**Social Audit for Rural Water Supply Services in Timor-Leste Report**

October 2016



A lady fills her water containers in Suco Samalari, Laga, Baucau.

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**List of abbreviations**

CRC Citizen Report Cards

CSC Community Scorecard

DAA Municipal Water Supply Department

DGAS Director General for Water and Sanitation

DNSA National Directorate for Water Supply

EOM Operation and Mangement Team ‘Ekipa Operasaun no Manutensaun’

F-HTL Fundasaun Hafoun Timor Loro’sae a LNGO

FPA Government outreach staff ‘Fasilidor Postu-Administrativu’

FONGTIL Timor-Leste Non-governmental Organisation Forum

GMF Water User Groups 'Grupu Maneja Fasilidade'

INGO International Non-governmental Organisation

LBF Luta Ba Futuru a LNGO

LNGO Local Non-governmental Organisation

MoH Ministry of Health

MoPWTC Ministry of Public Works, Transport and Commnications

PN-BESITL Platforma Nasional Be’e Saneamentu no Ijieni Timor-Leste

PNDS National Village Development Program ‘Programa Nasional Desenvolve Suco’

PwD People with Disability

Suco Village administrative unit in Timor-Leste

TAF The Asia Foundation an INGO

# Executive Summary

Clean water services are the top priority of Timor-Leste’s rural population, where 72% of the population live, according to The Asia Foundation’s (TAF) November 2014 Tatoli public opinion survey[[1]](#footnote-1). Historically, financing for the WASH sector has fallen short of the investment required to achieve national water supply targets and focused on building new infrastructure rather than supplying sustainable services. Currently political-will to invest in water supply services has also progressed, with a government strategy evolving that is similar to the rapid electrification of Timor-Leste. However, in no other public service sector has decentralization been pursued to such an extreme and therefore there are many sustainability challenges and additional complexities with regards rural water supply when compared to the supply of electricity or other services. This means an adaptive approach is required to water supply infrastructure development and an effective system of accountability is essential for a fully functioning water supply sector that can deliver sustainable services.

The National Directorate of Water Supply (DNSA) through their Municipal DAA offices, have responsibility for supporting rural community water supply management groups (GMFs) to operate and maintain rural water supplies. The Ministry of State Administration and the National Suco Development Programme (PNDS) construct many rural water supplies, with a small provision for the ongoing management of the infrastructure through the Operation and Maintenance teams (EOM). Considering the history of weak sustainability of rural water supply in Timor-Leste[[2]](#footnote-2) and the national water supply coverage figure of 72%3, it is essential to strengthen ongoing service delivery and ensure that the infrastructure that has been built continues to function.

The objective of this project was to trial a social audit tool for rural water supply services, demonstrating an effective process to improve rural water supply services and engage communities in improving government services, strengthening participatory democracy. Throughout this process the capacity of local NGOs in the PN-BESITL network was developed through training, field practice and mentoring to be able to implement the tool independently in the future. After scanning the current context and reviewing tools used within the sector globally it was decided that the Community Scorecard tool would be the most appropriate methodology.

The Community Scorecard process was then run in eight trial communities across TimorLeste, identified by the National Directorate for Water Supply in consultation with the sector. The trial locations were linked to community water supply systems with a community management group set-up to manage the ongoing operations and maintenance of the system.

The results from this trial across different implementers in eight communities show that none of the water supplies were found to be delivering services to the complete satisfaction of users or meeting all of the relevant national standards or international targets for the level of service provided. In particular there were challenges with supplying enough water for all users through the dry season and supplying water that had no microbiological contamination. It was found that the community water management groups did not have the capacity to manage water supply services to meet these standards and that they would require more external support from government to undertake this. Significant investment in operations and maintenance is required to achieve these targets and an increasing focus on service provision rather than construction of new infrastructure.

The Community Scorecard process was found to be effective, empowering and practical. The process includes an effective local-level feedback loop and action plan that both the community, local leadership and local government can be engaged in implementing, strengthening communities’ participation in improving government services and participatory democracy. It can play a crucial role in strengthening rural service provision and should be a continuous process. The skills and experience are now available within FONGTL and PNBESITL and it is recommended that the process be scaled up on a suco-by-suco basis along with water safety planning and water resource management processes for the suco.

Detailed recommendations include the following:

1. **Water Quality**. Seven of the eight water systems supplied water did not meet national standards. The quality of water supplied and the protection of water sources are essential in order for water supply services to meet the global standard of ‘zero’ microbiological contamination and for water supplies to achieve the intended health outcomes as set out in global goals 2 ‘nobody will suffer from malnutrition’, 3 ‘no more babies will die from preventable causes’ and 6 ‘everyone will have safe water to drink’ to be achieved by 2030. It is then recommended that:
	1. Rural communities receive support with Water Safety Planning in accordance with WHO guidance, this would likely be most effective linking health staff and health care facilities to supporting the operations and maintenace process.
	2. Trial and support new and more portable ways of testing the quality of water, engaging community members in the process, e.g. using the compartment bag tests were found to be very effective.

1. **Water quantity**. All of the eight water supplies were not able to supply a satisfactory amount of water throughout the year. The quantity of water supplied should be sufficient to meet the basic needs of family members in order for the full health and economic benefits to be realized. Global Goal 6 has set the global target to supply everyone with adequate water when needed. This means that water supplies need to be consistent and supply sufficient water though-out the dry season. However, the majority of rural domestic water supplies in Timor-Leste are fed by mountain spring sources from high altitude vulnerable shallow aquifers, under pressure from climate variations and population growth. It is recommended that:
	1. Rural communities are supported to understand and quantify their water resources so that they are able to manage this shared resource effectively, this would likely be most effective focused on suco councils.
	2. Adaptations to develop resilient rural water supplies should be trialled and leakage and wastage from water supplies quantified with strategies to reduce loses introduced.

1. **Water access**. The quantity of water supplied should be sufficient to meet the basic needs of family members in order for the full health and economic benefits to be realized. Global Goal 6 has set the global target to supply every household with their own connection by 2030 to ensure these benefits are realized and that access is equitable. This level of service was not achieved by any of the eight water supplies. It is recommended that:
	1. Adaptations to rural water supplies that enable all households to obtain a connection to their house are trialed, along with strategies to quantify water use by households.
	2. Increase the capacity of implementers to plan for communities to support people with disabilities with water access through referral to the disability sector and disabled people’s organizations.

1. **Community water management groups**. These groups did not function to the satisfaction of the communities in general and had limited capacity to carry-out their functions. It is recommended that:
	1. Community management groups link to the suco chief and suco council, this is particularly a need for the GMFs that do not yet have close links to the Suco council.
	2. Community management groups should be more accountable to users, in particular with the use of user contributions. Plans and financial reports should be shared with the users from the community, potentially through notice boards and displays.
	3. Smaller groups were found to be more effective than larger groups, as responsibilities were clearer and it was easier for all members with responsibilities to meet on a regular basis.
	4. Greater professionalization and incentivizing of the work of members of the groups was found to be effective. Incentivizing the work with a consideration of financial sustainability could be effective in the context of expanding suco councils with incentivized positions. Professionalization of the work of the members through certifications and qualifications can also assist in providing development opportunities and motivating members.

