



# **Padang Pariaman Health Facility Reconstruction Program**

## **INDEPENDENT COMPLETION REPORT**

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**May 2012**

## **Annex 1    Evaluation Terms of Reference**

### **Padang Pariaman Health Facilities Reconstruction (PPHFR) Program**

#### **Independent Completion Report (ICR) – Term of Reference**

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The Australian Agency for International Development (AusAID) will undertake an Independent evaluation to assess the achievements of the Padang Pariaman Health Facilities Reconstruction Program in West Sumatra Province. The evaluation will review and analyse what the program has achieved, what has worked, what did not work and why. In particular, the evaluation will look closely the issue around the appropriateness of the modality to inform key management decision on the form of future Australian post-disaster reconstruction programs in the health sector.

#### ***Background***

On 30<sup>th</sup> September 2009, a 7.9 Richter scale earthquake struck West Sumatra causing significant loss of life and damage to infrastructure and environment in the majority of West Sumatra Province. The Indonesian Government invited domestic and foreign parties to provide emergency relief and assistance for the recovery and reconstruction of the affected areas. The Australian Government committed up to \$15 million to support construction of damaged schools and community health facilities (Puskesmas) in West Sumatra following to the earthquake. Out of the total A\$ 15 million committed, Australian Government committed A\$5 million for the construction of Puskesmas in West Sumatra Province. The fund was channelled and managed through AusAID. AusAID engaged the same managing contractor that implements its Australia Indonesia Partnership Maternal and Neonatal Health (AIPMNH) Program to reconstruct eight Puskesmas in Padang Pariaman District.

The eight Puskesmas were identified for reconstruction were located in sub-districts listed below:

1. Puskesmas Pauh Kambar
2. Puskesmas Sei Geringging
3. Puskesmas Padang Alai
4. Puskesmas Batu Basa
5. Puskesmas Koto Bangko
6. Puskesmas Sikabu
7. Puskesmas Kayu Tanam
8. Puskesmas Kampung Dalam

The program initially planned to re-build six and renovate two of the identified Puskesmas. However, following the technical assessment and the fact that all Puskesmas were located in an earthquake prone area, AusAID needed to ensure that the building foundation and structure complied with zone 6 earthquake standard. Given this, AusAID decided to rebuild rather than renovate all the selected Puskesmas. The physical construction of the Puskesmas started in September 2010 and is expected to be completed by October 2011 followed by a 6 months rectification period, until March 2012.

The program has been implemented by Coffey International Development Pty. Ltd. or “Coffey ID”, the managing contractor that implements AIPMNH. Building on experience gained under AIPMNH in renovating health facilities in Nusa Tenggara Timur (NTT) Province since 2008, Coffey ID is responsible for all phases of the reconstruction program which include: site analysis, architectural drawings for final Puskesmas design, tendering, contracting of sub-contractors, supervision of construction contractors and maintenance of quality standards, procurement of furniture and equipment, Puskesmas fit-out and hand-over, and management of corrective/remedial work if required during six month rectification period. During this rectification period, Coffey will facilitate an assessment of the maintenance processes and procedures implemented by the Puskesmas administrators.

An engineering consultant for civil, mechanical, electrical, plumbing and quantity surveying works has been engaged by Coffey to ensure that the sub-contractors are meeting the required standards. During program implementation, Coffey ID as the managing contractor also engaged respected communities in all parts of the program. This include contributing ideas for design and layout, construction (including training in construction techniques and use of new construction materials), monitoring and evaluation of the procurement and construction process and contributing ideas for management and service delivery from the new and renovated facilities.

All 8 of the Puskesmas have been completed and are operational.

### ***Key Issues of PPHFR Implementation***

The evaluation team will consider, inter alia, the following key implementation issues:

i) Delays with completion of construction works.

The construction activity was originally planned to start from April 2010 and finish in November 2010; however the physical construction of the Puskesmas was only started in September 2010. The consultation process around the design between AusAID and Managing Contractor was one of the inhibiting factors. This is due to the fact that AusAID does not have in-house technical related capacities, particularly in area of structural engineering, and so relied on technical consultants. The process for AusAID to engage the technical consultant also required significant amount of time.

Another issue was related to the performance of local sub-contractors. The gap between standard required and capacity available was quite large for some sub-contractors. This also contributed to delay in the implementation of the physical construction work. Additionally, the program also experienced a lack of skilled workers and community engagement as well as the availability of appropriate building materials and equipment.

ii) Relationships with Government and Communities

Under the PPHFR, it was agreed that issues related to land use and site clearance would be the responsibility of District Government. However, there were number of situations where what was agreed is not necessarily what happened. For example in the case of Puskesmas Sikabu, the Bupati agreed to acquire the land located next to the Puskesmas, because the original land where the old Puskesmas was located was too small. However, there was no clear indication the program could use the new land until construction started. A similar situation that happened on the issue related to the site clearance. As District Government did not clear the land as they had agreed, the Program had to do the site clearance to allow the construction work to start.

iii) Resource Implication of extending current contract to undertake the program

PPHFR was implemented by an existing AusAID Managing Contractor who was implementing the Australia Indonesia Maternal and Neonatal Health (AIPMH). AusAID extended the existing contract for the Managing Contractor to implement PPHFR. This created resource implications for AusAID. The unit that managed AIPMNH got a new port-folio (in addition to AIPMNH) but no additional human resources. The unit became stretched as they have to manage PPHFR on top of AIPMNH. This also contributed to some of the delay in decision making processes related to the contract and other program management issues.

### ***Objective of the Evaluation***

The objectives of this evaluation are to:

- a) evaluate the extent to which PPHFR achieved its objectives
- b) assess the appropriateness of the modality used for PPHFR for a post-disaster assistance project
- c) Provide lessons learned and recommendations that will inform and shape future post-disaster health reconstruction programs.

### ***Scope of the Evaluation***

The evaluation will assess the program's overall performance by assessing against eight evaluation criteria: relevance, effectiveness, efficiency, impact, sustainability, gender equality, monitoring and evaluation and analysis and learning. The ratings will be based on the standard AusAID six-point scale, as outlined in the ICR template (refer to **Annex 1**)

Although the evaluation team must be able to provide an assessment and rating of the evaluation criteria above, the team should particularly focus on the high priority areas show below.

**Relevance (Low Priority)**

- Were the objectives and expected outcomes of the program appropriate and do they still remain relevant?
- How has the PPFHR contributed to GOI's overall health facilities reconstruction program in West Sumatra following to the 2009 earthquake?

**Effectiveness (High Priority)**

- To what extent did the approach and design planning contribute to the achievement of end-of-program outcome?
- What are the facilitating and inhibiting factors in term of achieving (or not achieving) anticipated end-of-program outcomes?
- What is the likelihood of sustainability?
  - How the local government engaged in the program? Is there any contribution from local government to the program?
  - Is the program also designed to look at the ancillary benefit of the facility? (staff capacity in response to future emergency situation; facility is also designed to be used in future emergency situation; etc.)
- What was the quality of the outputs particularly the infrastructures component given it is an earthquake prone area?
- Has the assistance had the impact that was expected at the design?
- To what extent is the design of the Puskesmas appropriate?
  - How was the design done?
  - Does the design use appropriate technology?
  - Has there been analysis on the design of old Puskesmas? And the extent to which the new design adapts the key features of the old design?
  - Is the balance between the design and cost for operational and maintenance right?
  - Does the design also integrate/accommodate local management, organisation and administration structure of Puskesmas?

**Efficiency (High Priority)**

- How effective the program's monitoring and evaluation arrangement?
  - Whether the balance between technical and managerial oversight is right?
- How effective were the program's governance arrangements? Did the implementation make effective use of time and resources to achieve the objective?
  - Was the program designed for optimal value for money?
  - Whether the sub-contractor arrangements are appropriate?
  - Was the balance on the division of roles and responsibility among Managing Contractors, AusAID and Implementation team right?

**Gender (Medium Priority)**

- To what extent have the program outcomes improved and/or achieved gender equality, including access, benefits and decision making?
- What was the reach and coverage of key program deliverables (number and type of beneficiaries – e.g. women, and other vulnerable groups?)

**Lessons (High Priority)**

- What lessons can be learned from the direct engagement of an existing AusAID managing contractor to implement post-disaster reconstruction program? Is it an appropriate model, if not, why not? What could be more effective mechanisms based on other experience?
- What was the impact of community engagement in the reconstruction program? What lessons can be learned from the approach?

(Standard Evaluation Questions based on the 8 evaluation criteria is also attached at **Annex 2** for evaluation team consideration).

## ***Evaluation Method and Duration***

In undertaking the ICR, the evaluation team will:

- a. Conduct a desk study to review relevant program documentation provided by AusAID and advise AusAID of any additional documents or information required prior to the in-country visit (2 working days)
- b. Develop an evaluation plan, which includes methodology, field research guide and tools as well as identification of key respondents and further documentation required. This will then to be presented for discuss with AusAID prior to the in-country visit (by phone or video conference) (3 working days for Team Leader; 2 working days for Infrastructure Specialist)
- c. Travel from home country to Jakarta and from Jakarta to field return (4 days)
- d. Participate in an AusAID briefing session in Jakarta at the start of the in-country field visit, including introduction to PPHFR Implementation Team (1 working day)
- e. Conduct meetings in Jakarta and field visits to PPHFR sites, as required (7 working days)
- f. Conduct preliminary analysis of field visit results (1 working day)
- g. Prepare and present an Aide Memoire for submission at the end of the in-country consultation mission, which outlines the major findings and preliminary recommendation of the ICR (1 working days)
- h. Process the evaluation data (2 working days)
- i. Submit a draft ICR (4 working days for Team Leader; 2 working days for Infrastructure Specialist)
- j. Submit a final ICR (3 working days for Team Leader; 1 Working days for Infrastructure Specialist)

## ***Duration***

The expected period for the evaluation process is from 1 December 2011 to 28 February 2012 with 12 days of travel in country from 15 – 27 January 2012. This evaluation period includes time for desk review, preparation of the evaluation plan and preparation of reports.

## ***Reporting Requirements***

### **a. Evaluation Plan**

The Plan will outline the scope and methodology to be used for assessing the impact of the program; the process of information collection and analysis, including tools that may require for the information collection. The plan also needs to specify any challenges anticipated in achieving the evaluation objectives; allocation of tasks of the evaluation team; key timings; key stakeholders to be consulted and the purpose of the consultation; activities/research to be undertaken and a draft schedule of field visits. It is expected the evaluation plan will be submitted to AusAID by 5 January 2012 or three weeks before the in-country mission for AusAID's feedback.

### **b. Aide Memoire**

The Team Leader will submit and present a draft Aide Memoire (maximum 5 pages) on key findings upon completion of the field visit to West Sumatra. The draft Aide Memoire will be prepared in reference to the Aide Memoire for Evaluation Template (refer to Annex 3). It is expected from the schedule that the team will have 1 day to work together on the Aide Memoire prior to presenting to AusAID (and PPHFR implementation team).

### **c. Independent Completion Report**

The Team Leader will have up to 4 working days to write and submit the draft ICR (max 15 pages in length, excluding annexes). The draft shall be submitted one week after the Aide Memoire presentation to AusAID (and PPHFR implementation team). AusAID will provide feedback to the evaluation team within 10 days of receipt of the draft report from the Team Leader. This time frame is to allow for combined feed back with PPHFR implementation team. AusAID will provide consolidated comments on the draft report to the Team Leader, who will then have up to 3 working days to work on the Final ICR which will address all of the comments (this will be done from home country). Other team members may have up to two days of input into the finalisation of the ICR.

## ***Team Composition***

The ICR will comprise two members, an international evaluation expert with particular expertise in monitoring and evaluation (M&E) as a Team Leader and an Infrastructure specialist.

### **a. Monitoring and Evaluation (M&E) Specialist/Team Leader**

The M&E Specialist (Team Leader) will have a strong background and expertise in evaluation methods and processes, previous proven skills and experience in conducting review and performance evaluation, and demonstrated ability to draw on international best practice to inform the mission. The Team Leader will possess very high analytical skills, an ability to gather and interpret data and information and write constructive, informative reports. The Team Leader will have a forward-looking perspective in terms of looking for lessons and implications to inform future programming.

The Team Leader will preferably have a sound knowledge of AusAID corporate policy on quality reporting system and business process for aid delivery; be conversant with AusAID development assistance procedures/regulations and policies. S/he will have high familiarity of cross cutting issues such as public financial system and anti-corruption issues, gender, partnership, together with an understanding of Indonesia social and political context (Indonesia language skills desirable). S/he has a high level of professionalism and commitment to delivery of results and excellent report writing skills (in English).

The Team Leader will effectively utilize the expertise of the team member in meeting the Terms of Reference and contractual obligations. S/he will be ultimately responsible for delivering a quality evaluation report. Thus, team leadership skills are also essential.

The Team Leader will be responsible for the following outputs; drafting and submitting an Evaluation Plan, drafting and finalising the Aide Memoire, presenting preliminary findings to AusAID (and PPHFR Implementation Team), in addition to drafting and finalising the Independent Completion Report. S/he will lead the evaluation process, including participating in the inception briefing and assigning tasks and responsibilities of the team member.

### **b. Infrastructure Specialist**

The Infrastructure Specialist will have relevant experience in planning design and implementation of social infrastructure. S/he will have suitable experience in building construction and project management and previous experience in conducting reviews and evaluations of infrastructure projects. S/he will possess good analytical skills, an ability to communicate with relevant stakeholders (implementation team; sub-contractors; engineering consultants), and gather and interpret data and information and write constructive, informative reports.

The Infrastructure Specialist will have sound knowledge of appropriate standards of design and quality requirement for government health facilities (in Indonesia case Puskesmas) built in Indonesia or similar countries. S/he will have a high level of professionalism and commitment to delivery of results and an excellent report writing skills (in English).

### **c. AusAID's Role**

The owner of the ICR process is the Disaster Response Unit (DRU), AusAID Jakarta. The DRU will manage and coordinate the process of the ICR. A representative from DRU will accompany the team during the in-country consultation meetings (both in Jakarta and in West Sumatra), to help with facilitation, representation and any logistical matters that may occur during the mission. DRU will be responsible for the contractual management of the evaluation team and assist the organisation of briefing and de-briefing session (aide-memoire presentation). DRU will also act as point of contact in the consolidation of comments for the report.

## **Key Documents**

- Program Proposal for PPHFR
- Contracts (AIPMNH & TTW)
- Puskesmas Design + Technical Drawing + Costing
- MEP Design Review Documents
- Program Mobilisation Plan
- Progress Reports
- Activity Completion Report
- Any relevant analytical reports? Survey?

