Vanuatu Integrated Water Resource Management Case Study Sarakata Catchment, Espiritu Santo Island, Vanuatu

Preliminary report for partners

INTERNATIONAL WATERCENTRE

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Australian Water Resource Facility, International WaterCentre
in partnership with Live and Learn Environmental Education

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Background information

The Australian Water Research Facility (AWRF) is a research partnership between AusAID & the International WaterCentre (IWC) for water and development issues in the Asia Pacific region. Researchers for this project come from The University of Queensland, Monash University and IWC. The research is developing integrated approaches to water management and identifying priorities for and risks to water and catchment health in order to strengthen the quality and impact of Australia's water related assistance. The project has undertaken case studies in the Solomon Islands and in Vanuatu. This report focuses on the Vanuatu case study in the Sarakata Catchment.

The Sarakata catchment is the main source of water for the town of Luganville on Espiritu Santo Island, which is the second largest urban centre in Vanuatu. There are many informal settlements along the banks of the Sarakata, most of which have no access to running water. The participatory research focuses on these settlements and risks to their water quality and to the river. The IWC team is working in partnership with environmental NGO Live and Learn Environmental Education (Live & Learn), Vanuatu, to support capacity building with the newly formed community-based Sarakata Catchment Group and Live & Learn's educational activities in community water quality monitoring.

Vanuatu, like most Pacific Island Countries, is progressing a national agenda for Integrated Water Resource Management. It has recently adopted a new national water policy. Meanwhile a Pacific-wide project funded by the United Nations' Global Environment Facility- Pacific Alliance for Sustainability (GEF-PAS) and the European Union (EU) through the South Pacific Applied Geoscience Commission (SOPAC) is assisting countries to conduct IWRM demonstration projects. Vanuatu's demonstration project is based in the Sarakata Catchment and entails whole-of-catchment integrated management to be achieved over the next five years.

The IWC research team and Live & Learn have worked closely with the national and provincial governments to ensure the project assists the development of (Integrated Water Resource Management) IWRM in the Sarakata catchment. Our research preceded the commencement of the GEF-PAS demonstration project.

This preliminary report summarises the process followed in the Vanuatu case study, and some initial findings, for key Vanuatu and Pacific stakeholders.

Scoping Study - July 2008

In July the AWRF team with Live & Learn Vanuatu undertook a week-long scoping study to see how the research opportunity could be made most useful for the management of the Sarakata catchment. Meetings took place with a range of stakeholders including: Sarakata Catchment Group; members of the Sanma Provincial Council; Sanma Water Advisory Committee; the national Department of Geology, Mines and Water Resources; AusAID Vanuatu, and the author of the new National Water Strategy from Oxfam New Zealand. The team also visited the lower and middle sections of the catchment with the Catchment Group, stopping at places of interest such as informal settlements and the pump station (Luganville's water source), and sites of economic activities such as the quarry, the oil palm nursery and cattle farms.

The scoping study revealed the priority to strengthen collaborative skills and knowledge of people in the catchment across all management scales from local to national, in preparation for implementation of the new National Water Strategy and UN GEF-PAS funded demonstration project for whole-of-catchment management. The GEF-PAS project is assisting the development of IWRM throughout the Pacific, and has chosen the Sarakata catchment as the site for Vanuatu.

The AWRF team and Live & Learn decided: (a) to support and enhance Live & Learn's efforts to develop skills within the catchment through participatory research and skills training with the catchment group; and (b) to bring different stakeholders together to communicate and explore ways to work together for the benefit of the catchment.

Participatory data collection – November 2008

Two participatory methods were chosen for eliciting data from communities:
1) building a three dimensional model of the catchment which could be used to identify locations within the catchment that are relevant to water and reinforce the connectedness of catchment activities, and
2) a risk identification and ranking exercise.

Led by the AWRF team and Live & Learn, the Sarakata catchment group built the model over two days at the Youth Drop-In Centre in Luganville. Thirteen catchment group members participated, all but one from the lower catchment. As a consequence it was decided to focus initially on the lower catchment and on engagement with the peri-urban formal and informal settlements surrounding Luganville. This would allow the catchment group and Live & Learn to later extend the process of developing similar models, activities and skills to the middle and upper catchment.