1. **External support to community management**. In no other public service sector has decentralization been pursued to such an extreme and the result of this trial indicate that community management has not delivered satisfactory technical performance and financial sustainability. It is recommended that support mechanisms for community management are strengthened as follows:
	1. GMFs and EOMs have access to regular technical support to keep infrastructure functioning and services running
	2. Funding be provided for large repairs, renewal and extension of rural water supplies with annual budget allocated for keeping services running and communities potentially providing some match funding.
	3. Support systems and staff for rural water supplies have stronger accountability mechanisms for services to suco chiefs and upwards to line management.

1. **Community scorecards**. This trial found the CSC process to be effective, empowering and practical. The process includes a local level feedback loop and action plan that the community, local leadership and local government can be engaged in implementing, empowering communities to participate in improving government services and strengthening participatory democracy. With several CSC exercises conducted across several locations, results can be analyzed and aggregated with detailed practical policy recommendations developed. The process is then effective at strengthening service provision for rural communities and it is important to follow up with them periodically to ensure that action is being taken. It is recommended that:
	1. The CSC process link with suco chiefs and the suco council, focused on improving water supply services for the whole suco.
	2. The CSC process be applied across sucos as a package along with the water safety planning and water resource management processes, scaling-up on a suco-by-suco basis.
	3. Quick follow-up rounds of the CSC process can be implemented on an annual basis to review action plans and keep service improvement live.
	4. The CSC process can be easily adopted by other sectors to improve rural services, and there is now an experienced resource within FONGTL and PN-BESITL.

# Introduction

Timor-Leste’s Prime Minister Rui Maria de Araujo in his inaugural speech announced the intention of the VI the Constitutional Government to establish a partnership with civil society to ensure the institutionalization of citizen monitoring and social audit in Timor-Leste. The Prime Minister stated that:” *this government wants to establish partnerships where you will be able to have a more active participation through what is known as a social audit, where the indicators of government action are thoroughly reviewed with greater accountability, so that by working together we may be able to provide better services to our people”.*

During consultation the Prime Minister has made it clear that social audit will be a priority for his administration for good governance, and participatory democracy in Timor-Leste. As the Prime Minister stated in his speech, it is imperative that people be involved in the processes of governance and monitor activities of development and service delivery. Most crucially the Prime Minister pointed out that social audit allows for criticism based on evidence and hard facts, rather than allowing discussions to get mired in perception/criticism and counterperception alone.

The Prime Minister has set-up a social audit unit in his office and each ministry has set-up a social audit focal point. The unit in the Prime Minister's office has the role of receiving reports reviewing and passing to ministerial focal points for action and follow-up. The unit has an MoU with the civil society social audit network (ReNAS) for cooperation and developing effective audit process within FONGTIL. It is essential to demonstrate effective results and processes in this area urgently before the current government’s mandate is over to help ensure political-will and support continues.

Clean water services are the top priority of Timor-Leste’s rural population, where 72% of the population live, according to The Asia Foundation’s (TAF) November 2014 Tatoli public opinion survey[[3]](#footnote-3). Historically, financing for the WASH sector has fallen short of the investment required to achieve national water supply targets and focused on building new infrastructure rather than supplying sustainable services. Currently political-will to invest in water supply services has also progressed, with a government strategy evolving that is similar to the rapid electrification of Timor-Leste. However, in no other public service sector has decentralization been pursued to such an extreme[[4]](#footnote-4) and therefore there are many sustainability challenges and additional complexities with regards rural water supply when compared to the supply of electricity or other services. This means an adaptive approach is required to water supply infrastructure development and an effective system of accountability is essential for a fully functioning water supply sector that can deliver sustainable services.

The National Directorate of Water Supply (DNSA) through their Municipal DAA offices, have responsibility for supporting rural community water supply management groups (GMFs) to operate and maintain rural water supplies. The Ministry of State Administration and the National Suco Development Programme (PNDS) construct many rural water supplies, with a small provision for the ongoing management of the infrastructure through the Operation and Maintenance teams (EOM). Considering the history of weak sustainability of rural water supply in Timor-Leste[[5]](#footnote-5) and the national water supply coverage figure of 72%7, it is essential to strengthen ongoing service delivery and ensure that the infrastructure that has been built continues to function.

Timorese Civil Society in the Water Sanitation and Hygiene Sector is largely represented by the Platforma Nasional Bee Saniamentu no Ijieni (PN-BESITL) within the national NGO Forum FONGTIL. They represent 14 national NGO members engaged in the Timor-Leste WASH sector and focus on advocacy for the sector. For the social audit trial WaterAid worked with the PN-BESITL members Fundasaun Hafoun Timor Lorosae (FHTL) and Luta Ba Futuru (LBF).

# Objectives and design

The objective of this project was to trial a social audit tool for rural water supply services, demonstrating an effective process to improve rural water supply services and engage communities in improving government services, strengthening participatory democracy. Throughout this process the capacity of local NGOs in the PN-BESITL network was developed through training, field practice and mentoring to be able to implement the tool independently in the future.

Other audit tools for rural infrastructure that were identified as in-development or being trialed include:

* Economic Impact Analysis of PNDS projects: complex mixed methodology one-off study of economic impact of PNDS infrastructure projects. Supported by PNDS.
* Technical Audit of PNDS projects: Quality of construction audit through independent engineering review. Supported by PNDS.
* Monitoring Quality of PNDS implementation, community consultation and process monitoring. Supported by The Asia Foundation.
* Citizen Report Cards (CRC) for Basic Infrastructure: pilot in Likisà District for PDL, PDD1 and PDD2 projects, focus is quality of construction and user’s perception of how the infrastructure project was implemented and how it has benefited the HH. Supported by The Asia Foundation.

The social audit tool for rural water supply should then not duplicate the DAA’s role in design and certification of construction and the tools in development by PNDS and TAF that focus on quality of infrastructure construction. The tool should focus on the service provided by the community management groups to users with the support of the local government. Understanding and rating this on-going service delivery approach is an important addition to the WASH sector, and other service sectors. Lessons from the tool’s development could be used to inform construction focused tools and be adapted to cover both construction and service delivery phases.

For the rural water supply service social audit tool, the Community Scorecard methodology has been identified as the most suitable. The CSC process is a community based monitoring tool that combines the strengths of the social audit approach, community monitoring and citizen report cards (CRC). Like the CRC, the CSC process is an instrument to exact social and public accountability and responsiveness from service providers. However, by including an interface meeting between service providers and the community, this allows for immediate feedback on quality and adequacy of the services provided, the process is also a strong instrument for empowerment.

The development of the tool has been informed by previous experience of citizens’ engagement processes from the WASH sector and includes service providers from both the government and their responsible agencies, the water management groups and community. The process will include opportunities for interface meetings to ensure quick and effective feedback at the local level. See the Community Scorecard process diagram in figure 1.

