Jambe	1	1
	Lebak	2015	Cibadak, Warunggunung	1	2
DKI Jakarta	Jakarta Selatan	2012	Pancoran, Mampang Prapatan, Cikoko	1	3
W Java (and Banten)				22	111
South Sulawesi	Enrekang	2011	Cendana, Maiwa, Enrekang, Anggeraja, Baraka, Buntu batu, Malua, Alla, Curio, Baroko, Masalle	1	11
	Barru	2015	Barry, Tanete Rilau, Balusu, Tanete Riaja	1	4
	Bantaeng	2015	Bissappu, Eremerasa, Gantara, Gantarang, Pajukukang, Tompobulu	1	6
	Sinjai	2011	Sinjai Selatan	1	1
		2012	Sinjai Timur, Tellu Limpoe, Sinjai Barat, Sinjai Tengah	0	4
		2015	Sinjai Utara	0	1
	Bone	2011	Bengo, Sua Baccoc	1	2
		2012	Kahu, Patimpeng	0	1
		2013	Amali, Tonra, Lamuru, Lappariaja	0	4
		2014	Barebbo, Awangpone, Cenrana	0	3
		2015	Mare	0	1
	Maros	2012	Simbang	1	1
		2013	Tompobulu	0	1
		2014	Tanralli	0	1
		2015	Camba, Bantimurung	0	2
	Takalar	2012	Galesong Selatan	1	1
		2013	Polombangkeng Selatan, Polombangkeng Utara, Mappakasunggu	0	3
		2015	Mangara Bombang, Pattallassang, Polobangkeng Utara	0	3
	Tana Toraja	2013	Makale Utara, Saogalla Selatan	1	2
		2014	Makale, Sangalla	0	2
	Toraja Utara	2014	Tallunglipu	1	1

Province	District/city	Year	Sub-district	District	Sub District
				2009 - 2015	
South Sulawesi		2015	Pemmana, Penrang Takkalla	0	2
	Bulukumba	2013	Bulukumpa, Gantarang, Kajang	1	3
		2015	Bontotiro	0	1
	Gowa	2013	Bontonompo	1	1
		2015	Bontorampa	0	1
	Jeneponto	2013	Bangkala	1	1
	Wajo	2013	Gilireng	1	1
		2014	Pammana	0	1
	Soppeng	2013	Mario Riawa, Donri-donri, Lalabata	1	3
	Barru	2013	Barru	1	1
	Luwu	2015	Kamanre	1	1
	Luwu Timur	2015	Burau	1	1
	Luwu Utara	2015	Bone-bone, Mappadeceng, Sukamaju	1	3
	Sidenreng Rappang	2015	Baranti, Duapitue, Kulo, Maritengngae, Panca Rijang, Pitu Riawa, Watang Pulu, Watang Sidenreng	1	8
	Pangkajene Kepulauan	2014	Ma'Rang, Labakkang	1	2
2015		Balocci, Mandalle, Minasatene, Tondong tallasa	0	4	
Total South Sulawesi				20	89
Nusa Tenggara Barat	Lombok Tengah	2010	Pujut	1	1
		2012	Batukliang, Jonggat, Kopang, Praya Barat, Pringgarata, Janapria, Praya Timur	0	7
		2014	Batukliang Utara	0	1
		2015	Praya, Praya Tengah	0	2
	Lombok Barat	2010	Gerung, Narmada	1	2
		2011	Sekotong, Lembar, Gunungsari, Lingsar, Batulayar	0	5
		2012	Labu api, Gunungsari, Lingsar, Sekotong, Senteluk	0	5
		2014	Kediri	0	1
		2015	Kuripan	0	1
		2011	Tanjung, Pemenang, Gondang	1	3
	Lombok Utara	2012	Bayan, Gangga, Kayangan	0	3
		2010	Suralaga, Labuhan Haji	1	3
	Lombok Timur	2011	Aikmel, Wanasaba, Sikur, Montong Gading	0	5
		2012	Pringgabaya, Pringgasela, Keruank, Jeruklegi, Selong, Wanasaba, Kota Raja	0	7
		2013	Masbagik, Terara	0	2

