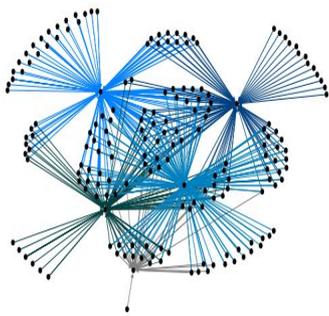


# Knowledge Networks for Skills Development in Local Government

July 2011



A knowledge network of solid waste management in Sri Lanka

System of local government in Sri Lanka is long in history but short on achievements. Local authorities are the political institutions closest to people, but, except for a handful that keeps winning national awards, others fall short. While political actors take the center stage, taking credit for achievement or taking blame for failures, professionals in local government take a back stage. Driven by an emerging body of research that points to the power of networks in ICT enabled societies, we carried out a series of action research projects using the solid waste sector in local government as a case in point to induce connectivity among service provider professionals in the sector. Three new ideas for enabling knowledge networks emerged from our study. They are presented here to stimulate discussion.

## KEY RECOMMENDATIONS

### 1. Training and Certification within an NVQ framework

Services provided by a local authority require a range of technical, managerial and interpersonal competencies. The National Vocational Qualifications Framework developed by Tertiary and Vocational is typically used in vocations in construction, manufacturing etc., but, a pilot study in developing a certification system for solid waste operations assistant vocation demonstrates the utility an NVQ framework for not only skills development in the sector, but, also for bringing together the solid waste managers as a practitioner network.

### 2. Ranking surveys to create a competitive environment

Competition is part and parcel of private service provider environment but, more often than not, government service providers are free to operate as monopolies. In the absence of competitive market forces, ranking surveys can be used to create incentives for performance in government.

Local government systems typically comprise of a multitude of institutions and therefore are ideal for such surveys. Selecting the top 3 among hundreds of institutions will not create real competition. A proper evaluation should distinguish not only the strong from the less strong but the strong from the weak as well. We demonstrate the feasibility using a survey of 5-cities bound by a common waste disposal site.

### 3. Mapping and nurturing practitioner networks

Increasingly it is being understood that knowledge produced in the context of work is driving innovation and growth in the economy and society. Yet attitudes of academics or top bureaucrats, in the developing world in particular, are shaped by an archaic top-down world view.

A map of knowledge seeking activities of solid waste managers in 217 local authorities show an active network which is distinguished by established knowledge hubs and some emerging hubs. Nurturing these networks with care and understanding is the smart thing to do, by academics or policymakers.

This work was carried out with the aid of a grant from the International Development Research Centre of Canada

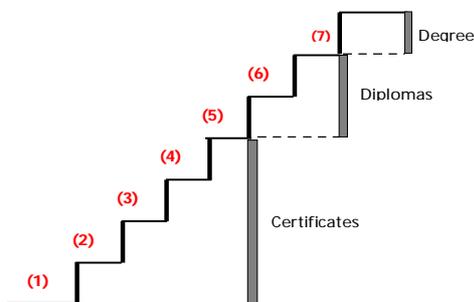
## THE RESEARCH

### NVQ Framework

Competency standards, or documents that specify what a worker should know and can do in a given vocation, are typically used in vocations in construction, manufacturing etc., but not for vocations in government.

Services provided by government require a range of technical, managerial and interpersonal competencies but they have not received much attention. Local government sector is particularly important in this regard since the mandate of a local government authority in Sri Lanka is the regulation, control and administration of "all matters relating to public health, public utility services and public thoroughfares and generally with the protection and promotion of the comfort, convenience and welfare of the people and all amenities within such area."

The National Vocational Qualifications (NVQ) Framework developed by the Tertiary and Vocational Education Commission (TVEC) provides the opportunity for standardizing and developing vocations in any sector.



For any vocation, the NVQ framework essentially provides 3 types of qualifications comprising of 7 levels. Each level is characterized by increasing (a) process complexity (b) learning demand and (c) responsibility. The increasing levels of responsibilities, e.g., would be as follows:

#### Certificates

- 1 Entry
- 2 Work under supervision
- 3 Work under some supervision
- 4 Work independently

#### Diplomas and Degrees (or Degree equivalents)

- 5 Supervise others
- 6 Manage
- 7 Plan

In applying the NVQ framework to SWM, we worked with the Tertiary and Vocational Education Commission of Sri Lanka to define a vocation called "solid waste operations assistant" at NVQ Level 2 to recognize the increasingly complex tasks performed so called 'garbage collectors'.