# Methodology and process

The purpose of the CSC exercise is not just to produce a scorecard, but also to initiate a sustainable dialogue among service users and providers at the community level to produce demonstrable improvements in service delivery. As such, implementing teams formulate the objectives and focus areas for the CSC exercise based upon potential synergies with the broader institutional and policy environment, stages of the process are illustrated in figure 1 and consists of six main stages:

1. Preparatory work
2. Development of input-tracking matrix
3. Community scoring of performance
4. Self-evaluation by service providers
5. Interface meeting between service users and providers
6. Post-implementation activities (training a cadre of facilitators, standardizing indicators, collecting and consolidating feedback, etc.)



Figure 1: Flow diagram of Community Scorecard Process

The social audit process implemented by PN-BESITL members Luta ba Futuru (LBF) and Fundasaun Hafoun Timor-Lorosae (F-HTL) started with coordination at the national level. The inatial engagement was with the General Directorate for Water Supply and Sanitation (DGAS) and then with the implementer of the rural water supply projects identified by DGAS of PNDS, UNICEF, World Vision and WaterAid itself. After the initial approach, a national kick-off workshop was held in order to orientate stakeholders on the social audit, community scorecard approach and plans for the initial trial. The participants included DGAS, PNDS, UNICEF, World Vision and civil society organizations working in social audit and the WASH sector. It was clearly explained that the objective was to assist the government and the community to fulfil their responsibilities in order to ensure sustainable clean water supply services for rural communities.

The community scorecard facilitator teams consisted of LBF and F-HTL with mentoring support from WaterAid. The two teams met with and engaged the Administrators of Ermera, Bobonaro, Likisa, and the Deputy Administrators of Manufahi and Baucau Municipalities, the Director of PNDS Baucau and Likisà, Water Supply Departments of 5 Municipalities, FPAs and PNDS staff at administrative post and suco chief level. All those that were met with appreciated and supported the activity, as social audit has become a major commitment of the VI Constitutional Government.

The Community Score Card process was then run in eight trial communities across TimorLeste, identified by the National Directorate for Water Supply in consultation with the sector. The trial locations were linked to community water supply systems with a community management group set-up to manage the ongoing operations and maintenance of the system. For each water supply system, the complete CSC process was facilitated as follows:

1. the first step being the technical input assessment by the team;
2. the second step being the scoring meeting by women users of the water supply, men users of the water supply and the community management group along with the local government outreach officers as service providers;
3. the third step was then run where the three groups came together and agreed a consensus score for each aspect of service scored and agree an action plan to resolve any low scoring service aspects.

For each community the initial outputs were then:

1. a technical input assessment;
2. an aggregated consensus score from the interface meeting;
3. and an action plan to address any aspects that scored less than satisfactory.

For the initial training and mentoring in the first week of implementation a consultant was engaged as a trainer and facilitator. The training was provided to WaterAid, PN-BESITL members LBF and F-HTL staff and other civil society organizations focus in the area of social audit including the Mata Dalan Institute, Luta Hamutuk, Sub-Commission for Justice and Peace, The Asia Foundation and the journalists’ association. The training and orientation included a one-day practice on using the Community Scored Card in the Suco of Metagou, Likisà.

PN-BESITL members F-HTL and LBF were then engaged in repeating the process across a further seven communities with mentoring from WaterAid colleagues. The results can then be aggregated feedback and publicized through RENAS and the Prime Minister’s office as well as at the local level. PN-BESITL then have access to an experienced resource on the CSC method and the social audit sector also has an understanding and further resources on the CSC method. The approach can then be packaged and replicated elsewhere and in other sectors.

The initial part of the CSC process included agreeing a list of technical indicators for the technical input tracking process for rural water supply services, these then differ from indicators for the assessment of the quality of construction of water supply infrastructure, see table 1.

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| **List of technical input indicators for assessment**  |
| No  | Indicator  | Standard  | Source/Reference  |
| IT1  | Water access - Time for Household to collect water  | 200m/Less than 5min return trip from each household  | Rural water supply guideline 1, p7  |
| IT2  | Water access - Number of people per tap stand  | Maximum 100 people  | Rural water supply guideline 1, p8  |
| IT3  | Water access - Inclusion of people with disability  | Mapping was conducted to identify people with disability  | Rural water supply guideline 1, p8  |
| IT4  | Water access - Accessibility for people with disability  | Efforts were made for access for people with disability in-line with technical guidance  | Rural water supply guideline 1, p8  |
| IT5  | Reliability of water supply  | Available when needed (at least every day)  | Global Goal 6.1 indicator  |
| IT6  | Water Quantity – quantity per person  | 30 L/person/day  | Rural water supply guideline 1, p7  |
| IT7  | System Functionality – Percentage of taps functioning  | 100%  | NA  |
| IT8  | Government Support - Visit from FPA  | 3 per year  | CAP SDF Follow-up Manual, p 8  |
| IT9  | GMF Function - Regularity of meeting  | GMF regulations.  | NA  |
| IT10  | GMF function - Collection of contributions from HH  | GMF regulations.  | Rural water supply guideline 1, p9  |
| IT11  | Water quality – smell  | The water should not smell  | Rural water supply guideline 1, p8  |
| IT12  | Water quality – taste  | The community should be happy with the taste of the water  | Rural water supply guideline 1, p8  |
| IT13  | Water quality – colour  | Water is not cloudy or coloured  | Rural water supply guideline 1, p8  |
| IT14  | Water quality – monitoring by Government  | Regular (Once per year)  | WHO and national Water Safety Planning guidance  |
| IT15  | Water quality –count of bacteria  | Microbiological Test - 0 CFU /100ml  | WHO/East Timor Water Quality Guidelines  |
| IT16  | GMF Function - Gender balance in GMF  | 50% women as GMF members  | Rural water supply guideline 1, p8  |
|  | **List of technical input indicators for assessment**  |
| No  | Indicator  | Standard  | Source/Reference  |
| IT17  | GMF Function – Percentage of GMF members regularly participate  | 100% of members are meeting  | CAP 2 Manual, p20  |
| IT18  | GMF Function – Number of people in GMF with roles  | 4-6 members  | CAP 2 Manual, p20  |
| IT19  | GMF Function – Reporting to community and community leaders  | Regular meetings with community and report to community leader  | CAP GMF Support Manual, p37  |
| IT20  | Water source protection  | Sanitary survey score: low risk to high risk  | WHO water quality guidelines Sanitary Survey Assessment of Contamination Risks  |

Table 1: Agreed list of technical input indicators

# Results and Analysis

The Community Scored Card process has been run in eight trial communities across TimorLeste, identified by the National Directorate for Water Supply in consultation with the sector. The trial locations were linked to community water supply systems with a community management group set-up to manage the ongoing operations and maintenance of the system.

The community water supplies were largely Gravity Flow Systems (GFS), the most common form of water supply technology in Timor-Leste. While the water supply in Samalari community used an electric pump to fill a reservoir tank twice a week which then supplied a distribution network through gravity. The water supplies most commonly sourced their water from protected springs, for Samalari and Caibair the water supplies sourced their water from stream intakes. The community locations and participants in the process are summarized in table 2 below.