## Annex 2 List of Meetings and People Consulted

Date	Activity and People Met
<b>Monday 23 Jan</b>	Travel
<b>Tuesday 24 Jan</b> 9.00-10.30	Briefing with AusAID Health Sector and DRU Teams Ms Amanda Simmonds, First Secretary, Ms Penny Davis DRU Manager Jeong Park, Disaster Management Adviser, Piter Edward, program manager, Ms Fenni Rumi, 11.00-12.00 Ms Helen McFarlane, Director of Health Sector and DRU
12.30-14.00	Coffey ID Team Rene Schinkel, Ms Diani Widiastuti, Willi Brianto
14.00-16.00	Marten Eddy, TTW, Terry Smith, Floth, Dedy Andrian, Floth, Gernadi, WTP
<b>Wednesday 25 Jan</b> 09.00 - 14.30	Puskesmas Pauh Kamar Ibu Yusneli, Head of Puskesmas, Dr. Eva, Dentist, Ibu Rika Amelia, Head of Administration, Jon Kenedi, Head of Subdistrict, Waki Nagari.
15.00- 16.00	Debriefing with Coffey, Pak Mirza and TTW, Floth, WTP field supervision team.
<b>Thursday 26 Jan</b> 09.00- 11.00	Puskesmas Sei Geringging. Dr Yanti, Head of Puskesmas, Ibu Hamidah, Head of Midwives, Pak Yunis, Head of Administration, Elend Desmond, community representative, Masy PJS, Pak Jasri, Health Promotion
13.30- 15.00	Dinas Kesehatan Padang Pariaman Mr Hanif, Secretary, Mr Darmadi, Head Sub Unit Personnel
16.30- 18.00	Andrew Whillas with Coffey Engineer review design and construction documentation Ian Teese, Piter Edward. Pariaman city, Mr Firdaus, Head of PKBI Sumbar
<b>Friday 27 Jan</b> 07.30- 11.00	Puskesmas Koto Bangko. Dr Abrian, Head of Puskesmas, Ibu Rina, Midwife Coordinator, Ibu Syansu, Head of Nursing, Mr Rabiatul, K3 coordinator
13.45-17.30	Puskesmas Padang Alai. Ibu Reni, Head of Puskesmas, Dr Mayang, Ibu Net, Nutrition, Ibu W Midwife. Pak Zaherman, Wakil Desa
19.00- 21.00	Dinner with Luca Peciarolo, Mercy Corps West Sumatra Director
<b>Saturday 28 Jan</b> 11.00-12.00	Meeting with Bupati Pariaman District Dr Ali Mukhni Bupati Pariaman District. Mr Zunirman, Head of Dinas Kesehatan Padang Pariaman, Ali Mustofa, Head of District BPBD Pariaman.
12.00-12.30	Lunch with Bupati Pariaman and staff
13.55-15.30	Puskesmas Kayu Tanam. Dr Widya Syfiti, Ibu Azi Yunita, Head of Administration, Ibu Reti, midwife
17.00 - 18.00	Meeting with Sub-Contractor Puskesmas Sei Geringging Ir. Reinier, PT Arda Jaya
<b>Sunday, 29 Jan</b>	Collate and review information collected and start drafting aide memoire.
<b>Monday 30 Jan</b> 7.00 – 11.00	Puskesmas Batu Basa Dr Edy Karwone, Head, Ibu Jusnita, Head of Administration
11.00-12.00	Inspection of school constructed by SRP at Sei Geringging
1.00-3.30	Puskesmas Kampung Dalam. Dr Nurhayati, Head, Pak Bahar, Head of General Clinic, Ibu Zamride, Head of Administration, Ma Dona Marina, midwife, Pak Syafriza, staff, Ibu Erniza, dental nurse
17.00-18.00	Meeting with Sub-Contractor Puskesmas Koto Bangko Mr Kenedy PT Landsano
<b>Tuesday 31 Jan</b> 7.00 – 8.30	Visit to Puskesmas Ulakan (non-project) with Pak Kenedy, contractor who built the puskesmas
08.30- 11.00	Puskesmas Sikabu. Dr Yuli, Head, Ibu Dahniar, Head of Administration, Ibu Yeni, Deswita, nutritionist, Ibu Lelli, midwife
11.45-12.30	Meeting with Lab. Construction University of Andalas Mr Fauzan
1.30 – 17.30	Travel back to Jakarta
<b>Wednesday 1 Feb</b> 09.00 – 10.15	Meeting with Faculty of Community Health, University of Indonesia. Ahmad Fuady
10.50 – 11.00	Meeting with Save The Children. Ms Maharani Hardjoko, Emergencies Program Manager

Date	Activity and People Met
14.30-15.00	Meeting with Widya Setyowati, AusAID Program Manager, Health
<b>Thursday 2 Feb</b>	Finalising aide memoire and presentation. Collating information
<b>Friday 3 Feb</b> 09.00 – 11.00	Briefing with AusAID Health Sector and DRU Teams Ms Helen McFarlane, Director of Health Sector and DRU, Ms Penny Davis DRU Manager Jeong Park, Disaster Management Adviser, Piter Edward, program manager, Ms Fenni Rumi, Ms Melinda Hutapea, Infrastructure and Rural Productivity Unit, Education Access Unit
13.30-14.00	Meeting with Mat Kimberley, AusAID Operations Manager
<b>Sat 4 Feb</b>	Return to home bases



## Annex 3 Draft Aide Memoire

### Aide Memoire for Independent Completion Review of Padang Pariaman Health Facility Reconstruction Program 2 nd February 2012

#### 1.1 Evaluation Background

Following the West Sumatra earthquake on 30<sup>th</sup> September 2009, the Government of Australia (GOA), through the Australia - Indonesia Partnership (AIP), committed up to A\$5 million for the reconstruction of puskesmas the province. AusAID engaged the managing contractor for the Australia Indonesia Partnership Maternal and Neonatal Health (AIPMNH) Program (working in Eastern Indonesia) to reconstruct eight puskesmas in Padang Pariaman District – the Padang Pariaman Health Facilities Reconstruction (PPHFR) Program (PPHFRP or the Program). The contractor, Coffey International Development Pty. Ltd. (Coffey) had also been Australian managing contractor (AMC) for the Nias Reconstruction Project and reconstruction activities in Aceh.

Following technical assessments undertaken by AusAID and Coffey early in 2010, AusAID decided to rebuild rather than renovate all eight selected puskesmas. Construction started in September 2010 and was completed by October 2011. To advise AusAID and monitor construction quality, engineering consultants (TTW) for civil, mechanical, electrical, plumbing and quantity surveying works were engaged (contracted through Coffey) to ensure sub-contractors met required standards.

In accordance to the AusAID quality processes, this independent completion evaluation / review (ICR) is to assess the achievements of the Program. The objectives of the evaluation are to:

1. Evaluate the extent to which PPHFR achieved its objectives;
2. Assess the appropriateness of the modality used for PPHFR for a post-disaster assistance project;
3. Assess the value for money achieved through the contracting approach and also innovative designs developed by the Contractor; and,
4. Provide lessons learned and recommendations that will inform and shape future post-disaster health reconstruction programs.

In addition, AusAID included several additional questions/issues including:

- (a) 'Delays with completion of construction works..'
- (b) 'Performance of local sub-contractors...'
- (c) 'Relationships with Government and Communities...'
- (d) 'Resource Implication of extending current contract to undertake the program..'

The evaluation used a desktop study of program documents to formulate key issues to discuss with individual and groups of stakeholders during field visits to the eight puskesmas. The draft activity completion report also informed the analysis but did not provide baseline or completion information on puskesmas resources, staffing and patient numbers pre and post-reconstruction.

#### 1.2 Description of Evaluation Activities

After initial briefings in Jakarta by AusAID, Coffey and the TTW team members, the ICR team visited all eight program puskesmas in West Sumatra where staff and sub-district officials provided information on construction implementation and outcomes from the activities. Key District officials were interviewed as were two construction sub-contractors, two of the training providers, a Padang based construction expert and representatives of three NGOs with experience in West Sumatra. A puskesmas which survived the earthquake (Ulakan) was inspected as was a school reconstruction project school at Sei Geringging.

#### 1.3 Initial Findings and Recommendations

##### 1. Progress towards objectives.

Activity objectives are not defined in the program documents. The ICR team has defined the objectives as:  
*"Eight priority puskesmas reconstructed to agreed earthquake resistant standards ('built back better') and re-equipped to provide services to their communities"*

##### Health Care

- All the stakeholders are pleased with the facilities and equipment provided
- Some of the puskesmas are now offering 24 hour service (depends on staff facilities)
- Evidence of some increased staffing and increased patient numbers
- Working conditions have generally improved for staff
- The ambulances provided have been extensively used (>2,000 km/mth) but in 7 of 8 cases complemented relatively new existing ambulances. More innovative puskesmas management have used them as an income generation centre to complement Dinas Kesehatan (Dinkes) funding.
- Most equipment provided was appropriate and is being used in puskesmas authorised / trained to use it (exception is maternity ward equipment).
- Different approaches are evolving for puskesmas, particularly MNH. Some puskesmas are focusing MNH services at village level with only problem cases coming to puskesmas and most likely going to district hospitals or are sent direct to the district hospital.
- More than half of puskesmas do not have access to telephone landlines and Internet access so cannot use MoH / Dinkes online registration systems.

### **Construction**

- The designs (form) are very distinctive and engender strong ownership
- The new layouts have improved some aspects of the standard MoH / Dinkes puskesmas but have some disadvantages.
- The detailed structural drawings were clear leading to confident construction. However, the electrical designs were not detailed enough resulting in areas of lesser quality work which had to be rectified, delaying completion.
- Overall, construction quality is generally very good. However some issues with finishing.
- The form has created some issues with future disaster safety (outward sloping brick walls)
- Contractors reported no major construction implementation issues except for payment basis (5% increments) that may have reduced contractor performance.
- Varying use of local labour by contractors. Contractors reported fewer issues than feedback from puskesmas staff and community leaders. Lack of experience and skills was main criticism of local labour. Due to pressure for labour for reconstruction activities, local rates for tukang (tradesmen) and labourers rose above rates for Javanese workers.

### **Socialisation and Training**

- Initial socialisation was extensive including stakeholders at district, subdistrict and local level with community and religious leaders. However, there is little evidence of ongoing involvement / engagement to strengthen community and Dinkes ownership of the puskesmas.
- DRR and management training was undertaken by range of stakeholders. Good response to DRR aspects but as it was undertaken late in the construction cycle, none of the responses indicated that evacuation simulations had been replicated. Tests on knowledge gained suggest that there are still misunderstandings on the strength of the building and what to do in an emergency. Limited passive (signage, awareness posters) DRR material was observed. Also issue of when is best time to undertake DRR training, early after the event or later.
- Construction training by the Klinik Konstruksi, Andalas University and from construction engineers was valued by the contractors and contributed to improved quality. Contractors reported the workers were more receptive to training from outside specialists.
- Puskesmas management training activity (by Aceh puskesmas staff) received mixed comments with some puskesmas seeing it as valuable and seeking more inputs.
- HIV training was implemented. The service provider and puskesmas staff who participated indicated that it was worthwhile, especially given mix of local and migrant labour.

## **2. Appropriateness of the PPHFRP modality**

The modality was that AusAID amended the contract for its sector program contractor (Coffey) to design the activity and contract the building designers, construction contractors and training service providers. An independent engineering supervision contractor (paid through Coffey) advised AusAID on construction issues and regularly checked building progress and contractor payments.

- Within AusAID's procurement guidelines and the need to respond quickly, the modality was appropriate – ie. make use of currently contracted Australian managing contractors (AMC) with apparent technical knowledge of the sector to speed mobilisation and assist the AusAID sector program management team.

- An initial oversight led to a delay in contracting of the supervision consultants who took longer to contract and were mobilised after the detailed design phase which led to delays as their comments on the detailed designs were fed back to Coffey and the construction contractors after construction had started.
- Construction may have been slowed down in some cases by the processes used to resolve the engineering supervision issues with disagreements being settled in Jakarta, rather than quickly in West Sumatra.

### **3. Value for Money Achieved through the Contracting Approach and the Innovative Design**

#### **Construction costs**

Preliminary research on unit costs indicates that the costs per square metre were comparable to other post disaster health/education infrastructure with a small premium (10% -20%) paid for the unique architectural design of the building (see table in Annex 3). Preliminary estimates indicate the construction costs for the puskesmas were about Rps. 4.1 million per square metre.

As part of a review of reconstruction costs, the Klinik Konstruksi at Andalas University estimated average reconstruction costs as Rps. 3.0-Rp.3.2 million per square metre, \$3.45 – Rps. 3.58 million in a 15 % contractor's margin is allowed. The puskesmas at Ulakan built to current GoI designs is estimated to have a similar budget cost to the PPHFRP but part of these budgets costs would have been reimbursed to Dinkes and other agencies.

#### **Construction Period**

Data collected during the study indicates the average construction period was about 335 days compared to about 200 days for the simpler structures built for the Schools Reconstruction Project and Nias Reconstruction Project. The construction period data will be further analysed including the time for preparation and procurement.

#### **Management contractor costs**

Preliminary estimates indicate that the PPHFRP AMC costs are about 17 % of the total contract value. This is similar to the AMC costs (28 %) on the SRP which was significantly larger (USD15 million) compared to PPHFRP USD4.80 million).

#### **Design used**

The initial costs estimates set out above suggest that distinctive design used above led to slightly higher construction costs, possibly in the range of 10 – 20% compared with a conventional rectangular column and beam grid with gable roof construction. Informal discussions with TTW have confirmed this assessment. The more important issue is how the additional space in the building has been used, changes in functionality and problems with the ingress of rain and security.

#### **Delays with completion of construction works**

The delays in completion of construction works were due to: have been caused by several issues:

- Limited technical support to the AusAID Health Sector team in the initial response and early design stage.
- Later recruitment of the engineering monitoring consultants (TTW) who raised issues with the completed detailed drawings which slowed construction start-up.
- Delays in resolution of quality and technical issues raised by the TTW team during site visits when differences could not be resolved on-site.

#### **Performance of local sub-contractors**

Advice provided to the Team indicated that;

- the procurement process used resulted in the selection of six best available sub-contractors with appropriate experience to undertake the works. Four were local and the other two were Sumatra based.
- The contractors interviewed reported that the procurement process was fair and transparent and the contract documentation clear. Sub-contractors reported that the quality control by Coffey was thorough although one reported delays due to long response times from off-site decision making, due either to the lack of delegation of the Coffey site engineer or the latter's relative lack of site supervision experience.

- The method of paying the sub-contractors in 5% increments of the works completed hampered contractors with cash flow problems, as materials on-site were not paid for until they were incorporated into the works.

## **Relationships with Government and Communities**

There appears to have been little interaction between the District government and Dinkes and the local community after the initial socialisation. The District Government did not meet its commitments on site clearance.

## **Resource Implication of Extending Current Health Sector Contractor to Undertake the Program**

See later lessons learned section.

## **4. Draft Conclusions, Lessons Learned and Recommendations for Future Post-disaster Health Reconstruction Programs.**

### **Conclusions**

**Impact** Within the constraints of a disaster reconstruction activity, the PPHFRP has constructed eight high quality, earthquake resistant puskesmas that can provide an improved service to the households in the communities serviced by the puskesmas'. Anecdotal feedback indicates that most of the puskesmas are treating more patients. All puskesmas have the equipment they need to fulfil their mandated role.

The activity has provided a high profile for Australia and generated much goodwill at local and district level.

**Building back better** The ICR Team have found the program has achieved the objective of building back better (earthquake resistance). It is not clear why the buildings were made 60 % larger than the puskesmas they replaced, creating land/site issues in some situations and increasing the construction and ongoing operating costs.

The layout while solving some functional problems has created other problems. The ICR team is still clarifying the extent that experienced health facility design capacity from health facility architects and/or the AIPMNH project was used in developing the puskesmas designs.

While it was expedient and sensible in a disaster situation to use one design for all puskesmas independent of need (as Dinkes appears to do even in normal times), a modular design would have allowed adaption to the differing needs / space at different sites.

**Distinctive design (form)** The distinctive form has attracted favourable comments from all stakeholders. However, the form has created problems of rain ingress creating safety and convenience issues. In addition, the building security and there are ventilation issues in some ground floor rooms.

**Stakeholder participation** Excellent initial efforts were made to socialise the activity to stakeholders at district, sub-district and community level. However, feedback is that puskesmas staff and users were not included in developing the design options, but rather chose between three designs prepared by the engineers. There was no on-going systematic community engagement process at puskesmas level during the preparation and construction phase.

**Training** The training activities were well received and regarded as relevant. Most puskesmas staff valued the DRR training, However no DRR awareness or educational material was observed during puskesmas visits.

**Handover of assets** The managing contractor with AusAID has commenced the handover processes however, the GOI counterparts, particularly Dinkes, are not aware of the importance of ensuring the transferred (and destroyed) assets are correctly recorded. Future GoI maintenance budgets are based on the asset values.

### **Recommendations (for current Program)**

- #1. **Handover of assets** AusAID ensure that handover processes are implemented by: (i) TTW as supervision contractor; (ii) Coffey as managing contractor and responsible for the construction sub-contractors; and, (iii) Dinkes on behalf of the district governments. Coffey should provide certification to AusAID that the puskesmas have been designed to the relevant Indonesian codes, standards and building regulations, and have been constructed reasonably in accordance with the designs.

- #2. **Rectification Works** Coffey ensure that all rectification works identified by TTW are completed before retention monies are refunded. This work should include, inter alia, supplying non-slip matting for all walkway areas that may be affected by rain, and securing all water tanks, pipes and conduits against movement in earthquakes.
- #3. **Earth Leakage detection** Following advice from the E&M consultants, earth leakage detectors are installed at the main circuit boards to protect each of the three main power circuits.
- #4. **Security** At Sikabu and other puskesmas experiencing problems, Coffey arrange to install additional doors or security gates on the building to prevent unauthorised access to inside the building outside operating hours.
- #5. **Wrap-up workshop** The ICR team found puskesmas management had valuable insights on the reconstruction program and the puskesmas designs. AusAID should arrange a 1-2 day participative workshop for the management of participating puskesmas', Dinkes and the training providers to collate feedback on the program and the puskesmas designs as they relate to future disaster reconstruction activities. Training refresher sessions on DRR and maintenance issues would be useful additional activities at the workshop. On-site specific training of staff on maintenance and operation of the water-supply system and emergency generator should be provided
- #5 (a) Sei Geringgong emergency PHC
- AusAID consider offering the Camat a small grant for Coffey to undertake the limited works needed to make the building functional (and perhaps better looking), providing the community clears the damaged school away from around it.
  - The building could be used as a youth centre or club house for the football teams using the area in front.
- #6. **Future reconstruction programs** To guide DRU and AusAID in developing systems to plan, implement and monitor disaster reconstruction activities, a desktop review of the completion reports for AusAID responses to the major Indonesian disasters should be undertaken to draw out common lessons learned and advise on implementation modalities and processes. Limited field work would be required.
- #7 **Reconstruction tool kit** Regardless of the contracting modality used for disaster reconstruction, DRU should consider developing a reconstruction / recovery toolkit of standard procedures, processes and documentation covering design principles, stakeholder consultation, procurement of expert services and goods, supervision, M&E, capacity building, financial systems and reporting that the selected contractor will use. The information and financial reporting would link with AusAID systems.

