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**SUSTAINABLE DEVELOPMENT OF WATER RESOURCES, WATER SUPPLY AND
ENVIRONMENTAL SANITATION**

**Reform of the Water Supply Institution
of Aceh Province, Indonesia**

Dara Johnston (UNICEF) & Jefry Budiman (ESP/USAID), Indonesia

The water supply companies (PDAM) of the province of Aceh are undergoing a revitalization following the earthquake and subsequent tsunami of December 2004. The PDAMs were in a state of disrepair even before the tsunami, from almost thirty years of internal conflict. International aid agencies, including UNICEF and USAID/ESP, are supporting the rehabilitation of both the physical infrastructure and institutional capacity of the PDAMs. The PDAMs need a new structure to operate under; however extreme measures should be avoided at this stage. The PDAMs need support to increase revenue and make them truly autonomous. The tariff structure is the first problem to be addressed. There are internal as well as external changes required for the PDAMs to function successfully. The PDAMs need to learn how to develop a Corporate Plan to be able to realize its strengths and weaknesses. Basically the process has two principles; a participatory approach and simplicity

Background

The tsunami of December 26th, 2004 destroyed a great deal of the infrastructure on the surface along the coast of the province of Nanggroe Aceh Darussalam (Aceh), Indonesia; the earthquake which caused the tsunami damaged more strategic infrastructure, the most essential of these services being water supply systems. Water treatment plants across the province, already in poor state of repair from neglect through almost three decades of conflict, were put out of action beyond the local capacity to repair. Water pipelines in distribution networks were so violently moved that pipes broke, joints and seals split and many of the valves and tertiary connection were completely ruptured. Rural springs changed course, wells dried up or became contaminated and the majority of the water sources the communities had accessed for generations were instantly rendered useless.

The destruction of strategic infrastructure of this nature is so far reaching that unless it is addressed immediately, the already damaged networks will deteriorate beyond the ability for them to be rehabilitated and this would lead to much more serious ramifications. Further deterioration of the systems would require completely new installations and distribution networks which would in turn take many years to install and at an enormous cost that would most likely be borne by a Government unable to afford it.

Without water, sanitation and health communities will not recover. UNICEF is addressing this issue through a restoration program to rehabilitate, in a systemic manner, eighteen water treatment plants, their intake and delivery systems, in six districts of Aceh province. Other agencies and donors are planning to rehabilitate PDAM physical sys-

tems in the other affected districts of Aceh. These systems will be evaluated for their existing capacity and long term projected demand. The plants will be rehabilitated to meet the evaluated requirements and the distribution networks evaluated for immediate repair, up grading and installation in the future. These systems are serving small towns with communities of between 2,000 and 10,000 people.

The repair of the physical infrastructure alone will not result in a sustainable supply of water to the people of Aceh. The institutions which operate the water supply systems are also in need of restoration. The delivery of water supply services for cities and towns in Indonesia is the responsibility of local government units at the municipal and district levels. About 320 autonomous water supply enterprises, Perusahaan Daerah Air Minum or PDAMs, have been established throughout Indonesia (mostly between in the 1980s and 90s) to produce and deliver water to consumers. Each PDAM is a member of the Indonesian Water Supply Association (PERPAMSI), an independent organization representing the water supply industry. PERPAMSI is funded entirely by its members' contributions. The objective of PERPAMSI is to promote the improved management and operation of water utilities.

Before PDAMs were formed, municipal water services were handled by the Water Supply Management Agency (Badan Pengelola Air Minum or BPAM, under local government at the District level. At the time, all required staff were supplied by transferring less-used government personnel into the new companies. The management especially the director are always appointed by local government. Problems arise when every a new leader proposes a new program, and new objectives, so the company must change direction even when the existing programs are working.

The USAID funded Environmental Services Programme (ESP) is working with UNICEF to address the institutional strengthening needs of these PDAMs, so that when the physical infrastructure is repaired the PDAMS will have the management capacity to provide a sustainable water supply.

Institutional reform of PDAMs in Aceh Province.