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| **Overview of commuity scorecard location information**  |  |  |
| **No**  | **Location of the project**  | **Year** **Constructed**  | **Water Supply**  | **Women**  | **Men**  | **Service provider**  | **Total**  |
| 1.  | Gaiguinia B, Metagou, Likisà  | 2015  | GFS  | 10  | 10  | 5  | 25  |
| 2.  | Gole, Lolotoe, Bobonaro  | 2014  | GFS  | 24  | 18  | 8  | 50  |
| 3.  | Oho-Ana, Cailaco, Bobonaro  | 2014  | GFS  | 11  | 32  | 3  | 46  |
| 4.  | Kotaheu, Ponilala, Ermera  | 2013  | GFS  | 11  | 7  | 6  | 24  |
| 5.  | Leborema, Samalete, Ermera  | 2015  | GFS  | 7  | 13  | 5  | 25  |
| 6.  | Samalari, Laga, Baucau  | 2015  | Electric Pump  | 10  | 10  | 7  | 27  |
| 7.  | Daisua Lama, Same, Manufahi  | 2014  | GFS  | 9  | 6  | 11  | 26  |
| 8.  | Caibair, Vatuboro, Likisà  | 2014  | GFS  | 7  | 11  | 5  | 23  |
|  |  |  |  | **89**  | **107**  | **50**  | **246**  |

Table 2: Number of participants in the CSC process from eight different communities.

A summary of the overall results of the consensus scoring of the water supply service provided from each of the eight communities can be seen in figure 2. The scoring for aspects of water supply service were out 5, with a score of 3 being satisfactory, any aspects that received a consensus score below 3 were included in the community action plan for improvement. Three of the water supply services out of the eight water supplies scored received an overall score from users and service providers that were considered satisfactory, the five other water supply systems were considered to be supplying a service that was not satisfactory.

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Asorlema

Gole,

Lolotoe

Oho-Ona,

Cailaco

Ponilala,

Ermera

Samalete,

Railaco

Samalari,

Laga

Daisua

Lama, Same

Vatuboro,

Maubara

Average Water Supply Service Scores

Figure 2: Diagram showing the average consensus scorecard results

## Water supply service provided

The technical aspects of the water supply service provided were assessed at the technical input matrix step and the perception of the service provided was scored by the users and service providers with a consensus reached in the third step. The technical aspects have been classified for presentation and analysis as water quality, water quantity and water access. An overview of the technical aspects fo the water supply can be seen in Annex 1.

## Water quality

There are two aspects of water quality assessed in this process, the acceptability of the water by the users, rated on smell, taste and colour, and the technical measurement of the water for microbiological contamination, rated on E. coli bacteria /100ml of water.

The three communities of Daisua Lama, Oho Ana and Guiguinia B all rated the quality of the water supplied as satisfactory, see figure 3, while the remaining five communities rated the quality of their water as unacceptable.

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| Water User Scoring of Water Quality

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Caibair-Vatuboro-Likisa Daisua lama, Same-ManufahiSamalari-LAGA-BaucauGole-Lolotoe-BobonaroOho-Ana-Cailaco-BobonaroLeborema-Samalete-ErmeraKotaheu-Ponilala-ErmeraGaiguinia B- Metagou-Likisa 0 0.5 1 1.5 2 2.5 3 3.5 4 | 4.5 | 5 |

Figure 3: Water supply users scoring of water quality supplied

The technical testing for bacteriological contamination indicated that in reality only Oho-Ana met the technical standard of ‘zero’ E. coli per water test sample, see figure 4**,** while the Daisua Lama water sample was of limited risk, the remaining six community water supplies tested at unsafe levels of bacteriological contamination. This reinforced the need for testing as the reality can be very different to the perceived quality of water in communities. It was also found that the compartment bag tests used for assessing water quality produced a

‘hydrogen-sulphide’ smell when the sample was contaminated with E. coli providing a useful perceptive-link and indicator for communities to better understand that although a sample is clear and looks clean it can be contaminated by bacteria.

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| Water Quality Microbiological Contamination No. E.Coli/100ml

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Caibair-Vatuboro-Likisa Daisua lama, Same-ManufahiSamalari-LAGA-BaucauGole-Lolotoe-BobonaroOho-Ana-Cailaco-BobonaroLeborema-Samalete-ErmeraKotaheu-Ponilala-ErmeraGaiguinia B- Metagou-Likisa 0 10 20 30 40 50 60 70 80 90 100 Low risk Intermediate risk High Risk/probably unsafe Unsafe |

Figure 4: Microbiological contamination of water supply test results

The technical review included a technical sanitary survey of the source of water for the water supply. This scoring process followed the WHO Water Safety Plan guidance. The community water supply for Caibair sourced its water from a seasonal stream, while the other water supplies sourced their water form protected springs. It was found that all the water sources needed to be better protected, although the source for the Oho-Ana water supply was relatively well protected it had not been cleaned and some minor work was still required. There was a loose link between the results of the water quality test and the level of protection afforded to the water source, as can be seen when comparing figure 4 against figure 5 below.

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| Sanitary Protection of Water Source Score

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Caibair-Vatuboro-Likisa Daisua lama, Same-ManufahiSamalari-LAGA-BaucauGole-Lolotoe-BobonaroOho-Ana-Cailaco-BobonaroLeborema-Samalete-ErmeraKotaheu-Ponilala-ErmeraGaiguinia B- Metagou-Likisa 0 0.5 1 1.5 2 2.5 3 3.5 4 | 4.5 | 5 |

Figure 5: Sanitary inspection score of water sources

The quality of water supplied and the protection of water sources are essential in order for water supply services to meet the national standard of ‘zero’ microbiological contamination and for water supplies to achieve the intended health outcomes as set out in global goals 2 ‘nobody will suffer from malnutrition’, 3 ‘no more babies will die from preventable causes’ and 6 ‘everyone will have safe water to drink’ to be achieved by 2030.

It is then recommended that water safety systems and quality control approaches are strengthened utilizing WHO’s Water Safety Planning framework and new emerging technologies, such as the Compartment Bag Tests used in this trial, to enable rapid and effective water quality testing.

## Water quantity

The quantity of water supplied was assessed with the participation of the community. The national minimum standard is for 30 liters of water to be supplied per person, while the national recommended amount for a desirable level of service is 60 liters per person per day. The community members were then asked to assess how many 5-litre jerry cans they collected for their household each day, the results can be seen in table 3.