The workshop participants carried out a range of activities. While one group worked constructing the catchment model, the second group built a conceptual diagram, identifying values and risks and then linking these together on a sticky wall.

The three-dimensional model was a great success, serving as an effective method of engaging with the communities, and also helping to build the relationship between the AWRF team, Live & Learn and the Sarakata Catchment Group. At this time, preparatory work towards a middle-catchment model was also completed.

Cutting out contours for the model

Painting the model

Linking risks and values on the sticky wall

Following a trial visit to the first community in the lower catchment, a participatory exercise was devised which the catchment group could use to determine community assessment of risks from events and practices affecting water in the catchment. Undertaking participatory risk assessment with the communities provided the Catchment Group with both a motive and a mechanism to collect and analyse information on community concerns at both the individual village level and more generally across the catchment. The aim was to gather community perceptions of threats to water in order to produce a risk matrix to be used for decision making by governments and catchment groups.

Four communities were visited, Solway, Mango, Nergar and Pepsi. Participants split into men's and women's groups to capture differences in women's and men's uses, concerns and threats to water in the catchment. A number of methods were used to engage the community and elicit their issues and concerns:

- The model was used as a talking point for group discussions about water and sanitation.
- The community identified values and risks to their catchment, first ranking the identified risks by order of likelihood and then by order of impact.
- Afterwards the men and women came together to merge their identified issues and rankings into one group and a final ranking.

Identifying catchment issues

Labelling risks in the catchment

Ranking risks affecting water

Sarakata Catchment Group members progressively took a larger role in facilitating the community discussions and at the end of this visit, the catchment group members agreed to continue the data collection over the next two months for the six remaining settlements in the lower catchment. Together the team prepared a workshop facilitation package for each of the participating Sarakata Catchment Group members, incorporating agreed improvements from debriefing discussions with the Catchment Group following the first four village visits. The package includes a question guide translated into Bislama, collaboratively written explanations of how to undertake the risk identification and ranking activities, and all associated materials.

Information collected from the community is valued for planning and decision-making within the catchment and therefore increases the group's legitimacy and confidence to engage with the communities of the catchment, and at least two levels of government involved in the National Water Strategy and the GEF project. It also raises Live & Learn's profile within the catchment and nationally while giving voice to community concerns.

In addition to the participatory research, the AWRF team made follow-up visits with other stakeholders in Luganville and Port Vila. The Sanma Water Advisory Committee was keen to find out what work the team had been doing in the informal settlements and to discuss plans to relocate some settlements under the new zoning plans. Sanma Provincial Council is also heavily involved in the zoning. Part of their job is to consult communities, and so they were particularly interested in the work we had been doing and invited to observe further community consultations. In Port Vila, the AWRF team met with the Department of Geology, Mines and Water Resources, exploring how the risk assessment work and strengthening of the catchment group's skills ties in with the GEF funded demonstration project for whole-of-catchment management, as part of the national program of Integrated Water Resource Management. Officials there expressed an interest in the participatory methods and asked to be involved in the next stage of field work.

Catchment Group Discussions and Skill Development – February 2009

In February 2009, the AWRF team and Live & Learn began to explore with the Sarakata Catchment Group a wider purpose and a range of new skills for the catchment group. Catchment groups have a vital role in representing community issues to layers of government and in ensuring that their communities are kept informed of catchment management activities and plans. That representational role requires the catchment group to have a range of planning, analytical and communication skills.

The Sarakata Catchment Group undertook a stakeholder analysis of current relationships it has within the catchment (see Figure 1 on following page).

The group then projected forward to determine what the group would like its strategic relationships to be in 2011 (see Figure 2 on following pages).

Some discussion also took place concerning the placement of industry stakeholders in this future planning analysis and the group's difficulties in engaging with these stakeholders. A future skills training workshop in developing a Communication Strategy with targeted messages and rehearsing those key messages would be useful for the group.