Competency standards can be developed only with the participation of those who are engaged in a particular practice and excel. They lead the formulation, testing and certification as well.



Assessors congratulating an NVQ Level 2 recipient

A total of 45 solid waste managers were involved in the process of developing, certifying and applying competency standards to the vocation of solid waste operations assistant. These individuals spent 5 days per person on average during a 12 month period, while some spent more than 10 days per person. They often travelled long distance, sacrificing their week-ends, because they felt their knowledge was valued. In their own words:

"We did not realize we had this knowledge until we went through this process"

"Now that the curriculum is done and the process is complete I am going to miss the Sundays we spent here"

With their help, within a period of one year we were able to:

- a) Establish a nationally recognized Solid Waste Management Training Center at the Balangoda Urban Council
- b) Register 17 solid waste managers as assessors
- c) Assess and certify over 50 municipal solid waste workers as operation assistants
- d) Facilitate a Waste Management Professionals' Association dedicated to the professional development of its members and the progress of the waste management sector as a whole.

## Ranking Surveys

'National cleanliness Indicator for Cities' survey carried out by the Department of Environment, Food and Rural Affairs in UK and the 'Sanitation Ranking of Cities' survey by the Union Ministry for Urban Development in India are two rare examples of comprehensive ranking surveys used to evaluate the performance of local authorities regarding their cleanliness and/or solid waste management.

A proper ranking of local authorities calls for a scientific survey of (a) premises receiving services and (b) public spaces in a given locality. Such surveys are too expensive to be carried out across all local authorities in a country. However, a survey can be tailored to address localized issues and hence carried out at a lower cost.

For example, in a pilot survey, we focused on the issue of reducing the waste sent to the Karadiyana, a waste processing facility located next to Bolgoda, a natural body of water near Colombo, Sri Lanka, and surveyed five local authorities that send their waste there.

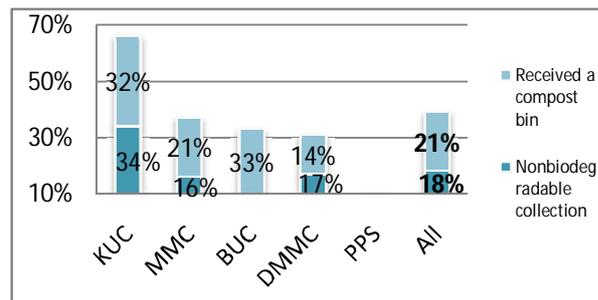
Carried out in partnership with the Nielsen Company of Sri Lanka, the survey consisted of two parts:

First, Face-to-face questions using a questionnaire were asked by the enumerator from each person who is knowledgeable about waste disposal at a given premise. The questions concerned the services provided by their local authority in terms of **source separation, waste collection and cleaning and other**.

Second, observations were made by trained enumerators about the **cleanliness of public spaces** in the vicinity of and within a 10 meter radius of each premise.

The results were organized to depict the performance of each local authority (LA) in comparison to their neighbors, and a percentage score was assigned to each indicator or sub-indicator of interest. Discussion here is limited to the 5-LA area as a whole. The 5 LAs are abbreviated as DMMC, MMC, BUC, KUC and PPS.

## Source Separation

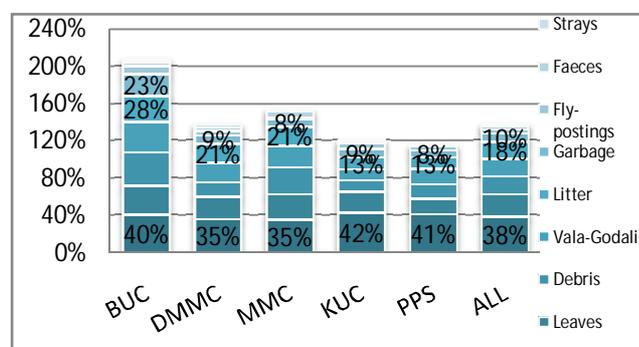


Only 18% of the houses receive a collection service where non-biodegradables are collected separately. Only 21% of the households have been informed that they can purchase a compost bin at a reduced price. KUC performed best and PPS worst.

## Waste collection

68% of the houses have a door-to-door waste collection service, and, of those, 78% say there is a specific day for the service and 86% say the service is regular.