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| **Water quantity supplied by water supplies**  |  |
| **No**  | **Location of the project**  | **Water Quantity – Minimum standard 30 liters/person/day**  | **Colour Indicator**  |
| 1.  | Gaiguinia B, Metagou, Likisà  | Rainy season Dec-Aug >30l/p/d Dry Season Sept-Nov <30l/p/d  |   |
| 2.  | Gole, Lolotoe, Bobonaro  | Rainy season Dec-Jul =45l/p/d Dry Season Aug-Nov <30l/p/d  |   |
| 3.  | Oho-Ana, Cailaco, Bobonaro  | Rainy season Dec-Jul >30l/p/d Dry Season Aug-Nov <30l/p/d  |   |

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| 4.  | Kotaheu, Ponilala, Ermera  | Rainy season Dec-Aug >30l/p/d Dry Season Sept-Nov <30l/p/d  |   |
| 5.  | Leborema, Samalete, Ermera  | Through-out the year <30l/p/d  |   |
| 6.  | Samalari, Laga, Baucau  | Through-out the year <30l/p/d  |   |
| 7.  | Daisua Lama, Same, Manufahi  | Rainy season Dec-Aug >30l/p/d Dry Season Sept-Nov <30l/p/d  |   |
| 8.  | Caibair, Vatuboro, Likisà  | Rainy season Dec-Aug >30l/p/d Dry Season Sept-Nov <30l/p/d  |   |

Table 3:Water quantity supplied by water systems from eight different communities.

All the community water supplies reviewed did not manage to supply more than 30 liters of water per person per day though-out the year. For Leborema and Samalari there was not sufficient water supplied all year, in Leborema one water source had dried-up and in Samalari the pump was run to supply enough water just for drinking and cooking, not for bathing or irrigating household gardens. For the other six communities the water supplied more than 30 liters per person per day during the rainy season but did not supply sufficient water during the rainy season.

The quantity of water supplied should be sufficient to meet the basic needs of family members in order for the full health and economic benefits to be realized. Global Goal 6: ‘by 2030 everyone will have safe water to drink’, has set the global target to supply everyone with adequate water when needed. This means that water supplies need to be consistent and supply sufficient water though-out the dry season. However, the majority of rural domestic water supplies in Timor-Leste are fed by mountain spring sources from high altitude vulnerable shallow aquifers, under pressure from climate variations, population growth and simple slash-and-burn farming practices. Action then needs to be taken by communities with the support of government to understand and conserve their water resources and water supplies.

The long-term monitoring and management of water resources is then critical and could be linked to Water Safety Planning programmes. Community Water Resource Management should be supported with adaptions to develop resilient water supplies trialled with collaboration between the WASH, Agriculture and Environment sectors.

## Water access

Access to water was quantified by reviewing the number of taps functioning and how accessible public taps were to the elderly, and people with disabilities. The expectation is that community water management groups would ensure that all taps were functioning at any one time and that the taps would have access ramps and other features to support accessibility as specified in the national guidelines.

The percentage of taps functioning varied from 25% up to 100%. Generally, the taps were kept functioning relatively consistently by the community management groups with only one community scoring below 50%. The number of households accessing each tap varied significantly, the Samalari water system supplied eight aldeias with each aldeia having one tap-stand. With almost 250 households supplied by this system, it had the highest number of households per tap and faced constraints on the amount of water the system could supply per person.

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| Water Supply Taps Functioning, %

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Caibair-Vatuboro-Likisa Daisua lama, Same-ManufahiSamalari-LAGA-BaucauGole-Lolotoe-BobonaroOho-Ana-Cailaco-BobonaroLeborema-Samalete-ErmeraKotaheu-Ponilala-ErmeraGaiguinia B- Metagou-Likisa 0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100% |

Figure 6: % of taps functioning of water supplies

Accessibility of water supply tap stands were assessed in the scorecard process and rated against the national guidance which indicates that ramps and handrails should be provided for tap stands, as well as laundry facilities and appropriate drainage to keep the area dry and free of mud. The results can be seen in table 4.

|  |  |
| --- | --- |
| **Accessibility for water supplies for elderly and PwD**  |  |
| **No**  | **Location of the project**  | **Accessibility for elderly and people with disabilities**  | **Colour Indicator**  |
| 1.  | Gaiguinia B, Metagou, Likisà  | Tap-stands have ramp access, but still some steps and path to the stand is not secure  |   |
| 2.  | Gole, Lolotoe, Bobonaro  | Tap-stands have a ramp but slippery with no handrail.  |   |
| 3.  | Oho-Ana, Cailaco, Bobonaro  | Access for people in wheel chairs and elderly will be difficult.  |   |
| 4.  | Kotaheu, Ponilala, Ermera  | No access adaptations provided at tapstands but HH connections can provide easy access in some cases.  |   |
| 5.  | Leborema, Samalete, Ermera  | No access adaptations provided.  |   |
| 6.  | Samalari, Laga, Baucau  | Ramps are provided at tap-stands, but distance is far from HH and path is not secure.  |   |
| 7.  | Daisua Lama, Same, Manufahi  | Tap-stands have ramp access, but still some steps and path to the stand is not secure.  |   |
| 8.  | Caibair, Vatuboro, Likisà  | No access adaptations provided.  |   |

Table 4: *Accessibility of tap-stands from eight different communities.*

It was found that four community water supplies did not have any adaptations to assist elderly and people with disabilities to access tap-stands. For the four communities that did provide adaptations, such as ramps, to tap-stands it was found that the access path to get to the ramp and tap-stand was not necessarily secure for people with disabilities or the elderly.

In discussions it was recommended that Households that support elderly members or people with disabilities should be engaged in reviewing the access route from their household to the tap-stands and if possible tap-stands be sited close to these households or household connections/hoses be supported for these households.

The quantity of water supplied should be sufficient to meet the basic needs of family members in order for the full health and economic benefits to be realized. Global Goal 6: ‘by 2030 everyone will have safe water to drink’, has set the global target to supply every household with their own connection by 2030 to ensure these benefits are realized and that access is equitable.

### Water Management Groups

To ensure a sustainable rural water supply system that continues to function and supply an acceptable level of service DNSA has set-up the Facilities Management Group (GMF) community water supply management body linked to the water supply system built, as outlined in national decree law number 4/2004 and the National Commuity Action Planning guidelines, and receives on-going support from the DAA outreach officer. For the infrastructure built under the PNDS programme the ongoing operation and maintenance is the responsibility of the Operations and Maintenance Team (EOM), who receive a small stipend and report to the suco council with ad hoc support from the PNDS outreach officers. The functioning of the two EOMs and six GMFs reviewed were scored by the community on criteria they selected, the consensus of scores on criteria can be seen in figure 7.

0

0.5

1

1.5

2

2.5

3

3.5

4

4.5

5

Collection of

contributions

from HH

Meeting

Regularity

Regular

operation of

system and

valves

Percentage of

members

regularly

participating

Group

commuincation

with users and

commiunity

Functioning of Community Management

Gaiguinia B,

Asorlema

Gole, Lolotoe

Oho-Ona, Cailaco

Ponilala, Ermera

Samalete, Railaco

Samalari Laga

Daisua Lama, Same

Vatuboro, Maubara

Figure 7: Community consensus meeting score of the GMF/EOM’s work

We can see from figure 7 that the work of the GMF or EOM in general was not scored as satisfactory or higher very often in the CSC process, a score of 3 or more. The highest scoring community management group was the EOM form Samalari community in Laga who received a score of 4 on three aspects of their work.