Province	District/city	Year	Sub-district	District	Sub District
				2009 - 2015	
Nusa Tenggara Barat		2014	Kelayu	0	1
	Mataram	2012	Mataram	1	1
		2013	Sanubaya	0	1
		2015	Selaparang, Jempong Baru	0	2
	Sumbawa	2012	Moyohilir, Moyo Utara, Tarano	1	3
		2013	Labuhan Badas, Maronge, Lopok, Smapuin	0	4
		2015	Lunyuk, Margakarya, Moyohulu, Pungkit, Underwis	0	5
	Sumbawa Barat	2012	Seteluk	1	1
		2013	Pototano	0	1
		2014	Brang Ene, Brang Rea, Jereweh, Maluk, Taliwang, Rempe	0	5
	Kota Bima	2013	Bima, Soromandi, Rasanae	1	3
		2014	Palibelo, Bolo	0	2
		2015	Rasanae, Rasanae Timur, Soromandi	0	3
	Dompus	2013	Dompus, Kramat Mulya	1	2
Bali	Gianyar	2010	Payangan	1	1
		2011	Ubud, Tegalalang	0	2
		2012	Blahbatuh, Tegal Kolong	0	2
		2013	Tampak Siring, Sukawati	0	2
	Kab.Bangli	2010	Tembuku	1	1
		2011	Susut, Bangli, Kintamani	0	3
		2012	Sawan	0	1
		2015	Sidemen, Susut, Tragah, Mengwi	0	4
	Badung	2011	Abiansemal, Petang, Mengwi, Kertabuana	1	1
		2012	Kuta Utara, Abiansemal	0	2
		2013	Kuta Selatan	0	1
	Tabanan	2011	Selemadeg, Kerambitan, Baturiti	1	3
		2012	Penebel	0	1
		2013	Kediri, Slemadeg Timur	0	2
		2014	Marga	0	1
		2015	Pupuan	0	1
	Klungkung	2011	Klungkung, Banjarangkan, Dawan, Tagak	1	4
		2013	Banjaranekan	0	1
	Buleleng	2010	Tejakula, Gerokgak	1	2
		2012	Sukasadaya, Banjar	0	2
		2013	Kubu Tambahan, Seririt	0	2
	Denpasar	2011	Denpasar Selatan	1	1

Province	District/city	Year	Sub-district	District	Sub District
				2009 - 2015	
Bali		2012	Denpasar Utara	0	1
	Jembrana	2011	Melaya	1	1
		2012	Negara	0	1
		2013	Mendoyo	0	1
	Karang Asem	2011	Kubu, Bebandem	1	2
		2012	Manggis, Karang asem, Rendang, Sidemen, Selat, Seraya	0	5
		2014	Pempatan, Abang	0	2
		2015	Bhuanagiri	0	1
	Selayar	2011	Payangan	1	1
Total Lombok and Bali				19	137
Sumba (NTT)	Sumba Barat Daya	2011	Wewewa Timur, Kodi	1	2
		2012	Weetabula, Loura, Wewewa Barat	0	3
		2013	Tambolaka	0	1
		2015	Kodi Utara, Wewewa Tengah, Kalaki Kambe	0	3
	Sumba Timur	2011	Kambera, Waingapu, Pandawai	1	3
		2012	Kanatang, Lewa	0	2
		2013	Nggaha Ori Angu, Wulu Waijelu	0	2
		2014	Pinu Pahar, Kahangu Eti	0	2
		2015	Kambata, Melolo, Haharu, Wanga	0	4
	Sumba Tengah	2012	Katikutana	1	1
		2014	U Ratu Nggai Barat	0	1
		2015	Katikutana Selatan	0	1
	Sumba Barat	2012	Kota Waikabubak	1	1
		2014	Tana Riu	0	1
		2015	Loli	0	1
Total Sumba (NTT)				4	28