## Problems in Cleanliness



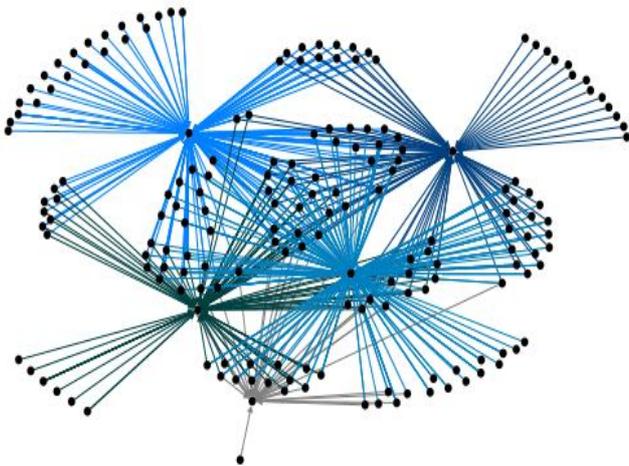
In terms of cleanliness of public spaces, rotting leaves was the major problem for 28% of spaces. Litter was found in 18% and garbage piles in 10%. Fly-postings, stray animals and faeces were not serious problems.

Local authorities offer a variety of services including prenatal clinics to crematoriums. The solid waste services ranking surveys can be expanded to capture the effectiveness of these other services as well. Such a survey will go a long way in creating a competitive environment among neighboring localities.

## Practitioner Networks

The emerging importance of mode-2 knowledge or knowledge produced in the work places vs. Mode-1 knowledge or knowledge produced in formal settings such as universities and research institutes was predicted by Gibbons and others in 1994. With empirical evidence for the importance of mode-2 knowledge just beginning to emerge, it is becoming evident that companies indeed value knowledge received from suppliers, customers and even competitors more than those from formal sources.

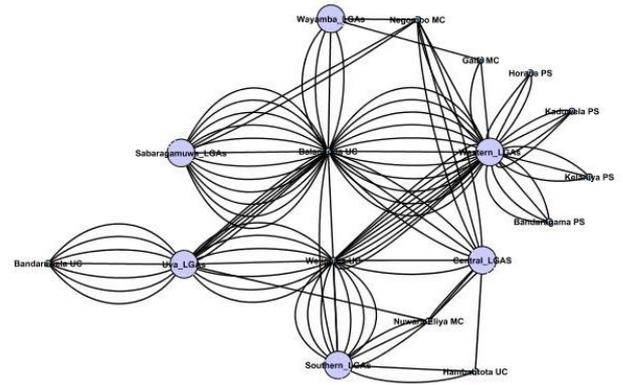
In order see whether similar trends are observable in the local government sector, in 2010, we surveyed the solid waste (SW) managers in 217 LGAs in 6 out of nine provinces in Sri Lanka, asking them, among other things, "Who did you contact in the last 12 months to seek information you needed to improve your practice?".



All knowledge-seeking activities, Oct-Dec 2009, with each line denoting a request to one of the five hubs

Of the 217 managers surveyed, 174 in all reported 614 linkages to knowledge sources. The multitude of dots depicts the 174 knowledge seeking local authorities and, the lines, their links to five hubs with: (1) central government, 39% (bottom right hub) (2) peers, 29% (top left) (3) provincial government, 7% (bottom left) (4) university, 6% (bottom most hub) and (5) others, 18% (top right) .

A closer look the category of "Peers" revealed the presence of solid waste managers at the Balangoda Urban Council (UC) and the Weligama UC, respectively, having 39 and 23 other solid waste managers, respectively, citing them as knowledge sources.



Peer to peer knowledge-seeking activities Oct-Dec 2009

In the figure, the 6 larger dots denote the knowledge seekers clustered by the province to which each belongs and the smaller dots denote the knowledge sources. Balangoda Urban Council (UC) and the Weligama UC, the two major source hubs, are placed in the center of the figure. The 12 lines connecting Balangoda UC, for example, to the large dot on the upper left depicting the Sabaragamuwa Province represents the solid waste managers from 12 local authorities in that province seeking knowledge from the solid waste manager at the Balangoda UC. Other lines similarly depict other knowledge seeking activities. This kind of knowledge mapping research led to identification of not only the two national hubs but other emerging hubs.

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<http://lirneasia.net/projects/2008-2010/knowledge-to-innovation/>