## Lessons Learned

### (a) Disaster response stage

Lesson 1. During the immediate disaster response, AusAID and the DRU need to have access to specialists to advise the AusAID sector team on: '*doing the right thing*'; and '*doing it right*'

Lesson 2 Disaster reconstruction projects need a clear development objective (not just reconstruction of the physical structure) supported by implementation of a M&E framework to provide a balanced focus on reconstruction and the supporting technical assistance needed to make the facility fully functional and providing improved services to its clients (which should be assessed).

Lesson 3 At least until the AusAID sector team and DRR has finalised its contracting arrangements for implementing reconstruction/ recovery activities, the AusAID sector team needs high quality sector technical advice, particularly on reconstruction issues.

Lesson 4 AusAID's contribution to and involvement in the transition from reconstruction and recovery to ongoing development will depend on the focus of its ongoing sector programs. The current AusAID health sector focus on MNH is less relevant to disaster reconstruction activities than the school's construction program under the Education Sector program.

### (b) Reconstruction Design and Implementation

**Lesson 5** Post disaster reconstruction should be based on current GoI designs (and building sizes), built back better to meet GoI standard earthquake resistance standards plus, where appropriate, with layouts and services modified to improve functionality within the same ground footprint.

**Lesson 6** Facility staff and users, in addition to district level management, should contribute to development of the revised designs. This process should also include identification of equipment needs.

**Lesson 7** Unique facility designs need a higher level of construction capacity and/or supervision than available for GoI funded infrastructure so are much less likely to be replicated.

**Lesson 8** Agreement on the responsibility for and then implementation of site clearance creates problems and delays reconstruction activities. Particularly if heavy equipment is required, AusAID should undertake site clearance, if the community does not pay for it.

**Lesson 9** The managing contractor for reconstruction activities should have core infrastructure design and construction management and supervision expertise with Indonesian experience. Such firms should be available at short notice on a period offer. The decision to no longer use Imprest accounts, requiring the AMC to pre-fund the construction may further reduce the pool of potential contractors.

The AMC should use technical support from sector program management contractors or individual technical specialists to support the engineering contractor in the consultation process and to provide supporting technical assistance and training. This support should include a practical project economist who can ensure that benefit:cost analysis is used to assess spending.

The scale of this sector technical input will depend on the size of the disaster. For large disasters (for example: Aceh), this could be a sector based management contractor, for small disasters (for example Nias), this could be a 1-2 technical consultants retained by the engineering contractor. If appropriate expertise cannot be sourced from current Indonesia based (IndII) or Canberra based AusAID period offers, IndII / SMEC should be asked to add this expertise to their database.

**Lesson 10** Provincial based construction contractors can achieve good construction quality with on-site supervision by experienced site engineers supported by more experienced supervising engineers and focused training programs.

**Lesson 11** The (small) equal allocation of contract payments, particularly in the early stages is a probable constraint on construction progress. Also, the sub-contractors cannot take full advantage of bulk purchase discounts. The payment structure for progress payments to the building sub-contractor should take account of the costs of building materials needed at different stage of construction.

**Lesson 12** When simultaneous construction activities are planned, the benefits of having a small number of contractors should be considered to minimise demands on management.

**Lesson 13** Procurement of specialised equipment for facilities needs to be adapted to the needs of each facility through consultation with the staff of each facility. It is critical that such specialised equipment can be serviced and supported in Indonesia.

**Lesson 14** Contractors should be encouraged to employ local workers, this:

- Generates local income at a time when extra income is needed
- Strengthens links to the community and ownership
- Provides workers with additional skills useful at village level

The on-site construction supervisor should direct more training effort to new local staff. An orientation training package (as used by SRP) would be useful.

**Lesson 15** Communities may prefer that AusAID manages reconstruction activities. This may be because:

- GoA funded reconstruction is seen to be better quality
- AusAID management of the funds minimises community differences on how the funds should be spent and maximises the amount available for reconstruction.

## **1.4 Next Steps**

A further meeting will be held with Coffey to finalise information collection. The draft report will be submitted to AusAID by 22 nd February. After comments from the stakeholders, the final report will be submitted by 15 March 2012.

## **1.5 Acknowledgements**

The ICR Team gratefully acknowledges time given and contributions made by all stakeholders met during the visits. Any errors, misunderstandings and omissions are solely the responsibility of the ICR team.

The AusAID Jakarta Disaster Response Unit, with the Health Sector team, assisted by Coffey, planned the mission and accompanied the Team on its field trips. The essential interpreter support was very capably provided by Ms Dewi Arilaha.

## Annexes

### ANNEX A. Independent Evaluation Team Members

Ian Teese, Team / Leader, Evaluation Specialist

Andrew Whillas, Infrastructure Specialist

### ANNEX B. Meetings and People Met

Date	Activity and People Met
<b>Monday 23 Jan</b>	Travel
<b>Tuesday 24 Jan</b> 9.00-10.30	Briefing with AusAID Health Sector and DRU Teams Ms Amanda Simmonds, First Secretary, Ms Penny Davis DRU Manager Jeong Park, Disaster Management Adviser, Piter Edward, program manager, Ms Fenni Rumi, Ms Helen McFarlane, Director of Health Sector and DRU
11.00-12.00	Coffey ID Team Rene Schinkel, Ms Diani Widiastuti, Willi Brianto
12.30-14.00 14.00-16.00	Marten Eddy, TTW, Terry Smith, Floth, Dedy Andrian, Floth, Gernadi, WTP
<b>Wednesday 25 Jan</b> 09.00 - 14.30	Puskesmas Pauh Kamar Ibu Yusneli, Head of Puskesmas, Dr. Eva, Dentist, Ibu Rika Amelia, Head of Administration, Jon Kenedi, Head of Subdistrict, Waki Nagari.
15.00- 16.00	Debriefing with Coffey, Pak Mirza and TTW, Floth, WTP field supervision team.
<b>Thursday 26 Jan</b> 09.00- 11.00	Puskesmas Sei Geringging. Dr Yanti, Head of Puskesmas, Ibu Hamidah, Head of Midwives, Pak Yunis, Head of Administration, Elend Desmond, community representative, Masy PJS, Pak Jasri, Health Promotion
13.30- 15.00	Dinas Kesehatan Padang Pariaman Mr Hanif, Secretary, Mr Darmadi, Head Sub Unit Personnel
16.30- 18.00	Andrew Whillas with Coffey Engineer review design and construction documentation Ian Teese, Piter Edward. Pariaman city, Mr Firdaus, Head of PKBI Sumbar
<b>Friday 27 Jan</b> 07.30- 11.00	Puskesmas Koto Bangko. Dr Abrian, Head of Puskesmas, Ibu Rina, Midwife Coordinator, Ibu Syansu, Head of Nursing, Mr Rabiatal, K3 coordinator
13.45-17.30	Puskesmas Padang Alai. Ibu Reni, Head of Puskesmas, Dr Mayang, Ibu Net, Nutrition, Ibu W Midwife. Pak Zaherman, Wakil Desa
19.00- 21.00	Dinner with Luca Peciarolo, Mercy Corps West Sumatra Director
<b>Saturday 28 Jan</b> 11.00-12.00	Meeting with Bupati Pariaman District Dr Ali Mukhni Bupati Pariaman District. Mr Zunirman, Head of Dinas Kesehatan Padang Pariaman, Ali Mustofa, Head of District BPBD Pariaman.
12.00-12.30	Lunch with Bupati Pariaman and staff
13.55-15.30 17.00 - 18.00	Puskesmas Kayu Tanam. Dr Widya Syfity, Ibu Azi Yunita, Head of Administration, Ibu Reti, midwife Meeting with Sub-Contractor Puskesmas Sei Geringging Ir. Reinier, PT Arda Jaya
<b>Sunday, 29 Jan</b>	Collate and review information collected and start drafting aide memoire.
<b>Monday 30 Jan</b> 7.00 – 11.00 11.00-12.00	Puskesmas Batu Basa Dr Edy Karwone, Head, Ibu Jusnita, Head of Administration Inspection of school constructed by SRP at Sei Geringging
1.00-3.30	Puskesmas Kampung Dalam. Dr Nurhayati, Head, Pak Bahar, Head of General Clinic, Ibu Zamride, Head of Administration, Ma Dona Marina, midwife, Pak Syafriza, staff, Ibu Erniza, dental nurse
17.00-18.00	Meeting with Sub-Contractor Puskesmas Koto Bangko Mr Kenedy PT Landsano
<b>Tuesday 31 Jan</b> 7.00 – 8.30 08.30- 11.00	Visit to Puskesmas Ulakan (non-project) with Pak Kenedy, contractor who built the puskesmas Puskesmas Sikabu. Dr Yuli, Head, Ibu Dahniar, Head of Administration, Ibu Yeni, Deswita, nutritionist, Ibu Lelli, midwife
11.45-12.30	Meeting with Lab. Construction University of Andalas Mr Fauzan
1.30 – 17.30	Travel back to Jakarta
<b>Wednesday 1 Feb</b> 09.00 – 10.15 10.50 – 11.00	Meeting with Faculty of Community Health, University of Indonesia. Ahmad Fuady Meeting with Save The Children. Ms Maharani Hardjoko, Emergencies Program Manager
14.30-15.00	Meeting with Widya Setyowati, AusAID Program Manager, Health
<b>Thursday 2 Feb</b>	Finalising aide memoire and presentation. Collating information



Date	Activity and People Met
<b>Friday 3 Feb</b> 09.00 – 11.00	De-Briefing with AusAID. Presentation of Aide Memoire
11.00 – 13.00	Meeting with Coffey. Pak Irfani Darma and Ir. Indra Sasmito
13.30-14.00	Meeting with Mat Kimberley, AusAID Operations Manager
<b>Sat 4 Feb</b>	Return to home bases

## Annex C. Preliminary Estimates of Infrastructure Building Costs<sup>1</sup>

Project and Year	Location	Description	Estimated Cost <sup>1</sup> (Rps. '000,000)	Mean Footprint (m <sup>2</sup> )	Mean Unit Cost (Rps.,000,000/m <sup>2</sup> )
Puskesmas AusAID 2011	West Sumatra	PPHFR New two storey puskesmas. Contractor	2,200	542	4.10 <sup>2</sup>
Puskesmas at Ulakan, PP	West Sumatra	Dinkes two storey puskesmas 2008 <sup>3</sup>	1,300	320	4.10 <sup>2</sup>
Review of post- earthquake reconstruction.	West Sumatra	Based on review of actual reconstruction costs in West Sumatra <sup>4</sup>			3.0 – 3.2 (3.45 - 3.68, allowing for 15% contractor margin)
SRP AusAID & USAID 2011	West Sumatra	Construction of single story primary schools and one madrasah	1,564	650	2.40 <sup>5</sup>
Buddha Tzi Foundation SDN, SMP school	Pangalengan West Java	Large school with 20 + rooms plus multipurpose rooms and laboratories	7,000	1,500 (est.)	4.66 <sup>5</sup>
NRP AusAID 2008	South Nias	Construction of single level sub-district offices	1,736	750 (est.)	2.31 <sup>2</sup>
SDN School JICA – 2011	Padang, West Sumatra	Construction of multi-story primary school. Contractor	2,430	550 (Est.)	4.41 <sup>5</sup>

- Note:
1. Estimated costs are for building only – Supervision and school/office/clinic equipment cost not included
  2. Based on final contract costs and includes contractor margins
  3. This puskesmas was not damaged by earthquake.
  4. Undertaken by Klinik Konstruksi, Andalas University (personal communication)
  5. Based on information provided by SRPMC.
- Consultants' estimates based on anecdotal information.

## Annex 4 Guiding Questions

### A. By Respondent

Group	Main issues
Puskesmas staff	<ul style="list-style-type: none"> <li>• Interaction<sup>1</sup> with Coffey during planning, construction and commissioning stages.</li> <li>• Interaction with district, provincial and central health management</li> <li>• Interaction with PPHFRP technical and financial management staff</li> <li>• Allocation of funding to equipment, furniture and other items lost in the earthquakes</li> <li>• Availability of operational budgets for (staff, utilities, etc.) and maintenance budgets for the expanded facilities</li> </ul>
Local community	<ul style="list-style-type: none"> <li>• Interaction with Coffey and puskesmas / health department staff during planning, construction and commissioning stages.</li> <li>• Interaction with district, provincial and central health management</li> </ul>
Construction contractors	<ul style="list-style-type: none"> <li>• Relationship with Coffey and the engineering and quantity surveying consultants</li> <li>• Appropriateness of the puskesmas designs and specifications in a disaster reconstruction environment</li> <li>• Site preparation arrangements</li> <li>• Staff turnover</li> <li>• The use of local unskilled labour for construction</li> <li>• Economies/ benefits (or otherwise) of splitting construction contracts between several contractors</li> <li>• Issues leading to problems completing PHCs at Kampung Dalam and Kayu Tanam PHCs</li> <li>• Impact of the disaster on the prices and availability of materials, labour and equipment. Impact on post versus pre-disaster construction costs</li> <li>• QA of construction and procurement processes</li> <li>• Interaction with PPHRFP technical and financial management staff</li> </ul>
Local materials suppliers and contractors	<ul style="list-style-type: none"> <li>• Interaction with construction contractor</li> <li>• QA and procurement processes</li> <li>• Impact of the disaster on the prices and availability of materials, labour and equipment</li> </ul>
Design, Engineering and QS monitoring consultants	<ul style="list-style-type: none"> <li>• Working relationship with AusAID</li> <li>• Working relationships with Coffey and the construction contractors</li> <li>• View on PHC designs and construction standards</li> <li>• Value added through use of monitoring consultants</li> <li>• Roles in future reconstruction activities</li> </ul>
District / province health administrators	<ul style="list-style-type: none"> <li>• Ownership of planning and implementation processes – involvement at each stage of implementation</li> <li>• Coordination of donor activities and matching GOI agency priorities</li> <li>• Site allocation (criteria and prioritisation) and preparation</li> <li>• Interaction with PPHRFP technical and financial management staff</li> <li>• Inputs to planning process and responsiveness of managing contractor to proposals</li> <li>• Allocation of funding to equipment, furniture and other items lost in the earthquakes</li> <li>• Asset handover issues on completion</li> </ul>

<sup>1</sup> “Interaction is used in this table as a general abbreviation for the description of the level of consultation, participation and consequently ownership of the facilities by the respondents, which is one of the assessments to be made by the ICR team.

Group	Main issues
	<ul style="list-style-type: none"> <li>• Availability of operational budgets for (staff, utilities, etc.) and maintenance budgets for the expanded facilities</li> <li>• Comparison of contracted reconstruction with other modalities</li> <li>• Comparison with GOI and other donor funded reconstruction activities (district / village level school and health centres)</li> </ul>
Other health sector relief agencies	<ul style="list-style-type: none"> <li>• Activities in West Sumatra of other relief agencies such as IMC and Mercy Corps</li> <li>• Balance of resources allocated to direct field activities such as WASH and reconstruction / re-equipping of health infrastructure</li> <li>• Coordination of donor activities and matching GOI agency priorities</li> </ul>
AusAID	<ul style="list-style-type: none"> <li>• Resourcing available for developing and managing reconstruction activities and contracting specialised engineering supervision resources.</li> <li>• Processes for accessing technical resources needed to support decision making. This includes design, specialised engineering and quantity surveying specialists with appropriate experience in kecamatan level construction activities.</li> <li>• Relative roles, responsibilities and resourcing of AIPMNH and DRC management units for PPHRFP and future similar activities</li> <li>• Managing contractor performance</li> <li>• Involvement and contribution of counterpart organisations</li> <li>• Experience from other similar disaster and non-disaster health and education reconstruction processes including AusAID management inputs and relative MC costs eg SRP, Yogyakarta and Aceh.</li> <li>• Experience from reconstruction activities at community level in other sectors, particularly the schools sector</li> </ul>
Ministry of Health	<ul style="list-style-type: none"> <li>• Ownership of planning and implementation processes</li> <li>• Managing contractor and AusAID responsiveness</li> <li>• Experience from other similar disaster puskesmas reconstruction activities</li> <li>• Experience from other non-disaster puskesmas reconstruction activities</li> <li>• Basis for expanded facilities and services at PPHRFP</li> </ul>
Coffey	<ul style="list-style-type: none"> <li>• Expand on information provided in the draft ACR</li> <li>• AusAID responsiveness, inputs and supervision/management processes</li> <li>• Appropriateness of planning and implementation processes</li> <li>• Contributions and interest of national and provincial level health agencies</li> <li>• Issues leading to problems completing PHCs at Kampung Dalam and Kayu Tanam PHCs</li> <li>• Assessment of contracted reconstruction activities compared to other construction modalities</li> <li>• Comparison of AIPMNH and PPHFRP design and construction approaches</li> <li>• Cost-effectiveness of MC engineering and support activities</li> </ul>
Other Reconstruction Donors (JICA, etc.)	<ul style="list-style-type: none"> <li>• Effectiveness of contractor based or other reconstruction modalities</li> <li>• Management and supervision costs of contractor based reconstruction systems</li> </ul>

## B. Construction Related Information to be Collected

During visits to the first 1-2 puskesmas, most of the points covered in this list will be covered. For later half day visits, the ICR team will focus on the utility, construction quality and serviceability of the new facilities plus check aspects which appear to be have systematic weaknesses which will impact on the life and useability of the new facilities.

