Universitas Kristen Indonesia Paulus
Makassar- South Sulawesi-Indonesia
2015
“Evaluation of the Operation and Maintenance of Micro Hydro Power Plant and its Sustainability”

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Background of the Project

1. Implementation of Law No. 22, about the policy of TRI Dharma College (education and teaching; research and community service)

2. Grant Higher Education in 2008 to the UKI Paulus for development Micro Hydro Power Plant (MHP) in remote areas, that is:
   - the Peuk village Balla subdistrict, Mamasa district of West Sulawesi and
   - the Persondongan village Sa'dan Ulusalu subdistrict, North Toraja district of South Sulawesi.

3. Student participation in service learning for community (civil engineering, machine engineering and electrical engineering)

4. Evaluation of the Operation and Maintenance and its Sustainability
The Goals of Project

• Increased experience and Academic Ability of student
• Institutional improvement of service to the community
• Increased in value of personality, culture, economy and Community self-reliance
• To reduce dependence Community to the government(local government)
Constraints

1. Remote area condition and local language
2. The Communities still lag in knowledge, information and technology

Solution Plan

Communities need assistance to:
1. MHPP operation training,
2. Network maintenance and electrical installation,
3. Maintenance of civic buildings,
4. of empowerment that result in increased local potential such as agriculture, tourism, livestock, craft centers,
5. Training establishment of Community Social Organization.
Figure 1. The concentric circles formed by the teacher, student, community service and the course content, as developed (Cress, 2005).
• Identification and Analysis of Problems

1. Remote area condition

By Airlines
“Tana Toraja” has airfield called Pongtiku airport. Located in the village of Rantetayo (near Makale, the capital district TanaToraja). However, lately no regular services connecting Toraja with other cities in Indonesia. If using a plane from Makassar, will generally take about 55 minutes (using a 20 seat aircraft).

By Landlines
The path traversed by using inter-city buses. An overland route as easy option to the Tana Toraja. By renting a car or take public transit buses, will enjoy the natural beauty along the way (land, sea, winding road with spectacular mountain landscape adornment along the way). Although the mileage 6-7 hours long but road conditions are generally good.
North Toraja District. Distance from Makassar city approximately 485 miles (8 hours by bus)
Mamasa District. Distance from Makassar city approximately 670 miles (13 hours by bus)
Remote area condition.... continuation

To reach the site, a steep downhill road about 56 miles for the North Toraja and 45 miles for the Mamasa by motorcycle ("ojek") and walking
The villages which are difficult to reach

poor of the infrastructure
Continuation........

• Local Language

Communities where we provide services learning, using local languages. So need a translator from Indonesian into local languages and vice versa
2. The Communities still lag in knowledge, information and technology

The installation of electrical networks that do not fit standard
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Room for the MHPP which is not according to the standard
Irrigation channels are made by community
• Preparation of Standard Operational Procedures

Making SOP for operations and maintenance, and given to the head of the village to be conveyed to the community
• Training

training is given based on the SOP that includes

Improved the Irrigation channels
Funding for physical work supported by the local community, although very limited
Repair floor room the MHPP storage
training on how to installation the accessories of electrical
Love Journey: Community Engagement through Service-Learning

The 5th Asia-Pacific Regional Conference on Service-Learning

第五屆亞太地區服務學習研討會

TAIWAN
Fu Jen Catholic University
The Community
• **Boundary**

Boundary of the sustainable of service learning on the area are:

1. Standard Operational Procedures must be translated into local languages but until now it is not finish because there was no expert, (while translated cost will be participation by the community)
2. Uncertainties of government grants on an ongoing basis because constraints of the budget
Output.

Overall impact of the project and future implications are:

a. Improved knowledge and skills the MHPP operator
b. MHPP may be operating properly
c. Increased service learning of UKI-Paulus in the community
d. The needs of electrical energy for community in around MHPP
Expected Outcomes:

• Produce the learning process is effective, efficient, innovative and successful
• Increasing the empowerment of students, community and institutional development,
• Increase the personality of students and community Improving the well-being, self-reliance of communities to manage local potential, renewable energy, environmental maintenance of the more creative and sustainable
• Conclusion

The activity is very helpful operator and communities become more self-sufficient in the operation, maintenance and management of MHP and increase the capacity of the university, the competence of graduates to meet the needs of stakeholders and the development of science-technology
Thank you very much for attention