The Catchment Group also engaged with the research team and Live & Learn to discuss the group's data gathering activities between November 2008 and February 2009, to complement the four communities visited in November. Six further communities had been visited – Sarakata 1, Sarakata 2, Side River Station, Pump Station, Solway 2 and Pepsi 2. This resulted in five strong sets of data on community perceptions of threats to water in the catchment – ranked first by likelihood/frequency and then by severity of impact. One set of data was incomplete and could only partially be used. The data was collected only for mixed groups, in some cases because only one or two participants of one sex were present and at the time it was considered more efficient to carry out the data collection in a mixed group.

The group discussed the meaning of the data as well as its possible uses, including its role in the development of a Catchment Risk Matrix (see Table 1) for each settlement to enable the Catchment Group to focus and fine-tune its messages and activities to each settlement's priorities. A sample Catchment Risk Matrix is shown in Table 2. The group also spent some time identifying the major risks across the whole lower catchment, combining community data. They noted the strength and value of this information to support funding applications and to guide future activities of the Catchment Group. Stakeholder identification and characterisation, strategic planning for productive stakeholder relationships in the future, and careful identification of community concerns and priorities all play a role in assisting the catchment group to represent community issues faithfully to government and assist in working with the catchment stakeholders.

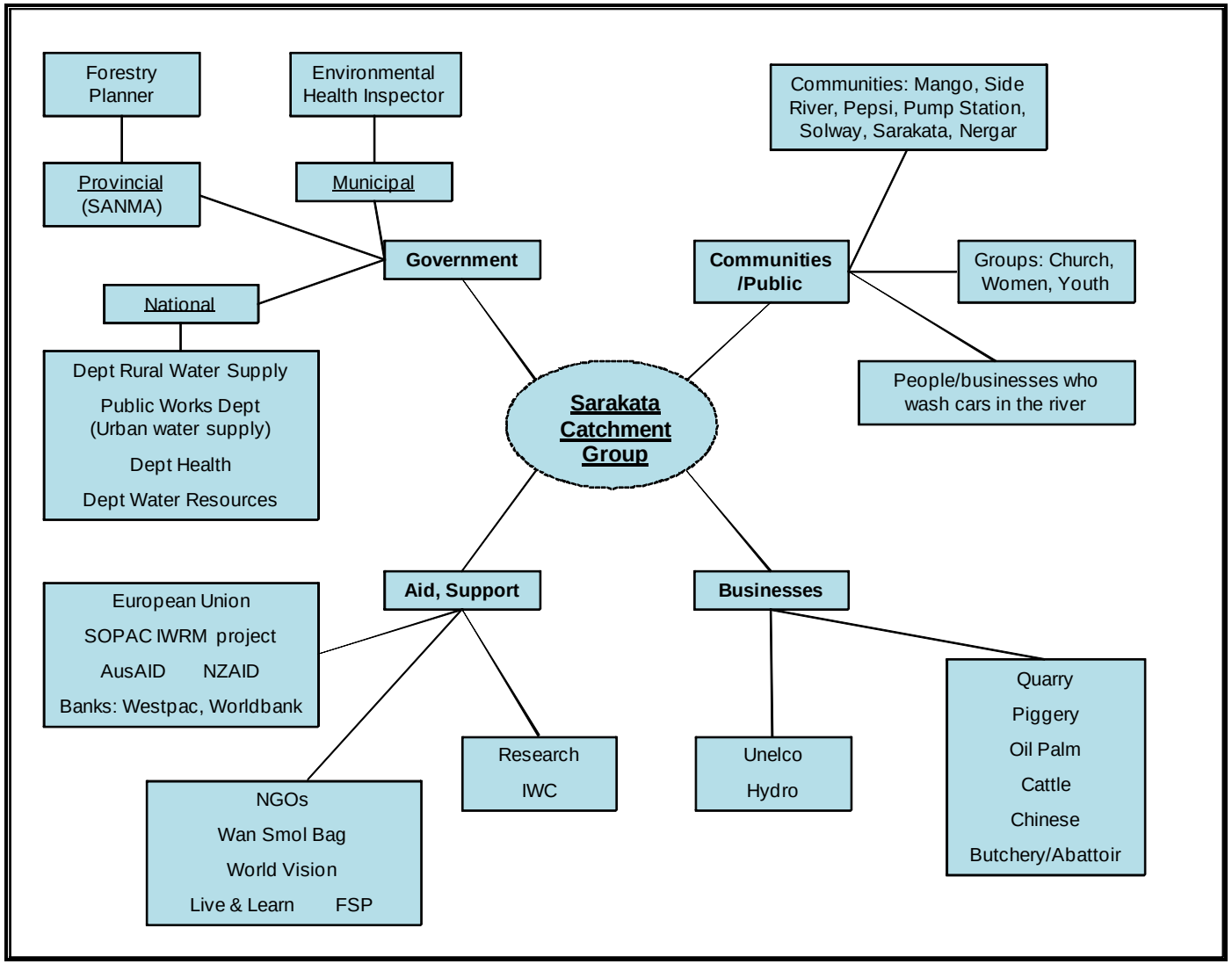

Figure 1: Stakeholder analysis by Sarakata Catchment Group - present

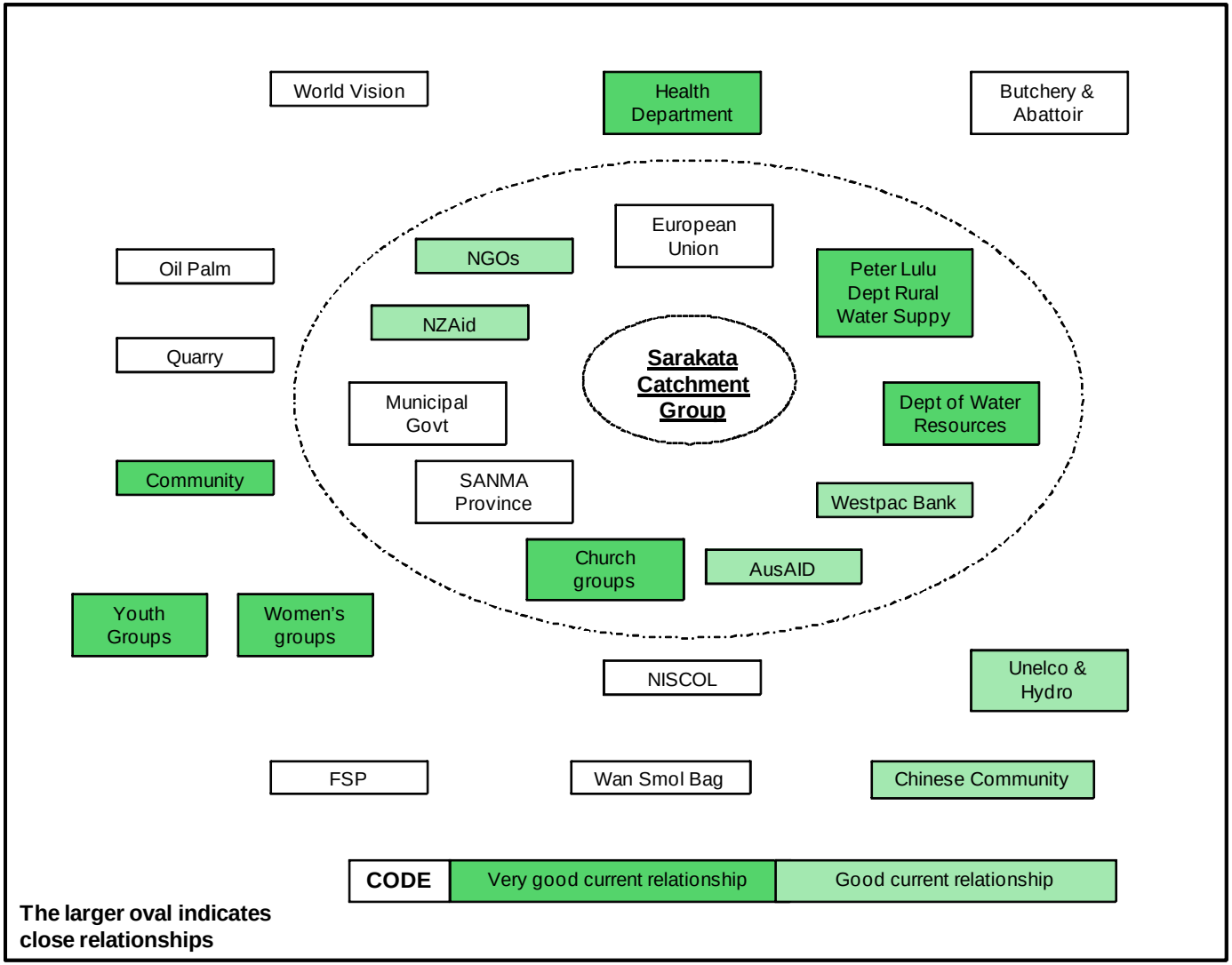

Figure 2: Sarakata Catchment Group stakeholder relationships desired by 2011

Table 1: Construction of a risk matrix from community rankings

PROBLEMS	IMPACT
Bush toilet	5
Rubbish	4
Gardening along the river	3
Septic tank pumping into the river	2
Offal disposed by the meat market into the river	1

RISK	
EXTREME = 8-10	
HIGH = 6-7	
MODERATE = 5	
LOW = 2-4	

PROBLEMS	LIKELIHOOD	IMPACT	SUM
Rubbish	5	4	9
Bush toilet	4	5	9
Gardening along the river	3	3	6
Offal disposed by the meat market into the river	2	1	3
Septic tank pumping in to the river	1	2	3

Entering scores for each activity for Likelihood and for Impact on a Catchment Risk Matrix gives a strong signal identifying high risk (high impact with high frequency) activities in the catchment requiring attention while activities with low or minor impact which are either unlikely or rare are generally of lesser significance, signalling lower risk.

Table 2: Sample risk assessment matrix.

IMPACT		Low	Minor	Moderate	Major	Critical
		1	**2**	**3**	**4**	**5**
LIKELIHOOD						
ALMOST CERTAIN	**5**				RUBBISH (9)	
LIKELY	**4**					BUSH TOILET (9)
POSSIBLE	**3**			GARDENING (6)		
UNLIKELY	**2**	OFFAL DISPOSAL (3)				
RARE	**1**		SEPTIC TANK (3)			

In exploring its possible future involvement in Vanuatu's IWRM demonstration project, the Sarakata Catchment Group undertook a brainstorming exercise against the 'deliverables' of the IWRM project, identifying potential roles for the group to assist the Ministry for Water Resources in achieving its objectives (see Figure 3).