1. Comparison of original puskesmas with reconstructed puskesmas:
  - (a) Physical; area, scope, functional layout, number of rooms, equipment, date of construction, etc.
  - (b) Operational; budget; number of staff and specialisation; numbers of patients; gender disaggregated; etc.
  - (c) Reasons for any significant differences between original and reconstructed puskesmas
2. Basic documentation for reconstructed puskesmas; scope; key dates for each stage of implementation; final costs for preparatory works; design, supervision and construction; names of responsible entities.
3. Review of completeness of As-built drawings and Operation and Maintenance manuals.
4. Evidence of certification of designs for compliance with Indonesian Standards, Codes and Building regulations
5. Evidence that the puskesmas was constructed reasonably in accordance with the approved design eg QA records, use of non-ACM materials etc.
6. Spot-checks, to the extent possible, of key aspects of the completed puskesmas against the as-built drawings. Comment on the scope, safety, quality and durability of the completed structures.
7. Check for compliance with GOA policies on; use of ACMs; disability access; use of sustainably harvested timber, etc.
8. Consultation with staff and other stakeholders during the reconstruction process.
9. Training of staff in operation and maintenance;
10. Staff assessments of functionality of new versus old puskesmas; improvements and disadvantages.
11. Use of appropriate technology. Are the skills for the maintenance of the structure and any equipment provided available locally (in Indonesia)?
12. What arrangements have been made for use of the puskesmas in a future emergency situation? Is there an emergency generator, water supply, communications, etc.?

### **C. Areas to be Discussed with Puskesmas and Community Stakeholders**

These questions will be used as the basis for a conversation with the puskesmas staff and management and also with the community group (with some change in emphasis).

1. How effectively and clearly were the roles and responsibilities (operational & governance) of the PPHFRP team, DINKES, puskesmas staff and community defined?

2. How well did the project target puskesmas of highest priority and avoid overlap with other donor's activities?
3. How effectively and clearly were the roles and responsibilities of GOI (DINKES and puskesmas), GOA and the management contractor? Aspects include funding and implementation of:
  - a. clearing damaged puskesmas sites
  - b. monitoring of construction activities
  - c. essential equipment and materials for the puskesmas
4. How well did were damaged puskesmas cleared and removed from site? Was this completed in a timely manner?
5. What aspects of the construction model worked well and what aspects did not?
6. How effective were the engineering support resources in addressing:
  - a. Anticorruption
  - b. Engineering skills/discipline
  - c. Links between the contractors, puskesmas managers and the community?
7. How sustainable are the GOI resources are for operating and maintaining the upgraded puskesmas assets?
8. How well are the building fit for purpose in term of delivering health services and providing a safe building in future earthquake / tsunami events?
9. What unforeseen benefits (or negatives) have come from the reconstruction activity?

## Annex 5 Details and Costs of Puskesmas Reconstructed

(Exchange rates used based on [www.x-rates.com](http://www.x-rates.com) for months when contracts / amendments made. The actual exchange rates used varied from these rates)

No	Name of Puskesmas	Name of Contractor	Start Date	Pre Hand Over Date	Final Hand Over Date	Contract Price		Revised Costs Included in 2 <sup>nd</sup> Amendment (April to Aug 2011)	
						Rps.	AUD 1 = IDR 8,400	Rps.	AUD 1 = IDR 9,100
1	Pauh Kamar	PT Multipilar Indah Jaya	15-Oct-10	May-11	Jan-12	2,125,222,000	253,003	2,248,965,000	247,139
2	Sikabu	PT Multipilar Indah Jaya	15-Oct-10	May-11	Jan-12	1,829,921,000	217,848	1,917,895,000	210,758
3	Sungai Geringging	PT Arda Jaya	15-Oct-10	Jun-11	Jan-12	1,946,560,000	231,733	2,141,560,000	235,336
4	Batu Basa	PT Resta Perdana	15-Oct-10	Jun-11	Jan-12	2,074,890,000	247,011	2,224,776,000	244,481
5	Padang Alai	PT Landsano Jaya Mandiri	15-Oct-10	Jun-11	Jan-12	2,287,996,000	272,380	2,427,598,000	266,769
6	Koto Bangko	PT Vika Cipta Mulia	15-Oct-10	Jun-11	Jan-12	2,119,998,000	252,381	2,259,545,000	248,302
7	Kampung Dalam	PT Landsano Jaya Mandiri	15-Nov-10	Oct-11	Feb-12	2,129,000,000	253,452	2,266,730,000	249,091
8	Kayu Tanam	PT Carano Perak Berjaya	15-Nov-10	Nov-11	Feb-12	2,000,000,000	238,095	2,145,729,985	235,795

## Annex 6 Infrastructure Working Paper

A summary of issues noted during the visits to each puskesmas is provided in Attachment 1. This information has been summarised in the following sections and then included, where appropriate, in the main report.

### 1. Site Preparation

In all cases the puskesmas were built on the site of the previous puskesmas which had either completely collapsed or had suffered irreparable damage in the earthquake. In several cases the previous puskesmas was less than two years old.

Commitments by the District Government<sup>2</sup> to clear sites were only fulfilled at two sites (Sikabu and Koto Bangko) where community labour was able to remove the relatively simple single storey puskesmas.

The six other sites where two storey buildings had collapsed required the use of heavy equipment to break-up the concrete columns, beams and floors slabs before clearance. This work was arranged and paid for by Coffey.

### 2. Design Features of the New Puskesmas

Features of the design include:

- The buildings are designed to comply with the Indonesian earthquake code for seismic Zone 6
- Bored pile foundations 6-7 metre deep were used at three sites (Pauh Kamar, Sungai Geringging and Batu Basa) because of poor soil conditions. Conventional pad footings were used elsewhere.
- Improved layout design separating emergency and maternity patients from general patients waiting for treatment
- Low and easy maintenance
- No timber or ACMs used in the structure
- Separation of sterile and non-sterile working and patient areas
- A flexible and large open space area on the first floor for training and meetings
- Natural air ventilation through fixed louver vents and wide opening windows
- Design to assist women and children, and disabled clients
- Rainwater harvesting to provide an alternative water source
- Water tanks in the roof to provide gravity fed water supply during electricity failures.

### 3. Building Structure

The buildings are two-storey of almost square plan area with approximately 340 sq m of useable space on the ground/first floor and 200 sq m on the second floor. They have a skillion roof of colour-bonded zincalume sloping at 15° and stepping down over the single storey area above the emergency ward and birthing and dental clinics. An architectural feature of the building is a row of raking (8°) columns which extend from ground level to 11.5 m to support the top of the skillion roof.

Structurally the building is supported by a reinforced concrete frame with masonry infill wall panels with a suspended slab for the second floor. It has been designed for the most severe earthquake loading in the Indonesian seismic code, Zone 6. The balance of walling comprises aluminium framed fixed and hopper glass windows with fixed metal louvers to facilitate cross-ventilation. The structures are supported on bored piles where soil conditions deem pad footings to be inadequate. A ramp suitable for wheel chair and stretcher access has been integrated into the front of the building outside the entrance to the emergency ward. A toilet for the disabled is situated adjacent to the male and female patient toilets at the rear of the building on the ground floor.

Internally the void provided by the skillion roof is generally open to assist ventilation on the top floor but a section at the rear of the building is blocked off to provide space for the installation of three water storage/header tanks.

While a square plan or rectangular plan is regarded as good practice for the resistance of earthquake loads and raking columns, if properly integrated into the structural framing, are good for transferring the horizontal earthquake loading into the footings, a weakest in the design is the use of heavy masonry for the sloping walls

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<sup>2</sup> Re-emphasised during the ICR team meeting with the Padang District Bupati.

up high at the end of the skillion in lieu of lighter stud wall construction. The use of stud walls in this location would have also facilitated the installation of some form of venting which is missing from the current design.

Construction quality of the main structural elements appears to be good and they should have a physical life in excess of the 30 years if properly maintained.

#### **4. Building Layout**

While it was expedient and sensible in a disaster situation to use one design for all puskesmas independent of need (as Dinkes appears to do even in normal times), a modular design would have allowed adaption to the differing needs / space at different sites.

At Dinkes request the new puskesmas were expanded in size by 60% (from 340 to 540 square metres) to accommodate new amenities not available in the old puskesmas ie. emergency and birthing wards.

(a) Building design aspects most liked by the end users:

- Natural lighting is good. Night lighting is bright
- Staff and patient flow/circulation is good.
- High ceilings on the second floor;
- The meeting room was a favourite and very useful as some puskesmas have up to 200 volunteers.
- More space/larger in aggregate area has allowed the multipurpose rooms in the old puskesmas to be replaced by new single function rooms in the new puskesmas.
- The strong construction;
- Being consulted in the design process;

(b) Other design issues mentioned to the ICR during the visits to the eight puskesmas:

- Lack of eaves to prevent rain falling on waiting area and stairs creating a slip hazard;
- Lack of cross-ventilation or the provision of ceiling fans in the downstairs offices and clinics;
- Inability to be able to secure the building out of hours. There is no door or security grill for the stairs and neither the downstairs or upstairs toilets can be locked from the outside;
- Security of equipment should have been given more attention eg emergency tent frame is stored unsecured on the side of the building
- The dental clinic is away from the waiting area. It was suggested that it could be interchanged with the laboratory;
- The commercial area at the front of the building has been purpose-designed for ATMs. The area has not been used for this purpose in any of the puskesmas and because of its fully glassed design is difficult to reallocate to other uses.
- There is no permanent installation for the emergency generator. The current temporary connection is inappropriately position outside the emergency ward;
- The Immunisation clinic is too small to comfortably handle two staff, a bed for the patient and the patient's minder;
- Various, and often different, requests for larger or more rooms in different puskesmas depending on particular operational requirements;
- Some light fittings on 2nd floor corridor and over stairs very high (5 – 6m off the floor) and difficult to access for cleaning and bulb replacement;
- Hopper type windows opening on to the corridors present a potential injury hazard;
- There is no musholla. A small musholla is included in the standard GOI design;
- A second staircase would be helpful at the front to access the meeting room for large meetings
- Need for bird-proofing of fixed louvers in some locations;

#### **5. Access to Experienced Health Sector Architectural Advice**

Although, the Detailed Engineering Design (DED) Team had discussions with puskesmas staff before finalising the three proposed designs, feedback from discussions with the puskesmas staff to the ICR team indicates that the layout, while solving some functional problems, has created other problems as mentioned above. This may have come about for several reasons, one of which may have been that the DED team, and Coffey's, lacked experience in health infrastructure planning and design.

One contract was awarded by Coffey covering both the architectural design and the detailed engineering design of the eight puskesmas. A Request for Quotation (RFQ) was advertised by Coffey for a Detailed Engineering



Design (DED) Consultant. Nine firms expressed interest but only four firms' submitted technical and financial proposals.

The RFQ proposals were assessed on the basis of 70% for the technical and 30% financial aspects. The technical aspects were further sub-divided as: Deliverables/scope of services (15%); Engineering Team Capacity/personnel CV (15%); Equipment and tools (10%); Methodology (10%); Consultant Experience with related projects (10%); Time line for DED submission (10%).

One bidder was excluded for technical non-compliance (coincidentally it had an identical financial proposal to the winning bid CV PET) and a second proposal was eliminated as their price was more than three times Coffey's budget for the DED.

The two remaining firms CV PET and PT Global Rencana Selaras (GRS) were invited to clarify their financial proposals at separate meetings with Coffey in order to ensure that the comparison was done on an "apples with apples" basis. CV PET who had scores highest technically and whose price was lower than Coffey's estimate was awarded the DED contract following the interview.

While the ICR does not take issue with the process followed by Coffey the process ultimately resulted in choice between an architectural firm with a strong experience in hospital and health facilities planning and design and an engineering and project management company with little experience in health infrastructure. What was needed was a mix of both skills. The TOR mentions the need for a Detailed Architectural Design (DAD) as well as a DED but ultimately the process produced the latter.

In reviewing the DED selection process, documentation available to the ICR team indicated that: (i) No member of the TAP had architectural skills or any significant involvement in health infrastructure planning, design or construction; (ii) only 10% of the technical weighting was given to "Consultant Experience with related projects" despite the TOR stressing the need for such experience; (iii) GRS is a Yogyakarta based specialist in health infrastructure and has been involved in the planning and design of more than 30 hospitals in Indonesia since 2005 as well as puskesmas near Yogyakarta. They also worked with Coffey on the planning of the reconstruction of health facilities in Aceh after the tsunami. (iv) In contrast the ICR team was unable to identify any health infrastructure planned, designed or built by CV PET. (v) As well all of the architects proposed by PET had less than 6 years' experience and none had any significant experience on health facilities in contrast to the more experienced architects (15 years' experience) in the GRS proposal.

While the ICR team believes that PET performed satisfactorily on the engineering aspects of the DED some of the design shortcomings identified by end-users above and the ICR may have been avoided if: (i) more emphasis was given to Detailed Architectural Design (DAD) compared with the DED in the technical assessment; (ii) the TAP had included at least one architect experienced in health facility planning and design; and (iii) where technical skills are critical to a successful outcome an 80/20 technical/financial split may be more appropriate than the 70/30 used.

## **6. Puskesmas Equipment**

All puskesmas' staff reported that the equipment received had been up to standard and appropriate. Observations in all puskesmas showed that most equipment was being used<sup>3</sup>, in particular the dental treatment rooms were being well used. There were few mismatches between needs and equipment supplied. The equipment has been sourced in Indonesia and hence parts and service are able to be obtained within the archipelago.

**Generators:** Although the puskesmas had been designed to function as emergency treatment facilities, petrol or diesel generators were not included in the procurement schedules possibly because seven out of the eight puskesmas had small petrol operated generators provided by donors or NGOs. Most of these generators were not large enough to operate all lights and equipment (cold-chain refrigerators, compressors for the dental clinic, water pumps, etc.) so had to be used with care to prevent overloads. At least one generator was not functional. The generator power connection point to the building's electrical system has been located outside the emergency room so if the generators were located there they would create noise and fumes problems when they being used in an emergency situation. Also there was no secure weather protected housing for the generators in a location away from the main work areas.

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<sup>3</sup> The main exception was in the two puskesmas (Koto Bangko and Padang Alai) which were not providing neo-natal / baby delivery services as they were not certified (because of the lack of staff) to provide the services.

**Medical incinerators:** Two incinerators were provided for destroying medical waste from all the participating puskesmas. These are operated with diesel fuel<sup>4</sup>. Staff had been trained to use them but the incinerator at Pauh Kamar had only been operated once. The plan had been that medical waste from the other PPHFRP six sites would be transferred to these two sites for disposal. Most reported (5/8) that they did not know of the arrangement and continued to burn used bandages and other medical waste in open fires near their sites. The incinerators were appropriate technology but are not being utilised as planned.

**Ambulances:** Each puskesmas was supplied with a fully equipped<sup>5</sup> new ambulance. In six cases<sup>6</sup> this has complemented relatively new ambulances supplied by GoI. The ambulances are used for transporting emergency maternity and general cases, transporting new mothers and the babies back to their villages and for implementing GoI / Dinkes health awareness and prevention programs.

The new ambulances are travelling about 2,000 km per month depending on how far the puskesmas is located from Padang Pariaman and Padang city.

In most cases there is no permanent undercover parking for the ambulances. A canopy has been retrospectively fitted to the front of the buildings to provide protection during the transfer of patients from the ambulance to the emergency ward, but this is not large enough to protect the whole vehicle.

**Savings on procurement:** The AMC is to be congratulated for changing their procurement procedures after possible collusion amongst tenderers to make a very significant savings (about A\$200,000) in the equipment procurement through the change from competitive tendering.

Attachment 1 summarises feedback from staff on the buildings and equipment and other matters identified during the ICR teams visits to the puskesmas.

## **7. Timeliness**

The field visits and discussions indicated that while the construction program was slower than desired, only one other puskesmas (constructed by Mercy Malaysia) was constructed and completed in the same period that the eight puskesmas have been completed. The Dinkes and District government have not reconstructed any other puskesmas and are currently mobilising funding to start on the first priority puskesmas.