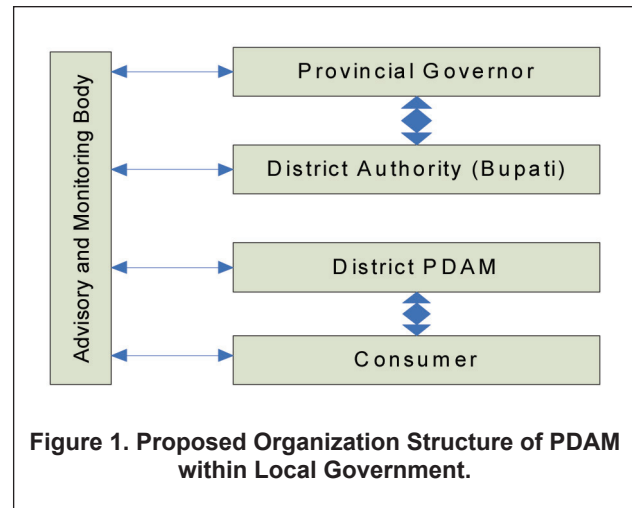
Most important reasons why the PDAMs are not functioning are a lack of money and motivation. In the province of Aceh each district has one PDAM. They are typically responsible for three to four water treatment plants and the associated distribution network. Almost three decades of internal conflict in the province has brought the PDAMs to a virtual standstill, most treatment plants have not been used for years.

Physical restoration and institutional strengthening alone will not leave the PDAMs in a condition where they can function in a sustainable manner. Change is also essential, not only of the PDAMs institutional set up, but of the concept of what a good water service is through out the populace of Aceh. From the level of governor of the province down to the consumer the mind set must be changed. There is no doubt that water is an essential right for survival, but that clean water has a price must be understood.

Before the tsunami tariffs in Aceh province, set by the local government, were so low the PDAMs could not even afford to commission some water treatment plants. In one case, at 3 US cents per 1,000 litres the PDAM could not even pay for the fuel to pump water into the plant. There are as yet no calculated costs for break-even operation or recuperation of depreciation of assets. In one of the more progressive PDAMs the figure of 20 cents is being targeted to cover operation and maintenance and the local government has already agreed to raise the tariff to 10 cents, from a pre-tsunami rate of seven. This is a 42% increase in the tariff. For further increases a major public awareness campaign will be required, starting at the level of district government. A tariff of 20 cents will be a threefold increase.

The next most important change would be to ensure the autonomy of the PDAM. To date the directors and staff are appointed by the district government. Part of corporate planning involves the identification of the tasks required to implement the work successfully, and consequently the development of job descriptions. Recruitment of the proper personnel should follow this and there should be no association between the election of new district officials and the appointment of any staff within the PDAM, if the institution is autonomous.

To date PERPAMSI has not been active in the province of Aceh, mostly due to the conflict. The PDAMs in Aceh need the support of their association to assist them to make their case for reform to move in the right direction. Extreme changes to PDAM institutional structure at this stage would be premature. One study, funded by the World Bank¹, recommends regionalization of the 22 PDAMs in Aceh into three



or four entities. The immediate problems of the PDAMs in Aceh today will not be solved directly by regionalization. The larger the entity, the more likely it is to lose touch with the most vulnerable. For regionalization, the local government bodies (Bupati, DPRD) need to be convinced of the need for it. By leaving the PDAMs at a district level, responsible to the elected officials of the district, they are held responsible directly to their clients.

A less extreme, but more feasible solution would be to develop an advisory and monitoring body to oversee the water supply functions from local government down to consumer, see Figure 1. This body would be responsible to the governor of the province and the district chiefs to monitor and advise on the operation of the PDAMs. It could also assist the PDAMs to operate together, without combining them under one authority. In addition, and probably most importantly, it would monitor what consumers are receiving, with regard to quantity, quality and price.

Today in Aceh it is more opportune to try to convince these local government bodies that the tariffs should be raised to reasonable levels. First priority should be to work with existing entities like PDAM and PERPAMSI to move towards break-even operation, rather than to set up new regionalized bodies. Under current political circumstances it may be impossible to reach even the 'first' break-even point of coverage of direct O&M costs, which means that the PDAMs will need subsidies to survive and overcome.