Province	District/city	Year	Sub-district	District	Sub District
				2009 - 2015	
Lampung	Pesawaran	2012	Padang Cermin	1	1
		2013	Gedong Tataan	0	1
	Tulang Bawang	2013	Tulang Bawang Tengah	1	1
	Lampung Tengah	2013	Pubian, Selagai Lingga, Sendang Agung, Seputih Banyak, Trimurjo, Kota Gajah, Seputih Raman	1	7
		2014	Seputih Agung, Terusan Nunyai	0	1
		2015	Bandar Mataram, Bekri, Gunung Sugih, Kaliroja, Sekampung Udik, Seputih Mataram, Terusan Nunyai, Way Seputih, Way Pengubuan	0	9
	Kota Metro	2013	Metro Utara, Metro Timur, Metro Selatan	1	3
	Lampung Timur	2013	Batang Hari, Way Jepara, Pasir Sakti, Braja Selehah, Raman Utara	1	5
		2014	Sekampung, Pekalongan	0	2
		2015	Bumi Agung, Kalipasir, Labuhan Ratu, Marga Tiga, Metro Kibang, Way Bungur	0	6
	Lampung Selatan	2013	Natar, Jati Agung	1	2
		2014	Sukabumi, Sidomulyo, Merbau Mataram	0	3
	Bandar Lampung	2014	Kemiling	1	1
	Pringsewu	2014	Adi Luwih, Gading Rejo	1	1
	Pesisir Barat	2014	Bengkunat	1	1
Total Lampung				9	44
Total number of districts and sub-districts 2009 - 2015				124	807

## Annex 5: List of Credit Providers

### 1. Nestle Soft Loan

No.	Name of Credit Providers	Province
1	Koperasi SAE Pujon	East Java
2	KUD Sumber Makmur	East Java
3	KUB Sami Mandiri	East Java
4	KUD Jaya Abadi	East Java
5	KUD Tani Wilis	East Java
6	KUD Sri Wigati	East Java
7	LPKP	East Java

### 2. Rabobank Foundation (RBF) Soft Loan

No.	Name of Credit Providers	Province
8	KPSBU	West Java
9	KUD Puspa Mekar	West Java
10	KPGS	West java
11	KSU Andini Luhur	Central Java
12	KSP Tekun	Central Java
13	KUD Ngudi Luhur	Central Java
14	KSP Bal'ota	South Sulawesi

### 3. Kiva Biogas Loan

No.	Name of Credit Providers	Province
15	LKM Rukun Makmur	Central Java
16	Yayasan At Tayseer	Central Java
17	KSU Bulu Saukang	South Sulawesi
18	LPPNU	Lampung
19	YM3S	Nusa Tenggara Barat
20	MG Paroso	Nusa Tenggara Barat
21	CV. BEM Persada	Jogjakarta

### 4. Credit Union

No.	Name of Credit Providers	Province
	<b>Puskopdit Caraka Utama</b>	
22	CU Setia Bakti	Lampung

### 5. Others

No.	Name of Credit Providers	Province
23	Yayasan Trukajaya	Central Java
24	Yayasan Sion	Central Java
25	Koperasi Agro Niaga	East Java



## Annex 6. List of cooperation agreements Hivos and Government of Indonesia for biogas digester construction

No	Name of MoU
1	MoU Hivos with Provincial Energy Departments Ministry of Energy and Mineral Resources Lombok Utara 2015
2	MoU Hivos with District Government Kabupaten Bantaeng Sulawesi Selatan 2015
3	MoU Hivos with District Government Kabupaten Maros Sulawesi Selatan 2015
4	MoU Hivos with District Government for Energy and Mineral Resources Kabupaten Pangkajene 2015
5	MoU Hivos with District Government for Energy and Mineral Resources Kabupaten Wajo 2015
6	MoU Hivos with Provincial Energy Departments Ministry of Energy and Mineral Resources Kabupaten Barru Sulawesi Selatan 2015
7	MoU Hivos with Department Agriculture & Fisheries Provincial Government of Depok West Java 2015

## Annex 7: List of meeting and workshop

### Training workshop and seminar

20 March 2015	: Biogas Indonesia Forum 2015,
29 April 2015	: Musrenbang Kedaulatan Energi dan Tenaga Kelistrikan ,
26 February 2015	: Renewable Energy Workshop Seri I in West Java
August 2015	: Seminar on Renewable Energy Management in Banjar City
10-11 December 2015	: Workshop on Renewable Energy with BLH Central Java Province
13 August 2015	: Seminar forum for organization concerned in environment BLHD South Sulawesi

### Coordination meeting with Gol

#### National

13 August 2015	: Seminar forum for organization concerned in environment BLHD South Sulawesi
10 October 2015	: Meeting bersama tim EBTKE, Deputy Project Manager BIRU, Biogas Technical Officer di kantor Dirjen EBTKE Jakarta
19 October 2015	: IDBP Advisory Committee Meeting
22 December 2015	: Meeting with Mineral and Renewable Energy Department