There was no criticism of PPHFRP during the field visits on the time taken to complete the construction even though some puskesmas staff were working in difficult conditions around the building site. Factors impacting on the design and construction timeline included:

- A lack of construction and contracting support<sup>7</sup> to the Health Sector team while the response was being designed and documented. The sector team was able to obtain ad hoc support from the AIPMNHP team on technical issues and the EINRIP<sup>8</sup> Monitoring Unit (EMU) engineering staff on general engineering and contracting matters.
- The need for independent technical advice to the Health Sector team finally led to the independent engineering consultants Taylor, Thomas, Whitting International Pty Ltd (TTW) (structural design) with Floth (mechanical and electrical and plumbing (MEP)) and WTP (quantity surveyors) being contracted to provide these services as the ETAC. Their contract was signed in October 2010 when they delivered their review of the detailed designs. The construction sub-contractors had been waiting for about two months for these reviews to be completed so the construction teams could be mobilised.
- The decision to rebuild more substantial puskesmas buildings to accommodate emergency and maternity services. This required additional floor space which required a new building layout to fit within the previous building footprint. The specifications for the buildings with the new layout had to

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<sup>4</sup> Users reported that the incinerators required 5-10 litres per time to burn efficiently plus some electricity for the blowers. The installations were only of a moderate standard.

<sup>5</sup> Radios were fitted to all ambulances but did not have base stations at the puskesmas to allow easy communications.

<sup>6</sup> In Pauh Kamar the old ambulance is not operational. At Sikabu, Dinkes reallocated the old ambulance to another puskesmas.

<sup>7</sup> The AusAID Health adviser is not a structural or civil engineer.

<sup>8</sup> AusAID funded Eastern Indonesia National Roads Improvement Project (EINRIP)

be engineered for differing foundation<sup>9</sup> requirements and earthquake resistance in addition to including detailed designs to suit the clinical needs.

- Designing the upgraded puskesmas took much longer than if designs for the puskesmas which had collapsed had been only upgraded to ensure their safety in earthquakes and minor layout changes had been made within the existing floor plan. This simpler design would also have been more suited to the capacity of the local contractors<sup>10</sup> and been easier to supervise.
- Site clearance delays due to the District government not meeting their commitments to AusAID.
- The contracting payment system (5% increments of completed permanent works, excluding materials on site) created cash flow issues for some contractors slowing down work as they purchased needed materials in smaller quantities.
- The last two puskesmas started at least one month later than the main group and both had issues with contractor performance delaying completion even further (11-12 months to practical completion compared to 7-8 months for the first eight puskesmas. 7-8 months is considered a reasonable construction period for a two-storey structure of the relative complexity of the puskesmas.
- The supervision/monitoring processes created some time delays when issues identified during site visits by the ETAC were not resolved with the West Sumatra engineering team on-site.

Table 1 following sets out the detailed construction timing.

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<sup>9</sup> The foundation requirements were varied through the design with the initial pad foundations being replaced with more expensive bored piles. Finally 3 buildings were built with bore piles.

<sup>10</sup> One of the PPHFRP contractors (PT Landsano Jaya Mandiri) had built a puskesmas to the standard GoI design at Ulakan (near Pariaman) in 2009. Inspections of this puskesmas indicated that it had survived the earthquake with very minor damage.

**Table 1 PPHFRP Construction Implementation Key Dates**

No	Name of Puskesmas	Name of Contractor	Date of Completion of Site Clearance by Coffey or Others	Date Contract Signing (Handover of site Dinkes to Contractor)	Date Joint Inspection & Preparation of Defects List (Contractor + Coffey + Puskesmas)	Date Practical Completion & Start of Defects Liability Period	Construction Duration to Practical Completion Months [7-5]	Date of End of 6 months Defects Liability Period	Date Joint Inspection against Final Defects List (Contractor + Coffey + Puskesmas + AusAID Rep)	Date Handover from Contractor to Coffey	Date Hand Over from Coffey to AusAID	Date Hand Over from AusAID to GoI (DINKES)
	2	3	4	5	6	7	8	9	10	11	12	13
1	Pauh Kamar	PT Multipilar Indah Jaya	May – June 2010	15 Oct 2010	04 May 2010	May 2011	7.5	Nov 2011	TBA	30 June 2011	Jan 2012	Nov 2011
2	Sikabu	PT Multipilar Indah Jaya	May – June 2010	15 Oct 2010	04 May 2010	May 2011	7.5	Nov 2011	23 Jan 2012	30 June 2011	Jan 2012	Nov 2011
3	Sungai Geringging	PT Arda Jaya	May – June 2010	15 Oct 2010	03 May 201	Jun 2011	8.5	Dec 2011	12 Jan 2012	30 June 2011	Jan 2012	Nov 2011
4	Batu Basa	PT Resta Perdana	May – June 2010	15 Oct 2010	03 May 2010	Jun 2011	8.5	Dec 2011	25 Dec 2012	30 June 2011	Jan 2012	Nov 2011
5	Padang Alai	PT Landsano Jaya Mandiri	May – June 2010	15 Oct 2010	04 May 2010	Jun 2011	8.5	Dec 2011	TBA	30 June 2011	Jan 2012	Nov 2011
6	Koto Bangko	PT Vika Cipta Mulia	May – June 2010	15 Oct 2010	03 May 2010	Jun 2011	8.5	Dec 2011	TBA	30 June 2011	Jan 2012	Nov 2011
7	Kampung Dalam	PT Landsano Jaya Mandiri	August 2010	15 Nov 2010	03 May 2010	Oct 2011	11.5	Mar 2012	TBA	31 August 2011	Feb 2012	Nov 2011
8	Kayu Tanam	PT Carano Perak Berjaya	05 August 2010	15 Nov 2010	04 May 2010	Nov 2011	12.5	May 2012	TBA	31 August 2011	Feb 2012	Nov 2011

## Attachment 1 Summary of Visits to Each Puskesmas

	Order as per ICR visit	1	2	3	4	5	6	7	8
	Item	Pauh Kamar	Sungai Geringging	Koto Bangko	Padang Alai	Kayu Tanam	Batu Basa	Kampung Dalam	Sikabu
1	Date of visit by ICR	25 Jan	26 Jan	27 Jan am	27 Jan pm	28 Jan pm	30 Jan am	30 Jan pm	31 Jan am
2	Operational	Operational from March 2010	Operational	Operational from 11 June 2011 - not used for 24 hr Emergencies or birthing due to lack of staff (Doctors).  Bupati has promised to fund 24hr operation by June 2012	Opened May 2011  Emergency not used – waiting for decree from Dinkes for 24 hr services.	Operational	Operational from July 2011	Operational	Operational
3	Operating hours	24 hours	Hours 0800 – 1330 Mon – Sat 0800 – 1200 Friday	Hours 0800 – 1330 Mon – Sat 0800 – 1200 Friday	Hours 0800 – 1330 Mon – Sat 0800 – 1200 Friday	Hours 0800 – 1330 Mon – Sat 0800 – 1200 Friday	24 hour s	Hours 0800 – 1330 Mon – Sat 0800 – 1200 Friday	Hours 0800 – 1330 Mon – Sat 0800 – 1200 Friday
4	Communications	Have landline – private internet (modem)	No Landline yet – scheduled for Feb 2012	No landline – none in the area.	No landline	Have landline and fax. For internet use modem.	No landline.	Have landline	Have landline
5	Site preparation	Kepala Desa family donated land  Subdistrict no capacity to demolish 2-storey building- need big equipment – pass responsibility to district.	Old PMS destroyed – only 6 months old ( 2 storey 540m <sup>2</sup> IDR 750 million) no emergency or delivery ward. Worked from soccer field until current PMS finished.					Previous 2-storey PMS on same site only one year old (built in 2008) destroyed.	Very tight site.  Width of building reduced.
6	General Design Issues  Applying to All Puskesmas identified by the Staff and or the ICR	<ul style="list-style-type: none"> <li>Lack of eaves to prevent rain on waiting area and stairs.</li> <li>Some wind-blown rainwater ingress during storms. Lack of brows above windows contributing factor.</li> <li>Door way between pharmacy store and dispensary would be useful.</li> <li>Immunisation office too small</li> <li>Emergency Generator Set connection to building electrics in wrong place near emergency.</li> <li>No permanent installation for genset - security and noise aspects in exposed location outside emergency.</li> </ul>							

	Order as per ICR visit	1	2	3	4	5	6	7	8
	Item	Pauh Kamar	Sungai Geringging	Koto Bangko	Padang Alai	Kayu Tanam	Batu Basa	Kampung Dalam	Sikabu
		<ul style="list-style-type: none"> <li>Dental clinic should be near waiting area.</li> <li>(TTW) Design life for paint on purlins</li> <li>Lack of eaves and eyebrows over windows to prevent ingress of water.</li> <li>Some light fittings on 2<sup>nd</sup> floor corridor and over stairs very high and difficult to access for bulb replacement and cleaning.</li> <li>Hopper type windows opening on to the corridors a potential injury hazard.</li> <li>No overhead fans – ventilation an issue in meeting area.</li> <li>Landscaping or paving between the building and the boundary should have been included in the contract to improve drainage and serviceability of the area.</li> <li>Weatherproofing of building should be given more attention especially stairwells and through vents.</li> <li>Undercover parking for ambulance not provided in design.</li> <li>Ventilated block work infill and polycarbonate sheeting on stairways and at front of PMS not in the original design. Has been retrofitted contract (extra) in an attempt to prevent rainwater ingress.</li> <li>Unable to secure the building, especially upstairs and downstairs toilets which cannot be locked.</li> <li>Exposed pipe work on external wall at rear of building should have been contained in ducts inside the building structure/cladding.</li> <li>Clear glass to incubator room – no blinds or curtains for privacy.</li> <li>2<sup>nd</sup> staircase would be helpful at front for large meetings.</li> <li>Direct sunlight into meeting room no eaves, requires internal blinds or curtains.</li> <li>No musholla included in design – small musholla in GOI design. All rooms in new puskesmas are being used.</li> <li>Security of building and equipment should have been given more attention.</li> <li>Fixed partitioning reduces flexibility on top floor</li> <li>No vents in wall on 2<sup>nd</sup> floor above ceiling level – high end of skillion</li> <li>No cross-ventilation in 1<sup>st</sup> floor offices</li> <li>Lack of fully non-slip tiles on exposed corridors and stairs. Need for rubber matting to prevent slipping when wet</li> <li>Specification of raking brickwork to top of skillion is not recommended in an earthquake area. This should have been specified as lightweight framing and cladding. This would also reduce the seismic forces in the structure and hence it would be more economic.</li> <li>Drainage of the elevated water storage area. This should be designed to eliminate the possibility of water entering the building under any circumstances.</li> <li>Conventional modular design may have helped accommodate building size reduction necessitated by restricted sites.</li> <li>Modular construction may have improved ability to cater for different needs at different sites in a cost effective manner.</li> <li>Finishing off/paving of area between building and boundary at side and rear to allow better drainage and maintenance access and cleaning.</li> <li>Moveable/drawable curtains installed for patient privacy in Emergency, Birthing and Immunisation rooms - this should have been standard in all Puskesmas.</li> <li>Vertical blinds or curtains should be fitted to incubator room.</li> <li>No garage for the ambulance.</li> <li>A genset with sufficient capacity should have been provided by the project and set up in a permanent installation with sound proofing as necessary.</li> <li>Emergency tent frame exposed to the weather and rusting on side wall. This should be covered/protected and secured against theft.</li> <li>Consider the need for bird-proofing at design stage.</li> </ul>							

	Order as per ICR visit	1	2	3	4	5	6	7	8
	Item	Pauh Kamar	Sungai Geringging	Koto Bangko	Padang Alai	Kayu Tanam	Batu Basa	Kampung Dalam	Sikabu
7	Other Specific Design and Function Issues identified by Staff	Door to immunisation storage area too narrow to allow the installation of the vaccine refrigerator.		Downstairs birthing room used as an office.	Stairs slippery when wet but ground floor and first floors are not regarded as slippery.	Leakage from rain into Laboratory and meeting Room.  Stairs and floors slippery when wet.		Genset has been moved towards the back of the building away from the Emergency ward.	
8	ATM/Concessions area	ATM/Concessions area not used	ATM room empty.	ATM room used for TV set only.	- ATM room empty - Laboratory not used (no staff)	ATM room empty except for refrigerator.	ATM room empty.	ATM room empty except for cupboard for medicines.	ATM room empty.
9	Construction and Finish	Only 2 locals recruited as security guards during construction. Labour Rates only Rps.50,000 while Rps. 65,000 elsewhere.  Leakage between frame and wall.  Wind driven rain enters through louvres.	Well managed PMS	Staff say tiles are not slippery.  Some reinforcing bars protruding from the structural concrete unprotected in loft area.	Generally poorer quality finish.  Tiles missing from wall in U/S male toilet	Stairs different riser heights 200/170/220.  Stair width narrows at mid-height 750mm versus 1200mm.		Painting very poor – no masking of fittings.  Gaps between aluminium window frames and masonry require sealing to prevent the ingress of water.  Some light diagonal cracking in corners in brick in-fill in top panels of skillion.  Exposed protruding reinforcing bars require correct termination in roof storage area.	Unable to secure the building, especially upstairs and downstairs toilets which cannot be locked.
10	Ventilation	No overhead fans – 6 fixed oscillating type fans only	Portable fans used in immunisation room  No fans in meeting room – brought in portal fans.  Only 4 fixed oscillating type						

	Order as per ICR visit	1	2	3	4	5	6	7	8
	Item	Pauh Kamar	Sungai Geringging	Koto Bangko	Padang Alai	Kayu Tanam	Batu Basa	Kampung Dalam	Sikabu
			fans in whole building.  [GOI Puskesmas' also do not have overhead fans]						
11	Electrical - General (Floth and ICR)	<ul style="list-style-type: none"> <li>Lack of adequate support for electrical cables and conduits against movement in earthquake throughout the building.</li> <li>Lack of marking/naming of circuit breakers and switches. Lack of circuit diagrams at electrical boards and boxes.</li> <li>Additional Earth Leakage Circuit Breakers recommended on other main circuits on first and second floors.</li> </ul>							
12	Electrical - Specific - - including Emergency Generator Set	<p>Current Genset (one old + one new supplied by UNFPA) can't handle electrical load.</p> <p>Connecting cable for genset?</p> <p>Volunteer has tested genset once.</p> <p>PLN supply is interrupted frequently – 2 times per week for 10 – 15 mins.</p>	<p>Genset provided by others – capacity insufficient to support full operation of PMS.</p> <p>Connection to PMS electrical system outside the Emergency room window.</p> <p>No space provided for the permanent installation of the genset so it can be easily used.</p>	<p>Mains electrical supply interrupted up to 5 times per day.</p> <p>Current Genset (supplied by others) can't handle electrical load (especially cold chain refrigerator and dental compressor)</p> <p>Clamp for lightning arrestor earth rusting.</p>	None	<p>No problems with electricity. Mains supply reliable.</p> <p>Genset donated and in good condition.</p>	<p>Mains electrical supply interrupted up to 4 times per day.</p> <p>Genset only enough capacity to supply emergency.</p>	<p>PLN Mains connection to building at front does not appear to be permanent.</p> <p>Similarly for a connection at rear.</p> <p>PLN mains supply is interrupted frequently 1-3 times per day for up to 30 minutes. Provided by Public Works. Moved towards back of building away from the emergency ward.</p>	<p>Earth conductor for lightning arrestor in neighbouring property.</p> <p>Mains/PLN connection to building needs to be made permanent.</p>
		<p>Colour coding of wires</p> <p>No taping of joints</p> <p>The PMS has been rewired subsequent to first installation.</p>	<p>Electrical circuit box on outside wall not weather proof.</p>						
13	Lightning Arrestor	New clamp required.							
14	Incinerator	<p>Door internal protection damaged – misuse/ malfunction?</p> <p>Incinerator – used twice – other PMS bring infectious waste.</p>	<p>No incinerator. Infectious waste taken to Batu Basa for free disposal once per week.</p>		<p>None. Infectious waste burned on site, needles buried, rather than taken to Batu Basa.</p>	<p>Burn bandages on site. Take used needles to Pauh Kamar.</p>	<p>Have Incinerator. On-site training provided.</p> <p>Used two times per month. Not used by other Puskesmas.</p>	<p>None. Infectious waste and needles burned on site. Haven't heard about disposal of infectious waste at Batu Basa.</p>	