On the collection of contributions to operations and maintenance from households three groups had not been collecting any at the time of the CSC process, while the EOM in Samalari had collected over US$170 each month and paid two water supply operators US$20 each per month with the balance allocated for simple maintenance of the system. PNDS topped-up the operator stipend with $10 each per month. Through the CSC it was established that the contributions are not planned to cover breakdowns or replacement of the pump, this was raised as a concern and where the EOM will need support from local government DAA in the future.

Only the management groups in Gole and Samalari had regular meetings. The other six community groups did not hold regular meetings and communication between the management group and users along with community leaders was very weak. Only in two communities were there regular communication between the groups and the users.

The participation of management group members in regular meetings was also scored poorly in the majority of cases with the fewer members in the groups linked to greater participation of members. The regular work of the groups in managing the system, opening and closing valves and enforcing regulations, was undertaken by one or two members in most cases, while in four of the eight communities this work was not being done.

The community water supply management groups did not generally score well in undertaking their responsibilities. In particular the groups were not generally accountable to the users with regards the use of the contributions or tariffs collected from the Households. The effective operation of the groups was linked to engagement with the suco chief and responsibilities shared between fewer more incentivized members.

### Community Participation

Through the CSC process the community users and service providers score the users on fulfilling their responsibilities in terms of looking after the facilities and paying the contributions due for the operation and maintenance of the system to the community management group. The results of this scoring can be seen in figure 8.

# Community Responsibilities & Contributions

0

0.5

1

1.5

2

2.5

3

3.5

4

4.5

5

Gaiguinia B,

Likisa

Gole,

Bobonaro

Oho-Ana,

Bobonaro

Ponilala,

Ermera

Samalete,

Ermera

Samalari,

Baucau

Daisua Lama,

Manufahi

Vatuboro,

Likisa

Figure 8: Community users fulfilling responsibilities and paying contributions

In three communities, Ponilala, Daisua Lama and Vatuboro, there were no funds collected and users were not paying tariffs. In Daisua Lama the system had stopped functioning due to calcium build-up, later resolved, in Vatuboro the supply had dropped to very low levels due to the dry season and in Ponilala many households had made their own hose connection to the distribution pipe, while other households were not receiving any water.

In the other communities there were tariffs being collected on an ad hoc basis with some users contributing while others did not. In Samalari community households took care of the infrastructure and it was observed that the great majority of households made a regular contribution of US$1.00 per month, the highest tariff levied in the eight communities.

It was found that community ownership developed through the infrastructure planning and construction process, satisfaction with the level of service received by households and links with the suco chief were key factors for generating community conscientiousness and users fulfilling their responsibilities.

## Local government support

The GMF groups are entitled to support from the Municipal Water Supply Service (DAA) outreach officer, the Administrative-Post Facilitator (FPA). The national guidance manual directs that the FPA should visit the GMF three times a year to assess their performance and provide support where required. Members of the EOM groups receive a stipend US$10 per month and some follow-up from the PNDS outreach officers on an ad hoc basis. The PNDS staff have generally been focused on supporting suco councils with planning and construction of new infrastructure rather than operations and maintenance of the infrastructure. The functioning of the two EOMs and six GMFs reviewed were scored by the community on criteria they selected, the consensus of scores on criteria can be seen in figure 9.

0

0.5

1

1.5

2

2.5

3

3.5

4

4.5

5

Gaiguinia B,

Likisa

Gole,

Bobonaro

Oho-Ana,

Bobonaro

Ponilala,

Ermera

Samalete,

Ermera

Samalari,

Baucau

Daisua Lama,

Manufahi

Vatuboro,

Likisa

Local government support to water supply services

Figure 9: Consensus scores on support received from local government

Gole and Oho-Ana community water supply management groups had received follow-up visits and telephone calls from the DAA FPA in Bobonaro Municipality. However, none of the GMFs had received the directed three follow-up visits in the preceding year. For the EOM groups the members had received the US$10 stipend from PNDS each month but had not received support for the ongoing operation and maintenance of the water supply infrastructure from the PNDS outreach staff. The EOM groups had the expectation that they would receive support from DAA in the event of pump breakdowns or other technical problems. However, there was limited communication between the EOMs and DAA, and the PNDS staff and DAA staff, with regards support to the EOMs.

Comparing figure 7 with figure 9 we can see a loose correlation between the functioning of the community water management group and the support received from local government. However, other factors such as support from the suco chief and links to the suco council have a stronger correlation with more effective community management groups.

## Water supply service improvement plans

For each community an action plan was agreed to address any aspects of water supply service that did not meet the satisfactory scoring of three or above. The full action plans can be seen in Annex 2. For this trial the team returned to each location to follow-up and monitor implementation of the action plan. However, for four of the communities the plans were pending the result of the Suco Chief elections in October 2016, as many of the community management group members were candidates in the suco elections.

The most common action was to focus on protecting the water source and improving the water quality. This would benefit with the support of the water safety plan teams in some of the municipalities and the guidance of the water safety planning process.

In the communities of Daisua lama, Samalete and Samalari actions had been taken. In Daisua lama the pipes had been cleared of calcium build-up and the quantity of water supplied had returned to satisfactory levels, in Samalete the suco chief had engaged in reforming the GMF structure and in Samalari the suco chief and EOM operators had made contact with the DAA staff and started coordination on future support to keep the service running. Engagement of the suco chief and the suco council was found to be the main enabling factor in taking action on plans. This would indicate that implementing the CSC process and action plan on a suco-wide basis would then be the most efficient and effective approach to taking the CSC to scale.

## Comparing EOMs and GMFs

This trial covered two PNDS EOM groups in Samalari, Baucau and Vatuboro, Likisà. In the case of the EOM in Samalari it is made up of two operators who are mandated with maintaining all PNDS infrastructure built in the Suco. For the water supply the electric pump is operated twice a week to fill the system reservoir tank and the water from the tap-stands can then only be used for cooking and drinking, households are not allowed to use the water for bathing, laundry or household garden irrigation. This is then managed and enforced by the operators who received US$20 each per month form the user contributions and an additional US$10 per month from the PNDS stipend. However, through the CSC it was established that the contributions are not expected to cover breakdowns or replacement of the pump, this was raised as a concern and where the EOM will need support from the DAA in these instances. The Suco chief was engaged in the EOM functioning and through the CSC process would ensure communication and planning between the EOM and DAA would continue, as the EOM function lacked a clear strategy for ongoing support to keep the service running into the future. In the case of Vatuboro, Likisà, the EOM did not function satisfactorily and the Suco chief was not heavily engaged in the functioning of the EOM, although the EOM members did receive the monthly PNDS stipend.

For GMF groups the national rural water supply guidelines stipulate that there should be four to six members of a GMF and that each water supply system in a community should have a GMF group. It was found from the CSC process that they were a larger more unwieldy group than the EOM, with responsibilities shared across many members and challenges in getting all the members to meet regularly. The GMF members also did not receive a stipend or incentive for carrying-out similar work to the EOM and what was perceived to be more work than suco council members in some cases. There was a system for ongoing support from local government outreach workers, however this did not always function effectively, and where the suco chief was involved the groups received more support and were more active.