#### Lampung

6 October 2015	: Meeting with Head Division of Energy and Section Head of Renewable Energy of Mineral & Energy Department Lampung Province Kabid Energi dan Kasi EBT Dinas Pertambangan dan Energi Provinsi Lampung.
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#### West Java

16 September 2015	: Technical Assistant for Animal Husbandry Department Bogor District.
20-24 November 2015	: Banten Tangerang Expo
23 Desember 2015	: Meeting with Section Head of Animal Husbandry Department Depok
27 July 2015	: Meeting with BKP3 Bandung District
September 2015	: Meeting with BLH Banjar city
17 September 2015	: Meeting with Animal Husbandry Department Bogor District Disnakan Kab Bogor
23 November 2015	: Stakeholders Meeting BIRU for Banten area
3 December 2015	: Meeting with Animal Husbandry Department and Balai Benih Ikan (BBI), West Bandung District

#### Central Java

17 September 2015	: Coordination Meeting with Bappeda Yogyakarta DIY
6 October 2015	: Biogas Energy Coordination Meeting with Bakorwil I PATI Central Java
19 October 2015	: Consultation with MRE Department Central Java
2 & 4 December 2015	: Coordination Meeting with MRE Yogyakarta for Biogas project 2016
10 December 2015	: Stakeholder meeting in Yogyakarta

#### East Java

22 December 2015	: Stake holder Meeting with MRE Department East Java Province, Animal Husbandry Department, Agriculture Department East Java Province
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#### Bali

Meeting with Agriculture and Crop Department Bali Province

#### NTB

03 December 2015	: Stakeholder Meeting Nusa Tenggara Barat Province with Bappeda, Dinas Peternakan, Dinas Pertanian, ESDM, KLH, DPR, Camat, dan Kades
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**NTT**

Consultation meeting with Transmigration Department West Sumba

- September 2015 : Consultation meeting with government district in Sumba Tengah, Sumba Timur, Sumba Barat, and Sumba Barat Daya
- August 2015 : Consultation meeting with BPTP NTT

**South Sulawesi**

- 23 July 2015 : Consultation meeting with Energy and Mineral Resources Department South Sulawesi Province
- 28 July 2015 : Meeting with North Luwu and East Luwu District Government
- 31 July 2015 : Meeting with BAPPEDA South Sulawesi
- 05 Aug 2015 : Meeting with provincial Government South Sulawesi stakeholder for MCAI and Hivos implementation
- 07 Aug 2015 : Meeting with team Energy and Mineral Resources Department South Sulawesi Province
- 20 Aug 2015 : Coordination Meeting with Energy and Mineral Resources Department South Sulawesi Province for finalization BoQ
- 21 Aug 2015 : Coordination Meeting with Energy and Mineral Resources Department South Sulawesi Province cooperation planning 2016
- 27 Aug 2015 : Technical Assistant for "biogas maintenance" with Energy and Mineral Resources Department South Sulawesi Province
- 28 Aug 2015 : Coordination Meeting with Energy and Mineral Resources Department Luwu Utara South Sulawesi
- 31 Aug 2015 : Coordination Meeting with Energy and Mineral Resources Department South Sulawesi Maros district
- 01 Sept 2015 : Coordination Meeting with Energy and Mineral Resources Department South Sulawesi North Luwu and Energy and Mineral Resources Department South Sulawesi Province in Masamba
- 06 Nov 2015 : Coordination Meeting with Section Head of Energy Conservation and Electricity Environment, Energy and Mineral Resources Department South Sulawesi Province
- 13 Nov 2015 : Coordination Meeting with Kepala Seksi Konservasi Energi & Lingkungan Ketenagalistrikan DESDM Provinsi, tim EBTKE Jakarta di Kantor DESDM Provinsi
- 30 Oct 2015 : Coordination Meeting with with Energy and Mineral Resources Department South Sulawesi Province and CPO in Bulukumba
- 01 Nov 2015 : Coordination Meeting with Secretary of Mining and Energy Department Bantaeng district
- 04 Nov 2015 : Coordination Meeting with Head of with Energy and Mineral Resources Department Selayar District
- 14 Nov 2015 : CPO Meeting
- 16 Nov 2015 : Coordination Meeting with Head of Mining and Energy Department Maros District
- 07, 23, 31 Dec 2015 : Coordination Meeting with Head of Mining and Energy Department Maros District



A cooperation of the Government of Indonesia with EnDev and MCA-I



Implemented by:



**Kantor Pusat BIRU  
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