	Order as per ICR visit	1	2	3	4	5	6	7	8
	Item	Pauh Kamar	Sungai Geringging	Koto Bangko	Padang Alai	Kayu Tanam	Batu Basa	Kampung Dalam	Sikabu
							Waterproofing of incinerator chimney required.		
	Water and Sanitation (WATSAN) - General	<ul style="list-style-type: none"> <li>Non-ultra violet (UV) stabilised pipes exposed on rear wall used for WATSAN system.</li> <li>Lack of adequate restraint of water tanks (elevated and on ground) against movement in earthquake.</li> <li>Lack of adequate support for water and rainwater collection pipes against movement in earthquake.</li> </ul>							
15	Water Supply – Specific	<p>Pumps not installed in weather proof and secure enclosure.</p> <p>Taped electrical joints</p> <p>Handyman trained in operation of system – switching between RW and shallow well. Water quality good – well in staff house – no filtering-connection by project.</p> <p>Lack of constant fall and supports on collector downpipe from main roof.</p>	<p>A (poor) attempt has been made to cover the exposed pipes with insulation foil</p> <p>-Fastening of ladder rungs needs attention.</p> <p>Also clip for window at top required to facilitate access.</p>		<p>Steel lid to pump enclosure required – current lid temporary wood and light sheeting.</p> <p>Support of Rainwater down pipes required.</p>	<p>Pumps not installed in weather proof and secure enclosure.</p> <p>Operational issues with switching the supply from Rain water to mains (PDAM) supply. Further training of staff required.</p> <p>Leakage of pipework in ceiling below Kepala PMS toilet.</p>	<p>Impossible to access roof water tanks area due to the installation of a hopper window with restricted opening (30 cm vertical)</p>	<p>-A lot of finishing works required in roof storage area especially electrical cables and conduit and pipe fixing.</p> <p>-Manhole not finished off.</p> <p>-Purlins require final protective painting.</p> <p>- Loft railing painted mild steel not stainless steel as specified.</p> <p>-Secure weatherproof enclosure required for borehole pump and pumps at rear.</p>	<p>Rain water pipe wired to fence.</p> <p>Large holes broken into top of Rainwater tanks need repairing/sealing.</p> <p>Rainwater tanks sitting on planks/top of storage tank. Issue of strength and access.</p> <p>Weatherproof enclosure required for pumps.</p>
16	Sanitation	Sinks in emergency rusting – lack durability for location.			Sink in pantry rusting – lack durability for location	Stainless steel sinks adjacent to emergency rusting. Quality and durability concern.			
						Septic tank appears to have only one manhole compared with 3 in the design drawing (W11)			
17	Canopy at Emergency	(TTW) Needs to be load tested	(TTW) Needs to be load tested	(TTW) Needs to be load tested	(TTW) Needs to be load tested	(TTW) Needs to be load tested	(TTW) Needs to be load tested	(TTW) Needs to be load tested	(TTW) Needs to be load tested

	Order as per ICR visit	1	2	3	4	5	6	7	8
	Item	Pauh Kamar	Sungai Geringging	Koto Bangko	Padang Alai	Kayu Tanam	Batu Basa	Kampung Dalam	Sikabu
		Needs to be have corrosion protection	Needs to be have corrosion protection	Needs to be have corrosion protection	Needs to be have corrosion protection	Needs to be have corrosion protection	Needs to be have corrosion protection	Needs to be have corrosion protection	Needs to be have corrosion protection
18	Furniture	Furniture generally of good quality and no complaints.  Rust appearing on some of the exposed outdoor patient seating.	Furniture generally of good quality and no complaints.	Furniture generally of good quality and no complaints.	Rust appearing on some of the exposed outdoor patient seating.	Furniture generally of good quality and no complaints.	Furniture generally of good quality and no complaints.	Furniture generally of good quality and no complaints.	Furniture generally of good quality and no complaints.
19	Equipment	Emergency marquee frames outside and rusting	Additional equipment needed: -suction -2 <sup>nd</sup> steriliser for dental clinic -curette -vacuum (birthing) -ears and mouth set	Emergency marquee frames outside and rusting	Emergency marquee frames outside and rusting	Insufficient brackets to store emergency tent frame on side wall.	Emergency marquee frames outside and rusting	Emergency marquee frames outside and rusting	Tenting for emergency tent to be provided.
20	Ambulance	12,000 km  Old ambulance not working  Radio in ambulance but no base station. Driver has hand phone.  1 driver and 1 volunteer	15,267 km  Radio in ambulance but no base station. Driver has hand phone.	8,500 km  Radio in ambulance but no base station. Driver has hand phone.	Radio in ambulance but no base station. Driver has hand phone.	Radio in ambulance but no base station. Driver has hand phone.	9,777 km  Radio in ambulance but no base station. Driver has hand phone.  No garage for ambulance	11,770 km  Delivered August 2010  Radio in ambulance but no base station. Driver has hand phone	Radio in ambulance but no base station. Driver has hand phone
21	Maintenance Manual provided;	Yes – on wall	Yes	Yes – on wall	Yes – on wall	Yes – on wall	Yes – on wall	Yes but not on wall	Yes – on wall
22	As-Built Drawings provided;	Yes  Drawing Index should be translated into Bahasa Indonesia	Yes  Drawing Index should be translated into Bahasa Indonesia	Yes  Drawing Index should be translated into Bahasa Indonesia	Yes  Drawing Index should be translated into Bahasa Indonesia	Yes  Drawing Index should be translated into Bahasa Indonesia	Yes  Drawing Index should be translated into Bahasa Indonesia	Yes  Drawing Index should be translated into Bahasa Indonesia	Yes  Drawing Index should be translated into Bahasa Indonesia
23	Maintenance tool box,	Yes	Yes	No space for storage of	Yes. Scaffolding in storeroom.	Yes	Yes	Have toolbox.	Scaffolding in Disabled toilet.

	Order as per ICR visit	1	2	3	4	5	6	7	8
	Item	Pauh Kamar	Sungai Geringging	Koto Bangko	Padang Alai	Kayu Tanam	Batu Basa	Kampung Dalam	Sikabu
	scaffolding provided;		Scaffolding outside, exposed to weather and vulnerable to theft.	scaffolding	Minimum tools provided – not enough.				
24	Maintenance Training provided;	Training in operation of WS required	Yes – 3 or 4 staff in in Dec 2011.  Dr Yanti to socialise with rest of PMS staff next week.	Yes - 3 staff trained	Yes – 3 staff  Would like a hands-on person to do training.	Three staff trained	Four staff trained on three occasions in Pariaman.	Three staff trained two times.	Three staff trained
25	Maintenance staff	No dedicated staff for maintenance. Security, driver and cleaning person do work.	No dedicated staff for maintenance	No dedicated staff for maintenance. Security, driver and cleaning person do work.	No dedicated staff for maintenance. Security and cleaning person do work.	No dedicated staff for maintenance. Security, driver and cleaning person do work.	No dedicated staff for maintenance. Security, driver and cleaning person do work.	No dedicated staff for maintenance. Security, driver and cleaning person do work.	No dedicated staff for maintenance. Security, driver and cleaning person do work.
26	Maintenance funding	District Rp500,000 pa.  BOK – 5% can be used for maintenance		No maintenance budget provided. District Govt (DHO) provides operational funding only.					
27	Positives (from staff)	<ul style="list-style-type: none"> <li>Natural lighting good.</li> <li>Night lighting is very bright</li> <li>Flow/circulation is good.</li> <li>Like high ceilings.</li> <li>Stairs no problems.</li> <li>Meeting room favourite and very useful for meetings – have 200 volunteers. 2<sup>nd</sup> staircase would be helpful at front for large meetings.</li> <li>Separation of Emergency unit from general patients.</li> <li>Better circulation/ flow of patients and staff</li> <li>Old PMS had multipurpose rooms but new PMS has single function rooms -&gt;larger?</li> <li>Like foundations and strong construction</li> <li>Were consulted about the design. 5 designs shown to 6 PMS at hotel</li> <li>Layout good – culturally appropriate.</li> <li>Meeting rooms and some other rooms bigger than old PMS.</li> <li>Layout better. Strength better – old PMS only two years old</li> <li>Many more rooms and good separation “more beautiful”.</li> <li>Maintenance training – never had it before</li> </ul>							
28	Negatives (staff)	Need ceiling/ overhead fans both floors, but	Not invited to design meeting at	All rooms same size Would like	Lack of fans in meeting room	No facilities for overnight	Immunisation clinic too small.	Bird nest in the top of the skillion	Due to the reduction in width

	Order as per ICR visit	1	2	3	4	5	6	7	8
	Item	Pauh Kamar	Sungai Geringging	Koto Bangko	Padang Alai	Kayu Tanam	Batu Basa	Kampung Dalam	Sikabu
		<p>2<sup>nd</sup> floor ceiling too high.</p> <p>No vents in wall above ceiling level – high end of skillion.</p> <p>High ceilings a problem for maintenance and cleaning.</p>	Hotel PP.	<p>Emergency and Paediatrics to be bigger.</p> <p>Need more in-patient rooms</p> <p>No staff for Laboratory (Bupati to fund by June 2012)</p> <p>No microscope in laboratory</p>		Emergency staff – have to sleep in Emergency room.	Bird nests in toilets and pantry.	<p>above the entry cannot be easily removed.</p> <p>Also bird nests in louver vents in meeting room.</p>	of the building to fit on the site the immunisation clinic has become very small (2.9m by 2.2m) and affected service provision.
		<p>Some rooms small</p> <p>Would like larger squarer pharmacy store (current one like an ally)</p> <p>Noisy – from traffic and young children</p> <p>Floor tiles porous – hard to clean.</p>			<p>Drainage issue – runoff from adjacent site enters PMS site on waiting area side and causes flooding. Small retaining wall or drain required along boundary.</p>	Poor ventilation in ground floor offices – need for fans.	<p>Front and sides of ground floor get wet and slippery in rain.</p> <p>Rain water leaks into corner of emergency and to corridor outside.</p>	<p>Wind-blown rain wets floor in meeting room.</p> <p>Stairs slippery in the wet but only used by staff not patients.</p> <p>Rubber mat provided for ground floor waiting area.</p>	
29	Improvements (Staff)	<p>Additional inpatients room needed.</p> <p>Dormitory for night staff.</p>					Additional inpatients room.		
		<p>Missing dental chair – old one destroyed in EQ.</p> <p>Equipment for the mgmt. of leprosy patients.</p>							

# DRR (Disaster Risk Reduction) Management Training for Health Center in Padang Pariaman



# PKBI Sumatera Barat



**coffey**  **international development**  
SPECIALISTS IN DEVELOPING COMMUNITIES



Australia Indonesia Partnership  
Kemitraan Australia Indonesia





## Summary

*"If this training was held earlier before the earthquake in last 2009, it should have been easier for us to respond that traumatic situation. We lost our family members while we had to help other people with wounded and fractures. The transportation was terminated while they had to be sent as soon as possible to the hospital. We did not know where to complain..." (A midwife/ participant)*

*"As a cleaning service in a health center, I did not have any knowledge about medical treatment. However, when a disaster came, I was the only one in the health center and I had to help them. I helped them without knowing procedures to react and to respond. By having this training, I know how to do the first aid action to the sacrifices. If a disaster comes again one day, I have already known what should do as I participated in this training ... "(cleaning service/participant)*

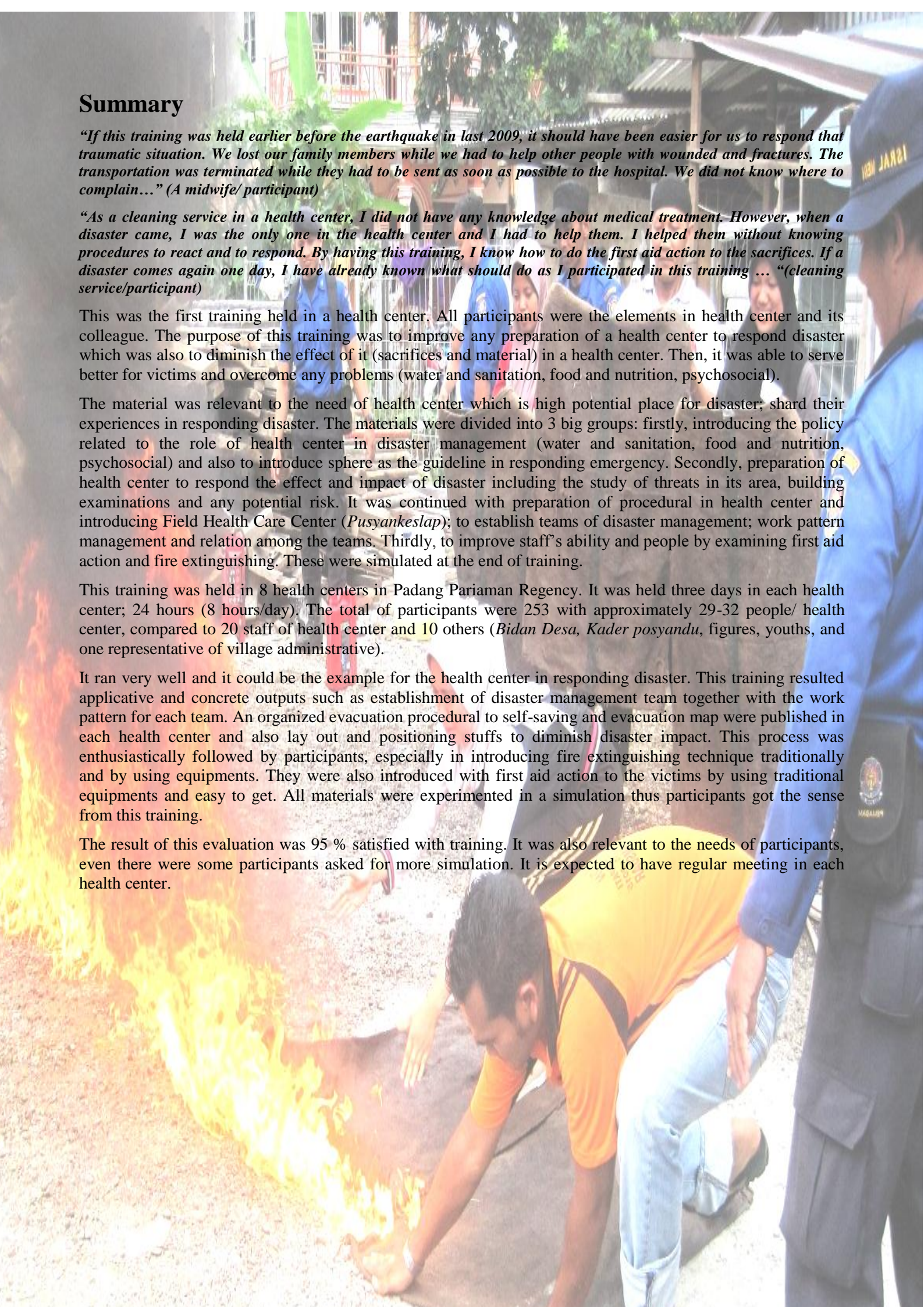
This was the first training held in a health center. All participants were the elements in health center and its colleague. The purpose of this training was to improve any preparation of a health center to respond disaster which was also to diminish the effect of it (sacrifices and material) in a health center. Then, it was able to serve better for victims and overcome any problems (water and sanitation, food and nutrition, psychosocial).

The material was relevant to the need of health center which is high potential place for disaster; share their experiences in responding disaster. The materials were divided into 3 big groups: firstly, introducing the policy related to the role of health center in disaster management (water and sanitation, food and nutrition, psychosocial) and also to introduce sphere as the guideline in responding emergency. Secondly, preparation of health center to respond the effect and impact of disaster including the study of threats in its area, building examinations and any potential risk. It was continued with preparation of procedural in health center and introducing Field Health Care Center (*Pusyankeslap*); to establish teams of disaster management; work pattern management and relation among the teams. Thirdly, to improve staff's ability and people by examining first aid action and fire extinguishing. These were simulated at the end of training.

This training was held in 8 health centers in Padang Pariaman Regency. It was held three days in each health center; 24 hours (8 hours/day). The total of participants were 253 with approximately 29-32 people/ health center, compared to 20 staff of health center and 10 others (*Bidan Desa, Kader posyandu*, figures, youths, and one representative of village administrative).

It ran very well and it could be the example for the health center in responding disaster. This training resulted applicative and concrete outputs such as establishment of disaster management team together with the work pattern for each team. An organized evacuation procedural to self-saving and evacuation map were published in each health center and also lay out and positioning stuffs to diminish disaster impact. This process was enthusiastically followed by participants, especially in introducing fire extinguishing technique traditionally and by using equipments. They were also introduced with first aid action to the victims by using traditional equipments and easy to get. All materials were experimented in a simulation thus participants got the sense from this training.

The result of this evaluation was 95 % satisfied with training. It was also relevant to the needs of participants, even there were some participants asked for more simulation. It is expected to have regular meeting in each health center.





# Final Draft Report

## DRR (Disaster Risk Reduction) Management Training of Health Center in Padang Pariaman Regency

### General Background

The series of disasters in West Sumatera in these last few years forced many people and parties to do mitigation and to be ready in responding to natural disasters. This was implemented to diminish the impact of those disasters. It also prepared every sector to be ready in overcoming the impacts.

Health center as the closest health service unit for the society had big responsibility to manage and overcome the health impact of disasters in its area. It is stated in Decree of Health Minister RI no 145 year of 2007. When a disaster comes, the health center has double responsibilities in which it is (staff and facilities) potentially to be the victim. Then, health center is responsible to help other people who are sacrificed in its area. To take this big responsibility, the health center needs support and additional facilities (software and hardware) to overcome the impact of disaster.