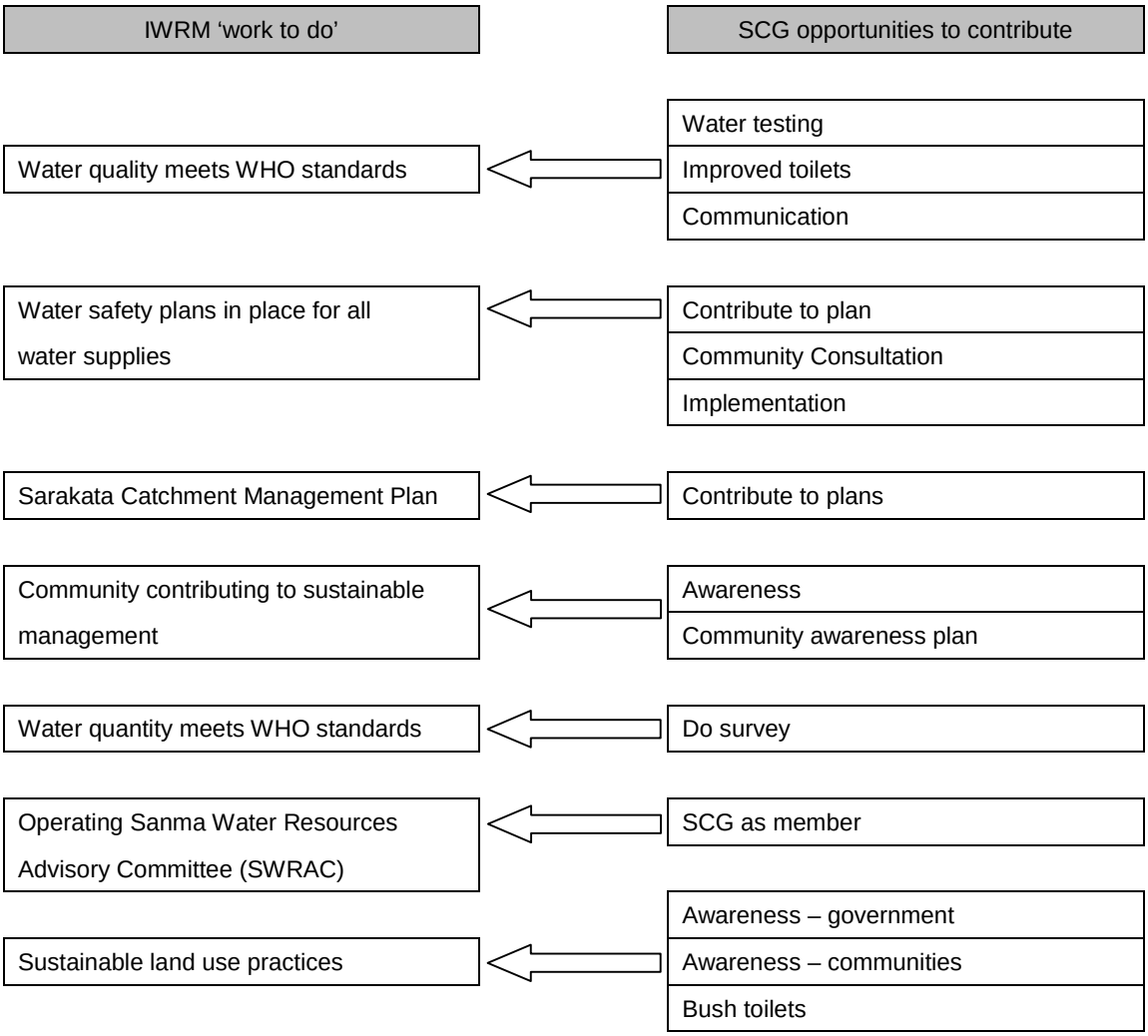

Figure 3: Potential ways in which the Sarakata Catchment Group could contribute to IWRM

The group also reviewed its past activities, such as forming the catchment group and undertaking water quality testing, identifying the partners that had assisted it by providing a range of inputs - funding, training, testing kits or facilitation skills. Turning to the future, the SCG brainstormed some potential group activities identifying who and what might be contributed by a range of willing partners (Figure 4).

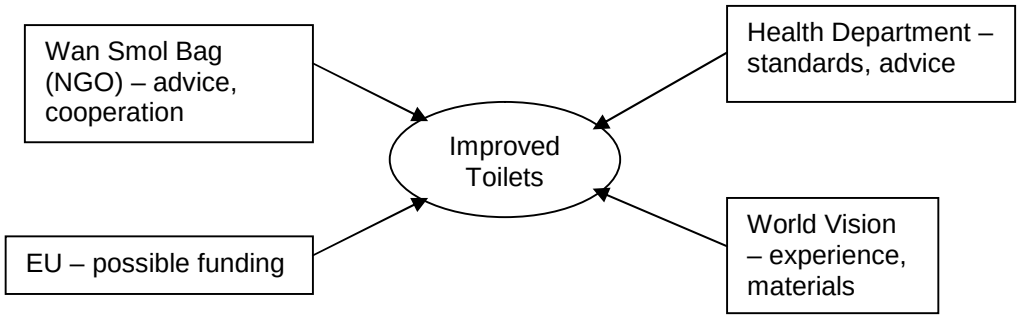

Figure 4: Partners which could contribute to the activity of improving toilets

One highlight of the February visit was a joint meeting with the Catchment Group and representatives from provincial and national government, both Santo based and Port Vila based. Invited representatives from the Ministry of Geology, Mines and Water, Provincial Government, Forestry, and NGOs including World Vision, Wan Smol Bag and Foundation of Peoples of the South Pacific joined the Catchment group and Live & Learn for a debrief of the catchment findings so far and a workshop on creating communication channels and combining planning across all the partners involved in IWRM.

