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PEOPLE-CENTRED APPROACHES TO WATER AND ENVIRONMENTAL SANITATION

Decentralized wastewater management – a Hanoi case study

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The paper focuses on the institutional framework for the provision of services and infrastructure for wastewater management and discusses opportunities for decentralization in the Vietnamese context. The paper uses two examples of wastewater management in two districts of Hanoi to illustrate aspects of decentralization in decision-making processes and management arrangements at the local level. The role of the Peoples' Committees (PC) in service provision and their linkages and interactions with the agencies responsible for provision of large scale centralized services at the city level are highlighted. The paper also describes how these linkages could be strengthened to improve the quality of service provision, promote greater sustainability, and explores opportunities and constraints to wide replication.

Existing wastewater management in Hanoi

Introduction

Hanoi is currently undergoing a process of intensive industrialization and modernization. The population in the smaller Hanoi urban zone has risen dramatically from 300,000 in 1954 to its current population of more than 1.7 million which is 60% of the total population in the area of greater Hanoi. It is predicted that this will rise to 2.5 million amongst 4.5 million of total population of Hanoi by 2020. This rapid urbanization has created significant environment pressures and unsustainable demands on natural resources. Amongst these are problems related to the provision of infrastructure for collection and treatment of urban wastewater. Out of the total population of greater Hanoi, it is believed that 65% have access to sewerage services and the wastewaster discharged flows into the large drainage channels which flow out from the city.

The amount of wastewater in Hanoi is currently estimated to be about 460,000 m3/day. Except for domestic black wastewater (app. 20% of total) which is treated in septic tanks, and a limited amount of industrial and hospital wastewater which passes through preliminary treatment, all wastewaters are discharged untreated into surface water bodies which drain towards the Nhue and Red rivers.

The wastewater that flows from the city is widely used by farmers and peri-urban agriculturists living on the edge of the city. The reuse of wastewater increases production in agricultural and aquacultural systems, but there are possible negative impacts on human health of wastewater irrigation activities, which are of concern to the public health sector.

Existing institutional arrangements for wastewater management

Hanoi Sewerage and Drainage Company (SADCO) is the agency with official responsibility for wastewater management in the city. The company provides sewerage and drainage services for inner-city core area. Services in the new urban expansion or peri-urban areas are provided through special service contracts with local authorities. The major function of the Hanoi SADCO is to provide for operation and maintenance (O&M) of the sewer network in the city to alleviate the localized flooding in the city during rainy season. It is one of several public utility enterprises under the Department of Transport and Urban Public Works Service (DTUPWS). SADCO is divided into 4 operational units, each with a responsibility for O&M of the sewer network in different districts. Under the DTUPWS, a separate Project Management Unit (PMU) is responsible for management and implementation of capital development projects.

Implementation issues

The operating budget of SADCO is still heavily subsidized by the State. In Hanoi, as well as in some other cities, a 10% surcharge on the water supply bill has been introduced for wastewater services. However, the gap between revenue generated from the surcharge and operating expenditure is still high - but at least the concept of paying for the service has been introduced. The low price of water supply leads to wasteful use and generates inadequate revenues for the O&M and upgrading of water supply and sewerage systems. As a result, SADCO does not have the resources or capacity to cover all parts of the city and currently serves about 60% of the city. In the other areas, responsibility for service provision is taken on by local authorities or under self-provision by local residents.

In Hanoi and some other cities, the model of state-owned public service enterprises is being developed for for the sewerage and drainage companies, focusing on gradually eliminating subsidies and promoting cost recovery of O&M costs. The regulations are aiming at moving away from the traditional top-down approach for service provision towards a contracted out approach in which a contract is signed between the urban authorities and the sewerage and drainage companies.

Opportunities for DWWM in Vietnam

In Vietnam there are a number of good models of community involvement in water supply and solid waste management in small communities, as well as some models of decentralized wastewater management (DWWM) at different levels. Although there exist some significant differences between these models, the common feature is the mobilizing of community resources (including both human and financial resources) for infrastructure upgrading and management. As well as drainage, this may include construction or upgrading of social welfare facilities such as clinics, libraries, schools etc.