PKBI-West Sumatera with support of PPHFR, Health Department of Padang Pariaman Regency, BPBD Padang-Pariaman, and Health Department of West Sumatera had done some activities and training to reinforce the capacity of Health Center, mainly to the staff to respond the disaster. The result of this training was a Health Center had course of action to save their selves in emergency (in this case earthquake emergency) in due map of evacuation; procedures to organize the location and rooms of Health center which are safe when earthquake comes. In this training, there was a forming of a team to manage the disaster in phase of Health Center. Each team had applicable task and it had been stimulated.

This training was performed at 8 Health Centers built by PPHFR in Padang Pariaman. It began with the development of Disaster Management Training module conducted by PKBI Team West Sumatera. To elaborate the module, PKBI team consulted with any parties, for examples Health Department of West Sumatera, NGOs, Construction Clinic of Andalas University, trained Health Center and BPBD Padang Pariaman. This module had been discussed in a workshop including those parties. Many suggestion and critics came to strengthen our training module.

It had been completed and adapted for the main need of Health Center.

### Purposes

The purposes of this activity were:

1. The Health Center had reference to diminish victims (material and sacrifice) at the Health Center.
2. The Health Center had Disaster Management Team
3. The team had practical and applicable form to manage the impact of disaster

### Below are the details of program:

#### a) Module preparation of DRR Management Training of Health Center in Padang Pariaman Regency.

##### Output:

- A team to compile the DRR Management Training of Health Center in Padang Pariaman Regency
- Well prepared draft module for DRR Management Training of Health Center in Padang Pariaman Regency built by PPHFR in Padang Pariaman
- Sponsored stakeholders from Health Department of West Sumatera, Health Department of Padang Pariaman, BPBD Padang Pariaman, NGOs, and Construction Clinic Andalas University.

##### Activities:

#### A. Team Formation of Module Compiler

- PKBI-West Sumatera had formed a module compiler team of DRR Management Training of Health Center in Padang Pariaman Regency. There were five members, they were:
  1. Ir. Firdaus Jamal, Direktor of PKBI West Sumatera as Team Coordinator
  2. Dr. Prima Nofeki Syahrir MM, as the expert, who has experienced in responding natural disasters in many places in Indonesia. Now, he is the Head of Health Department.

3. Isnaini S.Sos, as writer
4. Afdillah S.Sos, as member
5. Rosneli S.Psi, as member

## **B. Regular Meeting**

Team members held regular meeting three times a week. In every meeting, members discussed about module consolidation and desk job of each member of the team.

## **C. First assessment**

In elaborating module, first assessment was distributed to the representative of trainee Health Centers. They were Sikabu Health Center and Pauh Kamar Health Center. In this assessment we could figure out the condition of Health Center and its role when earthquake happened in 2009. As the result, the Health Center did not have Disaster Management Team, its roles and its duties about the disaster. Moreover, there was no procedure of Disaster Management. The condition of Health center was clearly figured out in this assessment. Then, Health Center expected more for the future. Its results became the inputs to develop the module. Methods of this assessment were Focus Group Discussion, observation and interview with the staff.

## **D. Consult with the Stakeholders**

This consultancy was to collect any input related to DRR Management Module compiling. There were lists of consultancy to:

1. Health Department of West Sumatera
2. Health Department of Padang Pariaman Regency
3. BPBD of Padang Pariaman Regency
4. Construction Clinic of Andalas University
5. Mercy Corp

## **E. Meeting with the experts**

This meeting was held one time with Head of Crisis Management Division of Health Department office of West Sumatera at March 31<sup>st</sup> 2011

## **F. Module Draft Compiling**

Module draft was completed on April 7<sup>th</sup> 2011. To complete this draft, it was not including the outside illustrator and yet working on by team. Completed module was divided into two chapters. Chapter 1 was introduction and Chapter 2 was material which consists of 16 matters:

1. Pre Test
2. Laws of Disaster Management
3. Disaster and its alerts
4. Introducing of new Health Center building by PPHFR
5. Formulation of SOP disaster alert at Health Center
6. Sphere as minimum standard of Disaster Management
7. Field Health Service Center
8. Triase
9. First aid and first assessment to the sacfrices
10. Recovery
11. Resuscitation of lungs and heart
12. First aid of wounded and bleeding
13. First aid of fracture
14. Post-Disaster emergency rehabilitation
15. Simulation of disaster management at health center
16. Post test



Each material consists of teaching method, purpose of teaching, time of learning, step of learning, tools needed in the process of learning and also reading material. It also comprised of 100 pages and 21 references.

## **G. Workshop module**

### **Outputs:**

- Inputs related to draft module of DRR Management Training from workshop participants
- Supports and agreement from participants about the module
- Fixed training schedule in each Health Center

### **Activities:**

#### **a. Preparation**

First preparation for the workshop was to fix the schedule. Based on discussion between PPHFR and the source; Department of Health of West Sumatera, Construction clinic and Department of Health Padang Pariaman Regency, it was agreed to held it on April 12<sup>th</sup> 2011. This was held in Padang City since many participants come from Padang Pariaman Region.

#### **b. Distribution of invitations**

Those who were invited: Department of Health of Province and regency, BPBD Province and Regency, TPT BNPB, 8 Health Centers, NGOs: KPMM, Limbubu NGO, Kogami, Mercy Corp, IDEP and Carita Swiss.

#### **c. Workshop performance**

Generally, the workshop ran well. It began with introducing PKBI West Sumatera and Coffey International. It continued with presentation of DRR Management Training Module by PKBI Team as compiler. The source from Dept. of Health of West Sumatera gave inputs and critics towards the module. Next session as sources from Construction Clinic Andalas University to give their opinions and assessment about the physical building Health Center built by Coffey International. Then, there was discussion about module and buildings. Below, the suggestion from some groups:



### **GROUP 1**

- Revision in writing in some pages
- Paragraph 2 pg.1, besides straight forward, there were segments in West Sumatera; Sumani Sianok with 150 KM and Suliti with 90 KM
- Pg.1, Prg 3 about volcano. Moreover, there are 8 volcanos in West Sumatera which are still active: Merapi, Talang, Tandikek, Talamau.
- Fulfilment of Decree of Health Minister RI no 145 year of 2007 with Disaster Management Training in Health sector.
- The title of module changed into :”Disaster Management Training Module”
- Only 30% pre-test questions in applicable level

### **GROUP 2**

- Standardization of Operational Procedure was added to meeting point by Health Center staff
- Pg 51, added confirmation statement “ A Health Center is the commando in health sector when an incident comes in an area”.
- Desk job for each team in pg 53-55 to be detailed (TRC/TRHA)
- Pg 53-55, draft Management Training for each team

### **GROUP 3**

- Added material for burn and sank sacrifices

- Prepare following training for society
- Input faith matter at the end

There were some obstacles:

- The agenda was delayed (30 minutes) due to most of participants came from far places.
- One Health Center did not attend the training : Kampung Dalam Health Center
- Miscommunication with the organizer, thus there was a problem with food (unsatisfied)
- Many participants did not give opinion actively in discussing the module.

There were 26 participants in the workshop:

<b>Institution</b>	<b>Total Participants</b>
NGO(Caritas Swiss, Kogami, IDEP, KPMM, Totalitas)	5
Pauh Kambar Health Center	2
Sei Geringging Health Center	2
Kayu Tanam Health Center	2
Padang Alai Health Center	2
Batu Basa Health Center	2
Sikabu Health Center	2
Koto Bangko Health Center	1
Dept. of Health of Regency	1
Dept. of Health of Provinsi	1
BPBD Padang Pariaman Regency	1
BPBD Pariaman City	1
Disaster Study Center Andalas Univ.	2
Red Cross Pariaman Regency	2
<b>Total</b>	<b>26 Persons</b>

## **H. Completing Module**

### **Outputs:**

Suggestion to more applicable module and match to requirements needed in the training based on critics from any parties in the workshop.

### **Activities:**

After collecting all opinion and critic, the team responded them and selected all needs:

- Adding material about fire extinguishing
- Adding sub material about burn sacrifice
- Adding sub material about sank-sacrifice
- Completing reading material refer to suggestion of works module.
- Spelling and statements revision

## **I. Training and Simulation**

### **Outputs:**

- About 253 participants from 8 Health Center had been trainee. They were 32 participants in each Health center consisted of 22 staff and 10 people. Generally, from 253 participants, 164 of them were Health Center staff (Head of Health Center, midwives, nurses, ambulance driver). Meanwhile other 89 were people of Maternal and child Health Center cadres, the youths, community figures and village administration staff. They were 203 women and 50 men.
- Established DRR Management Training in each Health Center which consisted of 6 teams (quick reaction team, Rapid Health Assessment team, Logistics team, Health Assistance team, Secretariats team, Disaster Information Organizer team)

- Each team had work pattern to respond an emergency situation. This was compiled participative and matched with real condition in each region of Health Center.
- Participants made a map and procedure of evacuation in an emergency in each Health Center.
- Every Health center had procedure about lay out and location to diminish the impacts of disasters in each Health Center
- Simulation of earthquake emergency evacuation in the building built by PPHFR (except Kampung Dalam and Kayu Tanam Health Center due to unfinished building) based on the procedures made by the participants.
- Simulation of DRR Management Training in every Health Center based on work pattern of each team made by participants.
- Health Center staff recognized classifications and cycles of disaster.
- Health Center were well informed about new Health Center building
- Health Center were able to Triase and first aid action when a disaster was simulated
- Heath Center well understood how to extinguish fire manually with APAR which had been simulated
- Health Center understood the urge of food and nutrition, clean water and sanitation, and also stress traumatic post management of disaster

### **Realization of Training**

#### **1. Module Adjustment**

Before training was held in Health Center, facilitator team of PKBI West Sumatera adjusted the module. This was considerably was 5 days training. However, it was agreed around 3 days only. Thus, adjustment was needed in terms of Health Center. The adjustment was to combine some materials and to change some methods of training. Even though, there was limited time to trainee but all material was included. Meanwhile, there was no combining and changing method in primary material.

#### **2. Preparation**

First step was by visiting all Health Center 2 weeks before training in each region. This meeting discussed the preoperational of places, organizers, accommodation and consumption for training. For half-finished building, the training was held in new Health Center building regarding the context of material and the building itself were related, particularly the alert and preparation of simulation. However, this new building became the obstacle due to the noisy sound which disturbed concentration of participants. Trainings held in new building were: Pauh Kamar, Batu Basa, Sungai Geringging, Koto Bangko, and Padang Alai. Sikabu Health Center was held in a Play Group Belanti but the simulation were still in the new building. Meanwhile, Kampung Dalam Health Center was held in a play group in front of the new building; Kayu Tanam Health Center was in INS school.

Another preparation was to send invitations to Head of Dept. Health Padang Pariaman to start the event and sources of Dept. of Health and BPBD Padang Pariaman.

#### **3. The Accomplishment**

It was held in 3 days, 1 day with 8 hours. The training began on the schedule 8.30 AM to 4.30 PM. Nevertheless, this training could not end at the scheduled time due to the enthusiastic participants in first day about fire extinguisher. This performance was interesting because most of participants got this as the first time. Moreover, at the last day, participants asked about the simulation many times because they wanted to understand it more and much clearer. The training ended at 6.00 PM.

The schedule ran as agreed at workshop and there was no change schedule. Below were the schedules:

### Schedule of Disaster Management Training for Health Center

NO	Name of Health Center	April	Mei	June
1	Pauh Kambar	26,27,28		
2	Sikabu		5,6,7	
3	Batu Basa		10,11,12	
4	Sei Geringging		19,20,21	
5	Koto Bangko		24,25,26	
6	Kampung Dalam		30,31	1
7	Padang Alai			7,8,9
8	Kayu Tanam			14,15,16

### Participants

This training followed by all staff of Health Center and colleague, they were *Bidan desa*, *Kader Posyandu*, the youths, and figures. Here are the participants:

Training participants' criteria

No	Health Center	Participant's criteria		
		staff of Health Center	People	Total
1	Pauh Kambar	23	10	33
2	Sikabu	23	10	33
3	Batu Basa	27	8	35
4	Sungai Geringging	22	10	32
5	Koto Bangko	16	13	29
6	Kampung Dalam	12	18	30
7	Padang Alai	22	10	32
8	Kayu Tanam	19	10	29
		164	89	253

At the beginning, there were 20 participants from Health Center staff and 10 people. Yet, it fitted in with condition of each Health Center based on numbers of staff. It also depended on how crowded the activities in a Health Center. Thus, staff had bigger number rather than participants, 27 people in Sungai Geringging. On other side, in Kampung Dalam, the staffs were 12 and participants were 18. This situation affected the process of training and also the result; due to Health Center staff were the most important participants in this training.

Based on sexes, most of them were women because they worked at Maternal and Child Health Center and also as midwives. Meanwhile, the men were nurses, securities, drivers and youths. Here is the list of participants:

Table of Participants based on sexes

No	Health Center	Sexes		
		Male	Female	Total
1	Pauh Kambar	3	30	33
2	Sikabu	4	29	33
3	Batu Basa	11	24	35
4	Sungai Geringging	4	28	32
5	Koto Bangko	10	19	29
6	Kampung Dalam	2	28	30
7	Padang Alai	8	24	32
8	Kayu Tanam	8	21	29
	<b>Total</b>	<b>50</b>	<b>203</b>	<b>253</b>

Total of participants were 253; averagely 29-33 in each Health Center.

### Method and Material of Training

Disaster Management Training used adults learning method (*andragogi*) by having active participants as the doers to manage disaster. This also gave a chance to all participants to get involved actively and shared experience and opinions in this process because many of them participated in last natural disaster, 2009. This was also effective to give good result training which were applicable and appropriate to the local need in each Health Center.

Below are the lists of material for Disaster Management Training for Health Center

- Laws of Disaster Management and Decree of Health Minister RI no 145 year of 2007 regarding Disaster Management in Health Center
- Basic knowledge of disaster and disaster management
- Introducing new Health Center building built by PPHFR
- Sphere as the guideline to respond the disaster
- Rehabilitations of sacrifices (water and sanitations, food and nutrition, psychosocial)
- Triase and first aid
- Fire extinguish technique
- Disaster management team
- Simulation in Health Center building.

### Training Process

#### 1) Day 1

##### ❖ Opening

This event was open by Head of Health Center. Special for Pauh Kambar Health Center, the training was started by Head of Dept. of Health Padang Pariaman. Batu Basa and Koto Bangko were open by sub district head.

After the opening, the facilitator began to process by introducing participants and facilitator, PKBI West Sumatera, training method; delivered the speech about purpose of training and lesson plan.

In this session, all participants were informed about rules in the training process; about the learning time, break, cellular utilizing, and other stuffs related to learning process.

Here also informed that all participants got facilitations such as consumption and snack, certificate for other participants, also reimbursed transport.

The duration was 60 minutes.

❖ **Pre test**

Before the test began, there was pre-test to see the knowledge of participants about disaster management in the beginning of training. They were asked to fill questionnaires (17 questions) provided by the team. This process was about 10 minutes. As the results, participants had known several concepts about disaster management such as preparations, mitigations, and self-safeties.

Their knowledge was expected increasing after training.

❖ **First Session Law No. 24 Year of 2007 Regarding Disaster Management and Decree of Health Minister RI No 145 Year of 2007**

This session was purposed to introduce these laws to the participants which consisted of guideline of disaster management in health sector.

Here, discussed the roles of Health Center as the closest service unit for disaster victims. Each participant had a copy of this decree and to be read and comprehended at home.

This session was special for Pauh Kambar Health Center as it was delivered by Mr. Irwandri from Dept. of Health of West Sumatera Province from Disaster Division for Sikabu and Batu Baso. It was delivered by dr. Prima Noveki. Meanwhile, at Sungai Geringging until Kayu Tanam were delivered by Ir. Firdaus Jamal. As dr. Prima Noveki officially became the Head of Dept. in Lima Puluh Kota, thus he had limited time and just had the last time of training.

This material was delivered in 30 minutes.

❖ **Basic knowledge of disaster**

This session discussed about disaster comprehending and any potentials disaster would come in this region.

Based on the disaster potential mapping, there were 8 trainee health Center, they were divided into Health Center on upland plain ( Batu Basa, S. Geringging, Koto Bangko, Padang Alain, Kayu TAnam) with threats:

- Earthquake
- Volcano exploding
- Flood high tide
- Storm
- Fire

Meanwhile, lowland plain are Pauh Kambar, Sikabu, Kampung Dalam with threats:

- Earthquake
- Tsunami
- Flooding
- Storm
- Fire

❖ **Introducing of new Health Center Building built by PPHFR**

The introduction of new building was the part of the training, concern with this building was new built and most participants did not know it well. To be familiar with this building was the most important part to begin the discussion about preparation. Participants were asked to evacuate procedure and map this new building.