At present UNICEF is subsidizing many of the PDAMs while the tsunami restoration works are in progress. UNICEF is not in a position to keep on subsidizing PDAMs for long periods of time. This might be a function the World Bank and other donors could take on, bridge the gap between the present 10 cent tariff until a break even tariff can be implemented. Looking at the O&M practice in PDAM Meulaboh (Aceh Barat district) and PDAM Tirta Mountala (Aceh

¹ Aceh Reconstruction and Rehabilitation Project, PDAM Regionalization Study, Final Report, Stephen Myres Associates Limited, May 2006, World Bank/Bank Dunia, Jakarta, Indonesia

Besar district), donors like UNICEF and Oxfam should retreat from interventions like providing chemicals, paying electricity bills and providing salaries for PDAMs. To build the capacities within the PDAMs it would be better that the PDAMs take up responsibility for all O&M matters (paying bills and salaries and ordering for materials in time), and that consumers (including donors and NGO's) pay for the products consumed. Therefore capacity building programs are needed, staff needs to be motivated (and de-traumatized), and redundant staff needs to be discontinued. This will take years to establish. The first step is for the PDAMs to realize their needs through the development of a corporate plan.

Development of corporate plans for PDAMs

Since their inception PDAMs have been expanding without good planning; there is a tendency to see PDAMs not as a company, but as a government agency. However the initial intention of the PDAM development was that as a company, a PDAM could free itself from dependence on the government funds and, hopefully, the PDAM would bring better service to the intended beneficiaries.

Corporate Planning is a way to solve this problem. Generally a corporate plan is defined as a strategic plan of a company for a medium term phase. The Corporate Planning concept for PDAM was introduced by the Department of Public Works in 1993. It was developed further in 1995 through a joint program of the Government of Indonesia and The World Bank². In August 1999, the Department of Home Affairs issued a recommendation³ that every PDAM make Corporate Plans as a long term business plan. Subsequently the 'PDAM Corporate Plan Preparation Manual' was released in the year 2000. This manual was endorsed by Home Affairs and funded by USAID through CLEAN Urban Project.

The Environmental Services Program (ESP), a program funded by USAID, currently assists 25 PDAMs in Indonesia. According to need assessments there are many requests to make new Corporate Plans or to reevaluate the existing Corporate Plan because PDAMs feel the current Corporate Plans do not adequately meet their needs or provide a relevant strategy for them.

Lessons learned

In Indonesia there have been two programs funded by USAID related to the PDAM capacity strengthening, through the implementation of Corporate Planning:

1. Local Government Water Services (LGWS) in 2000-2003, assisted 24 PDAMs.
2. Performance Oriented Regional Management

² Guidelines for Preparation of Corporate Plans by Indonesian Drinking Water Enterprises (PDAM), World Bank, Indonesia, 1995.

³ Letter of Acknowledgment from the Ministry of Home Affairs Indonesia, No.690/2323/PUOD, August 1999

(PERFORM) in 2001-2005, assisted 9 PDAMs.

This paper will not express criticism nor compare between both programs, actually both of them were quite successful. However, it is important to look critically at both programs in order to learn from them. Several points are noted:

- Both of the programs adopted participatory approaches to developing corporate plans, and this approach was seen as a reason for success
- In the Corporate Plan development process both of the programs used the process to help PDAM learn how to make a good corporate plan (capacity building approach)
- PERFORM put monitoring and evaluation processes of the implementation programs in the corporate plan as a formal mechanism. This mechanism will ensure that the corporate plan will be used as guidance in determining yearly work plan.
- LGWS implement two separated documents: Book 1 was as summary of the plan and Book 2 contained supporting data, analysis, and detailed financial projection. This approach eased the socialization process to staff, consumers, and even for the investors, because they could quickly understand company direction by just reading Book 1.

Corporate planning development process approach

Considering experience previous history and knowing about the PDAM Corporate Plans Manuals, it is best to make the Corporate Plan development process as participatory as possible. For a PDAM who never composed a Corporate Plan before, it is advised that their first Corporate Plan be supported by a consultant or a university.