From the CSC process it is recommended that the EOMs create a clear strategy and receive more support for keeping infrastructure operational and services running, linking with local government departments for water quality, water resource and technical support. For the GMFs it is recommended that there is greater support and accountability to the suco chiefs and suco councils, that there are fewer members with a more professionalized and incentivized structure.

For both the EOM and GMF groups strengthened financial management for ongoing operations and maintenance and accountability to users is also recommended.

## Samalari community water supply service

Samalari is a Suco in the Municipality of Baucau. It has six aldeias with an estimated population of 3000. The community has demonstrated characteristics of unity and proactiveness in the past. Historically Suco Samalari during the Indonesian administration accessed clean water from Suco Sagadati and had to make a one-off payment of 2 buffalo and $200. More recently these two communities have had a dispute and Suco Sagadati disconnected the water supply to Suco Samalari.

From 2012 to 2015, The National Suco Development Programme (PNDS) worked with the community on their first development priority: clean water. PNDS assisted Samalari to establish a new water system using an electric ‘Grundfos’ pump to supply a total of 8 tap-stands servicing almost 250 households. The CSC process found that the water supply system is well managed with the support of the suco chief, who has demonstrated strong leadership in mobilizing the community, leading the establishment of regulations and integrated the water supply management within the Suco Council’s regular activity plans.

Community participation and ownership of the water supply was observed to be very strong with the majority of households contributing $ 1.00 per month to pay the incentive of $20 each per month for the two operators and for simple maintenance of the system. PNDS top-up the operator incentive with $10 each per month. Through the CSC it was established that the contributions are not planned to cover breakdowns or replacement of the pump, this was raised as a concern and where the EOM will need support from local government. The EOM is made up of the two operators who are mandated with maintaining all PNDS infrastructure built in the Suco. The electric pump is then operated twice a week to fill the system reservoir tank and the water from the taps can only be used for cooking and drinking, households are not allowed to use the water for bathing, laundry or household gardens, households then continue to walk, in many cases a long distance, to the river for bathing and laundry. The community scorecard process also identified that there were high levels of bacteriological contamination of the water supply.

The successful continuation of the water supply service was assessed to be linked to the engagement and leadership of the suco chief, incentivizing the management group members and ownership of the system by the community. However, the quantity, access and quality of water did not meet national standards and are all ongoing challenges to be improved upon if the full health and economic benefits are to be realized. It was observed that the pump could potentially have been fun more often to provide a higher-level of service but the operators were concerned pump wear and breakdown.

Box 1: Samalari community water supply service case study

### **Conclusion and recommendations**

The results from this trial across different implementers in eight communities show that none of the water supplies were found to be delivering services to the complete satisfaction of users or meeting all of the relevant national standards or international targets for the level of service provided. In particular there were challenges with supplying enough water for all users through the dry season and supplying water that had no microbiological contamination. It was found that the community water management groups did not have the capacity to manage water supply services to meet these standards and that they would require more external support from government to undertake this. Significant investment in operations and maintenance required to achieve these targets and an increasing focus on service provision rather than construction of new infrastructure.

The Community Scorecard process was found to be effective, empowering and practical. The process includes an effective local-level feedback loop and action plan that both the community, local leadership and local government can be engaged in implementing, strengthening communities’ participation in improving government services and participatory democracy. It can play a crucial role in strengthening rural service provision and should be a continuous process. The skills and experience are now available within FONGTL and PNBESITL and it is recommended that the process be scaled up on a suco-by-suco basis along with water safety planning and water resource management processes for the suco.

Detailed recommendations include the following:

1. **Water Quality**. Seven of the eight water systems supplied water did not meet national standards. The quality of water supplied and the protection of water sources are essential in order for water supply services to meet the global standard of ‘zero’ microbiological contamination and for water supplies to achieve the intended health outcomes as set out in global goals 2 ‘nobody will suffer from malnutrition’, 3 ‘no more babies will die from preventable causes’ and 6 ‘everyone will have safe water to drink’ to be achieved by 2030. It is then recommended that:
	1. Rural communities receive support with Water Safety Planning in accordance with WHO guidance, this would likely be most effective linking health staff and health care facilities to supporting the operations and maintenace process.
	2. Trial and support new and more portable ways of testing the quality of water, engaging community members in the process, e.g. using the compartment bag tests were found to be very effective.

1. **Water quantity**. All of the eight water supplies were not able to supply a satisfactory amount of water throughout the year. The quantity of water supplied should be sufficient to meet the basic needs of family members in order for the full health and economic benefits to be realized. Global Goal 6 has set the global target to supply everyone with adequate water when needed. This means that water supplies need to be consistent and supply sufficient water though-out the dry season. However, the majority of rural domestic water supplies in Timor-Leste are fed by mountain spring sources from high altitude vulnerable shallow aquifers, under pressure from climate variations and population growth. It is recommended that:
	1. Rural communities are supported to understand and quantify their water resources so that they are able to manage this shared resource effectively, this would likely be most effective focused on suco councils.
	2. Adaptations to develop resilient rural water supplies should be trialled and leakage and wastage from water supplies quantified with strategies to reduce loses introduced.

1. **Water access**. The quantity of water supplied should be sufficient to meet the basic needs of family members in order for the full health and economic benefits to be realized. Global Goal 6 has set the global target to supply every household with their own connection by 2030 to ensure these benefits are realized and that access is equitable. This level of service was not achieved by any of the eight water supplies. It is recommended that:
	1. Adaptations to rural water supplies that enable all households to obtain a connection to their house are trialed, along with strategies to quantify water use by households.
	2. Increase the capacity of implementers to plan for communities to support people with disabilities with water access through referral to the disability sector and disabled people’s organizations.

1. **Community water management groups**. These groups did not function to the satisfaction of the communities in general and had limited capacity to carry-out their functions. It is recommended that:
	1. Community management groups link to the suco chief and suco council, this is particularly a need for the GMFs that do not yet have close links to the Suco council.
	2. Community management groups should be more accountable to users, in particular with the use of user contributions. Plans and financial reports should be shared with the users from the community, potentially through notice boards and displays.
	3. Smaller groups were found to be more effective than larger groups, as responsibilities were clearer and it was easier for all members with responsibilities to meet on a regular basis.
	4. Greater professionalization and incentivizing of the work of members of the groups was found to be effective. Incentivizing the work with a consideration of financial sustainability could be effective in the context of expanding suco councils with incentivized positions. Professionalization of the work of the members through certifications and qualifications can also assist in providing development opportunities and motivating members.

1. **External support to community management**. In no other public service sector has decentralization been pursued to such an extreme and the result of this trial indicate that community management has not delivered satisfactory technical performance and financial sustainability. It is recommended that support mechanisms for community management are strengthened as follows:
	1. GMFs and EOMs have access to regular technical support to keep infrastructure functioning and services running
	2. Funding be provided for large repairs, renewal and extension of rural water supplies with annual budget allocated for keeping services running and communities potentially providing some match funding.
	3. Support systems and staff for rural water supplies have stronger accountability mechanisms for services to suco chiefs and upwards to line management.