The decentralized management of sanitation systems may include both private and non-government initiatives, that have motivation and incentives to create necessary conditions for providing the service (at the district and community level). The example of wastewater management in Hai Ba Trung District in Hanoi described in Box 1 illustrates an example of one model of decentralized service provision in which the local District and Commune PCs are responsible for management of localized, small wastewater systems in the area.

Thanh Tri is a peri-urban district in the south of Hanoi. A large part of the city's wastewater flows through the district prior to discharge into the Nhue and Red rivers. Box 2 illustrates wastewater management model in Thanh Tri which is also based on responsibility of local authorities as key players, but different from Hai Ba Trung by its ''no SADCO service area'' and reuse aspects.

At present, little is done in Vietnam to enforce the existing laws and guidelines regarding the reuse of wastewater in agriculture and aquaculture. Especially there is a lack of regulations addressing the health impacts of such reuse to the users.

There is great potential for and doubtless interest of DWWM implementation in Vietnam. DWWM can be a suitable solution, when the local service provider created with private or community's ownership, dealing with management, O&M of sanitation works and filling the gaps for urban environmental companies. However, decentralization cannot proceed in an adhoc, unstructured fashion. It still requires a centralized agencies to set policy, coordinate, monitor and regular. The other issue is that the regulations should be strict, especially while implementing the DWWM.

Developing an enabling environment for the private sector and civil society

Developing the private sector and civil society in Viet Nam takes an enabling environment. For this to exist, the Government needs to ensure that the public and private sectors are treated as equals, as well as to strengthen the effectiveness and efficiency of market institutions, and invest in entrepreneurial and management skills development. The important and positive role to be played by Vietnamese NGOs should also be further recognized. In Vietnam the privatization and public participation are understood in one meaning of ''socialization''. Promoting the participation of all sections of society in governance needs to be supplemented by specific efforts at promoting participation of women, ethnic minorities and other disadvantaged or excluded groups in the decision-making process and in management positions at all levels, and through national policies and development programmes sensitive to the needs, interests and participation of these sectors of society.

Role of government

Government will be much better able to fulfill its strategic leadership role as framework-provider and policymaker if it delegates the responsibility and authority for certain tasks to local levels of government and to other, non-governmental actors, such as the private sector and civil society. For this process to be effective and to reap benefits it will involve strengthening political belief in, and further commitment to, decentralization and devolution as the most effective ways to manage public affairs and the responsibility for development. Effective and good governance of the country would benefit substantially from an increase in accountability at all levels of government. The Government has already expressed its firm commitment to this process and has continued to transfer responsibility and decision making authority from central government to the provincial PCs. But decentralization to the lower levels of governance, and to forms of socialization and/or privatization is still very limited. To consistently ensure accountability will require introducing formal mechanisms and procedures that apply to all Government employees, at all levels.

Capacity building issues

To achieve improvements in wastewater management sector via decentralization, substantial resources and investments are required for training local-level officials to manage a greater number and variety of responsibilities. Besides suitable technical design and O&M guidelines for decentralized sanitation alternatives (e.g. guidelines for users to design and construct suitable and effective septic tanks), there should be further training and education, guidelines, as well as clarification of suitable level for decentralization, institutional responsibility for each local level of authority.

It is also important to raise awareness and encourage communication for DWWM. There are certain training needs in order to bring DWWM concepts to local people, especially the younger generation, including updating and renovation of teaching curricula, organization of training course, public awareness raising, etc.

Box 1. Wastewater management in Hai Ba Trung District, Hanoi City

Hai Ba Trung is one of the inner-city districts of Hanoi in which community can participate in small projects for upgrading or construction of new sewerage lines in the local area, for example, construction of 5-10 m of drainage sewer (making VND 10-20 million or US$ 1000 – 1500 project value). The proposal is developed by the Commune's PC and submitted to the Division of Planning of District PC for approval where it is reviewed. When approved, the budget for construction is allocated from annual government budget distributed, together with contributions from households. Running costs normally are taken from city's budget and from the local Labour Fund for Public Interest that is created through annual contributions by the citizens. When local sewerage and drainage network connects to the urban sewerage system, a written agreement is to be made with SADCO. The project owner is responsible for submitting all technical design and other related documents to SADCO for approval.