The workshop included a field trip to Solway 2 where the catchment group members demonstrated a very successful risk assessment process collecting separate risk priorities from men and women. Back at the meeting place (SANMA Women's Centre) the Catchment group also presented their combined understanding of the interconnections of threats to the catchment in a conceptual systems diagram (Figure 5). This was discussed with the invited guests, along with potential roles for the catchment group as significant stakeholders in the upcoming national IWRM Plan.

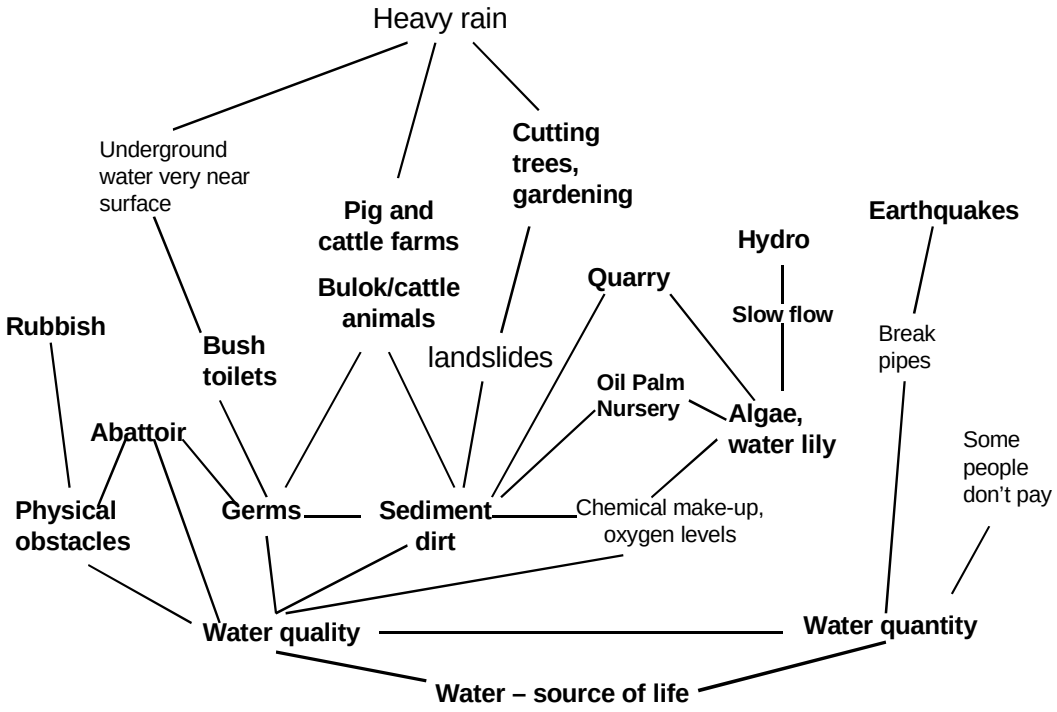

Figure 5: Systems diagram by the Sarakata Catchment Group (9 February 2009), showing key influences on water

Achievements

It was clear from participants' reactions that the Catchment Risk Assessment information collected from the community is valued for planning and decision-making within the catchment, adding strength to good catchment management practices through demonstrating the clear support and concern of catchment communities. In addition the activities have strengthened the group's capacity and confidence to engage with government and catchment stakeholders, raising their profile within the catchment communities.

Meanwhile the research process has helped to build relationships between the Sarakata Catchment Group, provincial and national government, and helped the group to demonstrate its usefulness to the catchment communities. This positions the parties well for commencement of the IWRM pilot project, though the SCG will need continued support in order to maintain its momentum.

Acknowledgements

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