1. **Community scorecards**. This trial found the CSC process to be effective, empowering and practical. The process includes a local level feedback loop and action plan that the community, local leadership and local government can be engaged in implementing, empowering communities to participate in improving government services and strengthening participatory democracy. With several CSC exercises conducted across several locations, results can be analyzed and aggregated with detailed practical policy recommendations developed. The process is then effective at strengthening service provision for rural communities and it is important to follow up with them periodically to ensure that action is being taken. It is recommended that:
	1. The CSC process link with suco chiefs and the suco council, focused on improving water supply services for the whole suco.
	2. The CSC process be applied across sucos as a package along with the water safety planning and water resource management processes, scaling-up on a suco-by-suco basis.
	3. Quick follow-up rounds of the CSC process can be implemented on an annual basis to review action plans and keep service improvement live.
	4. The CSC process can be easily adopted by other sectors to improve rural services, and there is now an experienced resource within FONGTL and PN-BESITL.

**Annex 1: Comparison of input tracking indicators across 8 communities**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Community Scorecard for rural water supply services** |  |  |  |  |
| **Key Input Tracking Indicators comparison across 8 communities** |  |  |  |  |
| **No** | **Indicator** | **Standard** |  |  | **Actual service provided for 8 communities** |  |  |
| Gaingunia B, Likisa | Gole-Lolotoe, Bobonaro | Oho-Ana, Cailaco , Bobona | Ponilala, Ermera | Samalete-Railcao, Ermera | Samalari, Laga, Baucau | Daisua lama, Manufahi | Vatuboro, Maubara, Likis |
| IT6 | Water Quantity – quantity per person | 30 L/person/day | >30L/p/d Dec-Aug (rainy season), <30l/p/d Less water Sept-Nov (dry season). | 45/l/p/d Dec-Jul (rainy season), <30l/p/d Aug-Nov (Dry season). | >30/l/p/d Dec-Jul (rainy season), <30l/p/d AugNov (Dry season). | >30L/p/d Dec-Aug (rainy season), <30l/p/d Less water Sept-Nov (dry season). | <30 l/p/d throughout the year. One of the watre sources has gone dry.  | <30 l/p/d Water can only be use for drinking and cooking through out the year, Not enough for bathing and gardens.  | >30L/p/d Dec-Aug (rainy season), <30l/p/d Less water Sept-Nov (dry season). | >30L/p/d Dec-Aug (rainy season), <30l/p/d Less water Sept-Nov (dry season). |
| IT7 | System Functionality – Percentage of taps functioning | 100% | 85% | 100% | 75% | 80% | 25% | 100% | 66% | 85% |
| IT8 | Government Support - Visit from FPA | 3 per year | There is no technical support and assistance and there is no monitoring. | Every six months there is one meeting, but only through phone call asking about the water system. | Every nine months, someone has come for inspection. | Local government has not provided technical assistance to the community and monitoring. | local government has not provided technical assistance to the community and  | PNDS have made 1 visit to site where the electrical pump is located | During the implementation until now the FPA has visited twice.  | No-one form local government has come to support the management of the  |
| IT10 | GMF function - Collection of contributions from HH | GMF regulations. | Some households pay a tariff and many do not pay a tariff. | The percentage of families who contribute funds is higher than those who do not contribute any funds at all,but this year due to lesser water and still some  | Everyone has contributed to the operation and maintenance of the system. | The majority of households have contributed for the operation and maintenance, some households have not. | The majority of households have contributed for the operation and maintenance, some households have not. | The large majority of households have contributed for the operation and maintenance. | No one has been paying for the operation and miantenance of the system due to limited supply. | Some households pay a tariff and many do not pay a tariff. |
| IT11, 12 & 13  | Water quality – smell, taste, colour, count of bacteria | The water should not smell, happy with taste, not cloudy or colour. | The water doesn’t have any smell, taste good, even during the rainy season. The community is happy with the water. | Water doesn’t smell and tastes good during the rainy season.  | Water doesn’t smell and tastes good during the rainy season.  | Water doesn’t smell and tastes good during the rainy season.  | Water smells, tastes no good, and has a colour. | Water doesn’t smell and tastes good during the rainy season.  | Water doesn’t smell and tastes good during the rainy season.  | Water doesn’t smell and tastes good during the rainy season.  |
| T15 | Water quality - E.coli count/100ml |  E.Coli or CFU 0 /100ml | E.coli count MPN/100ml >100 Unsafe | E.Coli count MPN/100ml =48.3 High Risk/probably Unsafe | E.Coli count MPN/100ml = 0.0 Low Risk/Safe | E.Coli count MPN/100ml : 48.3 High Risk/probably Unsafe | E.Coli count MPN/100ml >100 Unsafe | E.Coli count MPN/100ml >100 Unsafe | E.Coli count MPN/100ml = 9.1 Intermediate Risk/Possibly safe | E.Coli count MPN/100ml = 32.6 High Risk/probably Unsafe  |
| IT17 | GMF Function – Percentage of GMF members regularly participate | 100% members meeting regularly | GMF is not very active. | GMF not very active. | GMF not very active. | GMF not very active. | GMF not very active. | Management group very active. | Structure of GMF 75% active | Members are not complete and the group is not active. |
| IT20 | Water source protection -Sanitary survey | Sanitary survey of spring protection as per WHO Water Safety Plan guidance | Sanitary score 2. Open source, water supply could be contaiminated by the rain water and flooding water. | Sanitary score 3. No fence or effective drainage. | Sanitary score 4. Observed to require cleaning Never done any cleaning of the spring capture. | Sanitary score 3. There is no fence, there is cleaning in the water spring. | Sanitary score 1. The water is dirty and the drainage is blocked, there are leaves and garbage in the water. | Sanitary score 1. Water source is dirty, there is no fence. | Sanitary score 2. The source us open, muddy and soil is being washed into the water. | Sanitary score 1. There is no fence securing the area, water is getting contaminated as it is a stream source, not a spring. |

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1. The Asia Foundation (2014), Timor Tatoli Survey November 2014. Dili: TAF. [↑](#footnote-ref-1)
2. Hamel, S. 2009a, Survey of Rural Water Supply and Sanitation Infrastructure. Dili: Plan. 3 WHO/UNICEF, Joint Monitoring Programme 2015 Update. New York: UNICEF. [↑](#footnote-ref-2)
3. The Asia Foundation (2014), Timor Tatoli Survey November 2014. Dili: TAF. [↑](#footnote-ref-3)
4. Chowns, E. 2015, Is community management an efficient and effective model of public service delivery? Lessons from the rural water supply sector in Malawi. Public Administration and Development **35**, 263-276. [↑](#footnote-ref-4)
5. Hamel, S. 2009a, Survey of Rural Water Supply and Sanitation Infrastructure. Dili: Plan. 7 WHO/UNICEF, Joint Monitoring Programme 2015 Update. New York: UNICEF. [↑](#footnote-ref-5)