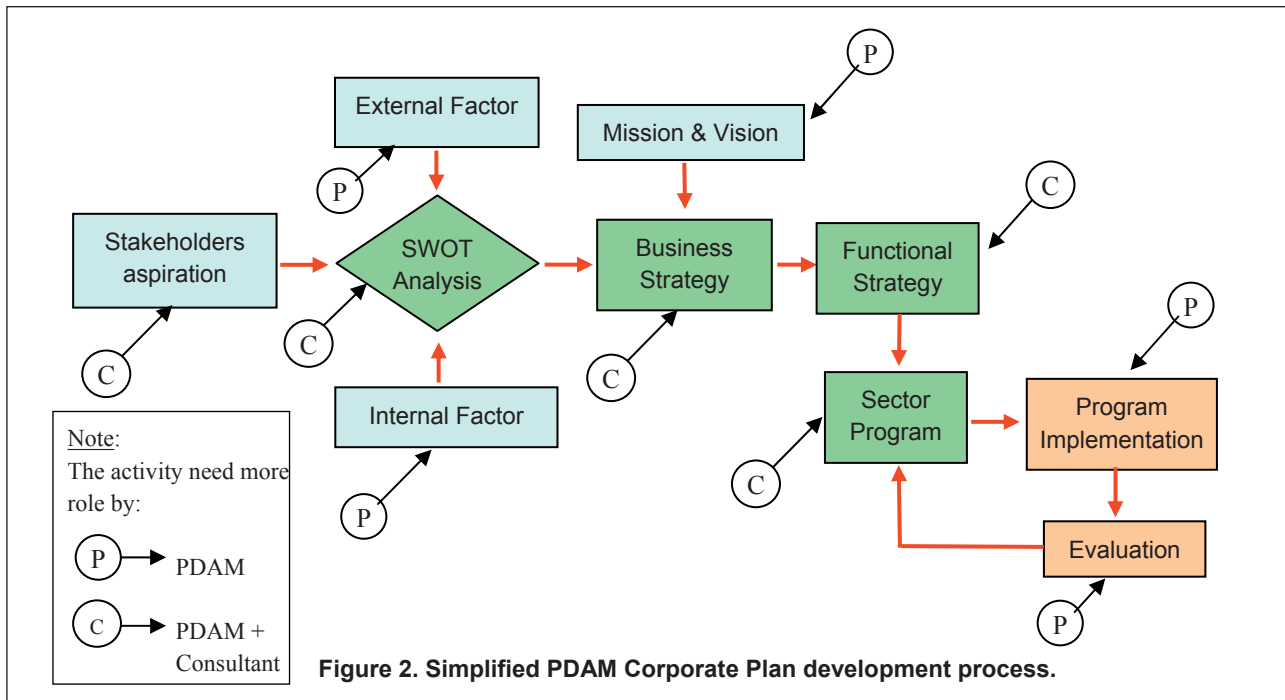
The process in the making of a Corporate Plan can be divided into several phases of action. Each activity requires the PDAM or PDAM supported by a consultant/university (see Figure 2) to undertake the following tasks:

- Preparations; the activity is best started with a short training course on the Corporate Plan philosophy. TGathering Stakeholders aspiration;
- SWOT Analysis;
- Mission and Vision statement;
- Determining Grand Strategy / Business strategy;
- Determining Functional Strategy;
- Sector Program;
- Program Implementation;
- Program evaluation;

All the activities are conducted by the PDAM, with the support of the consultant or university, except the first task which is done by the consultant, and the last two tasks which are done by the PDAM.

Conclusion

The physical reconstruction of the water supply systems of Aceh will not be enough to ensure sustainable supply of clean



water for the population of the province. Institutional reform, realistic tariffs and corporate planning are also essential. In conclusion the following points are noted:

- Financial resources are the key to the sustainability of the system; increasing the tariff to cover the break even costs is the most important step the PDAMs can take.
- It is too early in the reform process to consider measures as extreme as regionalization.
- Most PDAM still need assistance in learning / understanding the PDAM Corporate Plan Manual.
- It is essential to use a participatory approach in every process in corporate plan development.
- It is better to perform a capacity building approach such as on the job training in the process of making the corporate plan.
- Put monitoring and evaluation processes related to the program implementation in the corporate plan as a formal mechanism.

The process of change will only succeed with the full cooperation of all the partners involved in the reconstruction of the water supply systems of Aceh.

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