Private enterprises can participate in implementing phase of the project as bidders alongside state-own enterprises such as SADCO. But in operational phase, the constructed facilities are handed over to the SADCO or to the local authority. There is still no private sector participation in this ''no income'' O&M service. For the sanitation facility and system management in the inner city district area, the local PC plays a role of manager, as well as a representative and bridging role between users and SADCO. However there is still not a very clear distribution of responsibilities of SADCO and local authorities for management. Normally the local authority is overloaded with daily works and cannot provide fast response to the unexpected problems related with the system failures such as sewer clogging, bad smell, local flooding, etc. Besides small projects that are accepted to include into annual action plan with budget, it is very complicated for the users to find suitable address to send the claims and to get immediate responses to ''unplanned'' failures of the service. Furthermore, besides the voice of local social organizations such as Women's and Youth's unions, Veterans (some time they are very effective, but not professional and, as a result, not too frequent), there is still lack of supervision with participation of community's representatives for sanitation service quality, especially in small lanes and alleys, and in peri-urban areas.

Box 2. Wastewater management in Thanh Tri District, Hanoi City

Thanh Tri is a peri-urban district in the south of the Hanoi city. As the area is not covered by service from Hanoi SADCO, there is combined organization with responsibility for provision of sewerage, drainage and irrigation services. The inter-commune sewerage and drainage service is provided by the agency responsible for water resources management under the Department of Rural and Agricultural Development (DARD) of Hanoi. In the case of small communal drainage and irrigation system, the management task is given to the commune's PC. The investment and running costs are taken from city's budget and from the local Fund of labour for public interest that is created by annual contributions from citizens. The Division for Planning and Rural Development of the District PC participates in co-ordination of drainage and irrigation works and takes care of planning, immediate upgrading, repairs and maintenance of the network. Small repairs, network upgrading and sewers and channels cleaning to address localized flooding are often carried out by local people's labour force. All decisions are made by the local authority, and therefore the District's policies and regulations play important role in management of the system.

Management of wastewater systems at the commune level in peri-urban areas are divided into two levels. For the construction of lines along the main roads of the commune (with budget estimates above VND 20 million (US$1350), the District PC approves the Commune PC's proposal and design and allocates budget for the construction. Operation of those lines is the responsibility of the commune itself. For smaller lines and projects with value less than this, the hamlet proposes the project and gets approval as well as part (often 50%) of budget from the Commune PC. The budget balance is mobilized by local people. Construction for both cases is implemented by contractors and running costs are taken from local budgets, usually from the local labour fund for public interest. The community is often very motivated and mobilized to conduct frequent sewer cleaning, site clearance, etc. and local community leaders play a vital role in motivating public participation in management of the sanitation works effectively.

Wastewater is extracted from drainage channels and reused for irrigation or rice paddy fields and vegetable production which are later sold in local markets in and around Hanoi. For wastewater reuse, there is internal agreement in relation to the pumping of wastewater to the paddy fields, or to individual fish ponds. The fishpond owner has to pay for the pumping expenses. Pumping service is provided by the company for exploitation of water resources, under the district's Division of Planning and Rural Development. Nowadays, due to increasing amount of contaminants in untreated wastewater, mostly from industrial and service activities in fast growing city, the wastewater reuse in agriculture is becoming less, especially in aquaculture.

Local governments must be empowered and the capacity of local administrations needs to be improved to effectively carry out increased tasks arising from decentralization. There are important needs for capacity building in wastewater management in Vietnam, especially for the specialized public utility organizations providing this service. There is still very weak or missing the link between technical and managerial issues in teaching programs at Universities. Training course should be organized for managers, for staff of project management units, staff of SADCOs and URENCOs, etc. Both long-term and short-term, full-time and in-service forms of training are necessary.

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Notes

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