This session was performed by Mr. Mirza, a staff of Coffey International. Here, he talked about building process high quality control. Thus, he warranted that this building is safe up to earthquake 9 SR. its design adopted Minang Kabau traditional hause. He also mentioned the usage and

functions of each room of this new health center and also the usage of additional tent to emergency situation. It was also shown a video to make a tent.

### ❖ Disaster Preparedness

This session began with watching movie about earthquake self safety by Idep Production. After that, they re-performed what they got from the movie. They discussed health center planning in diminishing impact of disaster which might happen in health center. This concerned with many people might come to a health center. Thus, when earthquake came it would threaten the staff and patients of health center.

To consider about that, all participants agreed to make an evacuation map and to decide safety spot and assemble spot of evacuation. They also made evacuation procedure in emergency and procedure of lay out and location in health center to diminish the victim. These processes had discussed and done in three groups. The groups are:

#### I. Evacuation map.

It began with surrounding the health center building and mapped it to make a track. The members also pointed safety spot which was safe to go out from building; assembling spot which was also safe to all members gather and meet after evacuation done. In this spot, they identified staff and visitors to make sure whether all of them were safe or not. For Kampung Dalam Health Center and Kayu Tanam Health Center, they understand the building only by the explanation from Mr. Mirza (coffee).

#### 2. Evacuation Procedure

To make this procedure, participants reflected the helping process on the movie they watched. Next, they made some steps of evacuation to save their lives when earthquake came. This would be simulated at the third day.

#### 3. Lay out and Location Procedure

This group discussed about rooms organizing and stuffs positioning which were safe and easy to evacuate.

### ❖ Fire Extinguishing Technique

Fire is one of the possibilities when a disaster comes. To avoid it, a health center staff has to have skills to extinguish fire traditionally or by using fire extinguish equipments.

The source of in this session was fire engine from BPBD Padang Pariaman. The training was held at the health center field with tools provided by the team. This performance was divided into 3 sessions: extinguishing fire from spilled oil the floor, stove exposition and extinguish by using fire extinguish equipments. All participants had to practice this guided by fire engine.

#### Earthquake Evacuation Procedure Pauah Kamba Health Center

Follow this process if earthquake comes:

1. Do not be panic (shouting & running)
2. If you are at 1<sup>st</sup> floor:
  - Save your head by squatting under table, under door frame or side pole of building
  - Stay away from easy broken stuffs such as window and cupboard
  - If possible go out immediately from this building and walk faster on the track
3. If you are at 2<sup>nd</sup> floor:
  - Stay on during the earthquake
  - Save your head by squatting under table, under door frame or side pole of building
  - Stay away from easy broken stuffs such as window and cupboard
  - When earthquake stops, make sure that stairs are safe to go downstairs
  - If it is safe, go down immediately from this building and walk faster on the track
4. After out from the building, assemble at the field, away from the building, electric poles, and other easy falling stuffs, that is at the field.
5. For in-patients, staff must help them to safer place as pointed
6. Count quickly staff/patients to make sure none trapped in the building
7. If someone trapped, after it is safe, find the patient quickly
8. If it is not safe, call SAR Tam or other institution competent in this evacuation
9. For visitor, go home quickly. If there is someone needs help please go to the closest health care service
10. To staff at health center be ready to serve the sacrifices
11. Seek information from official source



Simulasi Penggunaan APAR

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## 2) Day 2

### ❖ Sphere as Guideline to Respond Disaster

In this session, all participants were informed about sphere as the guideline to respond disaster particularly in health sector and clean water. Facilitator presented material about sphere and explained what sector was responsible for health center in responding emergency. Due to limited time, this material was only about to introduce sphere and to give reading material to participants. This session was about 40 minutes.

### ❖ Introduce sacrifice rehabilitations (water & sanitation, food & nutrition and psychosocial)

After introducing sphere, facilitator also introduce the role of health center in this rehabilitation based on Decree of Health Minister RI no 145 year of 2007 regarding water & sanitation, food & nutrition and psychosocial. They presented the material and invited participant to discuss and share about responding earthquake n 2009.

### ❖ Triase and First Aid

This session was purposed to increase knowledge and ability of participants in helping victims in the spot before the medical came. The materials given were about basic medic ability by sing simple equipments. They were:

- First Aid Comprehending
- Victim first assessment
- Recovery
- Resuscitation of heart and lungs
- Handling wounded sacrifices
- Handling fractures
- Evacuation techniques
- Triase (in each material, all part were guided to practice of helping the victims. The trainers were from PKBI west Sumatera)



Peserta melakukan RJP di Puskesmas Koto Bangko

## 3) Day 3

### ❖ Establishing Disaster Mangement Team and Field Health Care Center

This session facilitated by dr. Prima Noveki Syahrir, MM. In the beginning of this session the facilitator asked participants to discuss more about role and function of health center in responding disaster by illustration of ship crews. Participants realized that this team was important to face emergency situation. Leded by head of health center, all part made a team with 6 members; Head of health center was the commando. Here is the team:

- Quick Act Team
- Rapid Health Assessment Team
- Health Assistance Team
- Secretariat Team
- Disaster Information Organization Team
- Logistics Team

After these teams were established, facilitator guided all team to make a work pattern and relationship among teams. Then, each team presented it. When all participants and teams agreed, this would be agreed by head of health center.

The pattern and the team would be legalized by Head of Health Center and became the Disaster Management Team.

### ❖ Evacuating simulation and Disaster Management Simulation in Health Center Buildings

The simulation was performed in 2 steps:

#### 1. Evacuation to study the evacuation procedure and evacuation tack



The scenario of this simulation was when earthquake came and staff were in the meeting on 2<sup>nd</sup> floor. Then, all of them evacuated to go downstairs. When it stopped, it needed 2 minute to evacuate to the safer place and assembling spot. As result of evaluation, staff were a bit difficult to evacuate due to small bend on the stairs.

## 2. Simulation to study work pattern of each team to respond disaster



This scenario was when earthquake came and health center staff were in daily routine. After evacuating to assemble point, there was a patient trapped in the building. Thus, the head of health center commanded all team to move as procedure. Logistics provided all needs. TRC moved quickly to give such first aid. They helped fracture sacrifice and carried her/him from the 2<sup>nd</sup> floor. Health assistance provided a post for health care service. Assessment team noted the impact of earthquake. Secretariat team opened the counter and organizer information team served all

information to the board.

As the result, all participants got into the roles of each team in responding disaster. It was expected to run well when a real disaster comes.

### ❖ Introducing new ambulance from PPHFR

This was part of simulation. Ambulance was used to evacuate victim for the next action. However, before evacuating, participants were informed how to use tools and facilities of new ambulance like brankar, fracture litter, serine, oxygen.

### ❖ Post test

At the end of training, there was post to measure result training. The test was around 10 minute with same pages as pre test. From the result, 78 % participants were better in their knowledge, while 10 % did not increase. Meanwhile other 12 % could not be counted because they just followed the pre test or post test.



### ❖ Each Trainee of Health Center had given:

#### 1. Red Bag:

- ✓ Long splint 6 pcs
- ✓ Short splint 8 pcs

#### 2. Blue Bag:

- ✓ Mitela clothes 32 pcs
- ✓ 10 cm of bandage 5 packs
- ✓ 10 cm of plaster 1 roll
- ✓ Rubber glove 1 packs(100 pcs)
- ✓ Mask 1 pack(50 pcs)
- ✓ Scissor 1

**Obstacles:**

No	Obstacles	Solving
1.	In and out participants due to care services and administration	Participants were asked to have concentration and serious
2.	Short time performance while many material to discuss	Combine some materials and change learning method
3.	Participants with kids	Asked participants to let their kids on the first floor no kids in training
4.	Uncomfortable situation due to noisy sounds of building	Using loud speaker

**J. Disaster Management Simulation in Pauh Kamar health Center**

This simulation was part of series of opening Pauh kamba health center and Sikabu health center at Pauh Kamar health center. Australian ambassador for Indonesia also testified this simulation, Vice Governor of West Sumatera and Vice regent of Padang Pariaman and all guests.

Simulation was about to perform the awareness of disaster management training team of Pauh Kamar health center in responding disaster. The participants were all staff in Pauh Kamar health center and people who followed disaster management training.

Simulation began with preparations:

- Day 1 (May 9<sup>th</sup> 2011) to decide scenario and desk job of each team.
- Day 2 (May 16<sup>th</sup> 2011) practiced the scenario and evaluated. As results, scenary changed in some parts.
- Day 3 (May 17<sup>th</sup> 2011) fixed simulation

On the day of simulation (May 18<sup>th</sup> 2011) guests and invited people watched the simulation narrated by Eva Herawati. All participants looked serious in doing simulation and the visitors looked enthusiastic. They got the sense and feeling when they were in an emergency situation. The climax was when head of health center had done the evacuation to a victim who had go fracture. He was littered to the ambulance to the next action in a hospital. The serine followed with applause from the participants, guests and visitors. (Scenario attached).

**K. Documenting, Monitoring, Evaluating and Reporting****Outputs:**

- Trainee report of each health center
- Documentary of training
- Report of program development and achievement
- Learning and recommendation

**Activities:****Documentation**

PKBI with Sandereh Production processed the documents. This document was in the form of CD in which it would be distributed to all health center and other partners.

## **Monitoring**

The monitoring had done two times by Director of PKBI West Sumatera. This was to make sure the process ran well and the purpose was achieved. As the result, the training in 8 health centers ran very well and it achieved all materials. Output training was also achieved. That was to establish disaster management team in health center with its work pattern. There were procedures of solving, lay out, which published to all health center visitors.

## **Evaluating**

### **❖ Training evaluation**

This evaluation was done in 3 steps; evaluation from every day training participants at the end of session, daily facilitator evaluation after class ended and evaluation at the end of training.

Evaluation from participants was to distribute blank paper and to write down their opinion about training, including:

1. Training method and material
2. Facilitator and trainer
3. Facilitations, consumption and training

The result of evaluation stated that 95 % participants were satisfied with the training. Then, it was relevant to what were needed. Meanwhile, the unsatisfied participants complained in the timing schedule. They thought that 3 days were too long from morning to evening. They lived in different area, thus transportation was the main obstacle (equipment verification, pages of evaluation)

Below, the result of evaluation:

1. Method and material  
Training method with adults learning by considering the ability and participation of all participants were excellent because they directly practiced it. Method with games made them became more spirit full and asked more and more. However, there was a bored material; rehabilitation. The material seemed appropriate to the need of health center because participants could feel how hard they were at disaster in 2009. They said that if this training held before 2009, health centers could do more to help victims and to finish all problems in each area.
2. Facilitator and trainer  
For participants, facilitator tam and trainers could deliver material very well and it was understandable. Besides, they could motivate the visitors.
3. Facilitations & consumption  
In some cases, participants complained about consumption organized by the locals. Meanwhile, for the training place, especially in the hall of new building they felt annoyed because of the noisy sound. Some of them wanted re-simulation.

The results could be considered for the next training by team.

### **❖ Evaluation of facilitator and trainer**

This was done every day at the end of session. It was started by discussing evaluation of participants and to manage next planning. The end of training, there was final evaluation to all process; method, team work and material.

### **❖ Program Evaluation**

This evaluation was supposed to be evaluated by PKBI and PPHFR. However they did not do it due to limited time. Nevertheless, PKBI still evaluated this with Dept. of Health after the program. This was to get the feedback from Dept. of Health and health centers

## **Reporting**

It was divided into 2:

1. Report of development program
  - First report was May 6<sup>th</sup> 2011
  - Second report was on June 8<sup>th</sup> 2011
2. Final Report
  - It was on June 30<sup>th</sup> 2011

## **Lessons:**

1. At every training the attendant of Head health center really determined the process and result of training. Head of health center is the commando of disaster management.
2. Head of health center needs to make sure the staff involved in the training. Thus they are free from duty while training.
3. Training and simulation should not be in health center because participants did not get the sense of real conditions.
4. It needs more than 3 days to get maximal result of training.
5. Dept. of health 50 Kota was interested in this training by sending 3 observers; 2 Heads of health center and 1 staff of its department to Kayu Tanam health center.
6. This training was the first time which involved many elements of health center and also done in health center. Preparation of material was applicable and appropriate to the needs of health center.

## **Recommendations**

1. It needs regular meeting of disaster management coordinator team
2. It needs periodic simulation in health center
3. Head of health center needs to officially legalize the disaster management team in health center and also its staff participated into the team
4. Each health center needs to socialize the result of training to the staff and other people
5. Each health center has to prepare itself with equipment and special logistics to manage disaster and periodical caring
6. Department takes technical role to increase ability and coordinator role inter health center
7. Module of disaster management for health center had been experimented and completed. Thus, this can be used and developed by Ministry of Health RI; particularly Crisis Management Center in developing disaster management program in national level.

## Annex 8 Program Costs

### 1. Budget

The agreed budget for the PPHRF (as included in the contract amendment) was as follows:

Item	A\$	
	Original	Feb 2012
Costs of construction (Imprest account)	3,766,828	3,271,927
LTA Costs	476,875	476,875
STA Costs	31,876	31,876
Operating/Reimbursable costs	96,726	96,726
Milestone payments	622,303	622,303
<b>TOTAL</b>	<b>A\$ 4,994,608</b>	<b>A\$ 4,499,707</b>

The original budget in the Imprest account for the construction program was \$3,766,828 and included a contingency of \$385,000.

### 2. Imprest Account Expenditure Against Revised Budget – As at January 2012 Construction and Engineering Costs

Activity Reimbursable Costs	Total Budget Phase 1+ Phase 2	Total Expense + Estimate to Feb 12	Potential Saving	% of Total
		AUD\$	AUD\$	
Topographical and Geotechnical Surveys	23,216	23,216		100%
Training and Community Socialization	62,981	80,956		129%
Prequalifying and Tender Process	11,239	11,239		100%
Detailed Design	39,348	39,348	0	100%
Stakeholder Engagement Costs	4,122	4,470	-348	108%
Construction of Eight Puskesmas	2,417,709	2,452,740	-35,031	101%
Medical Equipment and Furnishing	516,329	439,849	76,480	85%
Contingencies	171,641	121,653	49,988	71%
Building permits and commission	1,057	1,269	-212	120%
Specialist Testing, Survey tool	20,656	20,816	-160	101%
Documentation Costs	2,973	2,592	381	87%
Asbestos Lab testing	656	800	-144	122%
<b>TOTAL APPROVED ACTIVITY COSTS</b>	<b>3,271,927</b>	<b>3,198,949</b>	<b>90,953</b>	<b>98%</b>

The original estimate to reconstruct six and rehabilitate two puskesmas was A\$ 3,766,629.

## Annex 9 List of Rectification Work and Proposed Additional Work

### 1. Rectification of Building Works – Strength, safety and durability Issues

- a. **Structural:** Coffey ensure that all rectification works in the defects list plus matters identified by the ICR and the AusAID structural consultants TTW in their site monitoring reports are completed to TTW's reasonable satisfaction before retention monies are refunded. This work should include, inter alia;
  - i. supplying non-slip matting for all walkway areas that may be affected by rain;
  - ii. securing all water tanks, pipes and conduits against movement in earthquakes;
  - iii. load testing of the canopy over the entrance to the Emergency Ward;
  - iv. protective paint coating of purlins; etc.
- b. **Mechanical and Electrical, and Plumbing (MEP) :** Coffey ensure that all rectification works identified in the defects lists plus matters identified by the ICR and the AusAID MEP consultants (Floth) in their site monitoring reports are completed to Floth's reasonable satisfaction before retention monies are refunded. This work should include, inter alia;
  - i. Earth Leakage detection circuit breakers are installed at the main circuit boards to protect each of the three main power circuits.
  - ii. Marking of each circuit breaker and provision of a wiring diagram at each electrical switchboard;
  - iii. Replacement or protection of exposed non-Ultra Violet stabilised PVC piping used in the water supply and sanitation system.
  - iv. The other key safety issues indicated in the Floth monitoring reports.
- c. **Security, serviceability and other issues (subject to funds availability)**
  - i. At Sikabu and other puskesmas experiencing problems, Coffey arrange to install additional door locks or doors or security gates on the building to prevent unauthorised access to inside the building outside operating hours.
  - ii. Fixing an aluminium angle or similar device above louvres and windows on exposed external walls to deflect surface wall water away from openings.
  - iii. Providing an emergency generator of sufficient capacity where required at the Puskesmas'.
  - iv. Providing additional (portable or fixed oscillating or ceiling) fans to downstairs clinics and upstairs meeting room.
  - v. Moveable curtains around beds installed for patient privacy in Emergency and Birthing wards and Immunisation and General clinics.

2. **Handover of assets** AusAID ensure that handover processes are implemented by: (i) TTW as supervision contractor; (ii) Coffey as managing contractor and responsible for the construction sub-contractors; and, (iii) Dinkes on behalf of the district governments.

3. **Certification:** Coffey should provide certification to AusAID that "the puskesmas have been designed to the relevant Indonesian codes, standards and building regulations, and have been constructed reasonably in accordance with the designs".