

Third Technical Exchange Mission Report

Niagara Region – Tuy Hoa Municipal Partnership Program

The Third Technical Exchange Mission of the Niagara Region – Tuy Hoa Municipal Partnership Program was held in Niagara from May 14 to 27, 2006.

MISSION OBJECTIVES

The objectives of the Third Technical Exchange Mission were as follows:

To observe Niagara Region's waste collection and diversion practices and to identify initiatives to improve Tuy Hoa's waste collection and diversion program. Niagara Region and Tuy Hoa will then reach agreement on one or two proposed pilot initiatives and prepare detailed work plans of the proposed pilot initiatives;

To provide an opportunity for Tuy Hoa to comment on which key landfill design and operational considerations are most important for the city and the people of Tuy Hoa;

To discuss the list of key landfill design and operational considerations and prepare the Waste Disposal Site Design Peer Review Toolbox;

To develop a process to undertake a stakeholder analysis, discuss the impacts of a waste disposal site on potential stakeholders, discuss various approaches to mitigate impacts of the new waste disposal site, and develop a toolbox that will assist Tuy Hoa to identify and address potential impacts of local development on potential stakeholders;

To discuss initiatives to increase student's awareness of the environment and waste management with educators including representatives from St. Anthony School;

To discuss key challenges or issues facing women waste collection workers and scavengers with the St. Catharines and District Council of Women and other parties (e.g. Niagara Region Public Health Department) and to identify how they can be addressed by the municipal partnership program; and

To identify initiatives that would monitor any impact of the results in the area of cooperation activities on gender equality and provide objective feedback to the partner municipalities.

During the Third Technical Exchange Mission, meetings were held to discuss the following:

Municipal Partnership Program (goals, objectives, areas of cooperation activities, expected short and long term results, and program schedule)

Second Technical Exchange Mission (recommendations, and follow-up activities)

Third Technical Exchange Mission (mission objectives, detailed plan of mission activities, mission accomplishments and next steps, and mission observations)

Fourth Technical Exchange Mission (mission objectives, schedule, and delegation composition)

During the Third Technical Exchange Mission, the following site visits took place:

Curbside collection of waste, recycling and organics from a residential street in St. Catharines

Niagara Recycling Centre, Niagara Falls

Niagara Road 12 Landfill Site, West Lincoln

Niagara Waste Systems Landfill Site and Compost Facility, Thorold

During the Third Technical Exchange Mission, the following documents were translated and provided to the delegation:

1. Regional Government in Niagara – Relationship to Other Levels of Government
2. Organization Chart of Niagara Region's Waste Management Services Division
3. Executive Summary and Table of Contents from Water for Life in Niagara The Niagara Water Quality Protection Strategy February 2004
4. Niagara Region's Transportation Services Division Quick Facts and Figures and Pictures of Projects and Key Equipment
5. Waste Disposal Site Design Peer Review Toolbox Key Landfill Design and Operational Considerations
6. Niagara Region Collection and Diversion Programs PowerPoint Presentation May 16, 2006

7. Waste Reduction Sub Committee Strategic Plan (Niagara Region Office Recycling Program)
8. Communication Plan for Waste Reduction Sub Committee Strategic Plan May 27, 2005 (Niagara Region Office Recycling Program)
9. Draft Goals of City of Tuy Hoa People's Committee Hall Recycling Program
10. Conclusions and Recommendations from Student Report #7 Protection of Water Resources in Landfill Siting in Viet Nam Laura McNally Waste-Econ Publication Series (2003)

Niagara Region indicated that the following information would be provided to Tuy Hoa following the Third Technical Exchange Mission:

1. School Recycling Program Niagara Region Schools to be prepared by Marian Gibbons, School Waste Reduction Coordinator
2. Examples of Niagara Region communications to stakeholders

MISSION ACCOMPLISHMENTS AND NEXT STEPS

The following are the accomplishments of the Third Technical Exchange Mission and the next steps:

Accomplishments	Next Steps
<p>Accomplishment 1</p> <p>Niagara Region and Tuy Hoa identified the following two pilot initiatives to improve the existing Tuy Hoa waste collection and diversion service:</p> <ul style="list-style-type: none"> i. <i>Pilot City of Tuy Hoa People's Committee Hall Office Recycling Program</i> (Preliminary program information included in Appendix A); and ii. <i>Integration of Waste Management/ Environmental Themes in Education Curriculum.</i> 	<ul style="list-style-type: none"> i. <i>Pilot City of Tuy Hoa People's Committee Hall Office Recycling Program</i> <p>Tuy Hoa to identify an interdepartmental team to develop a draft strategy for the pilot program. Each of the five departments located in the People's Committee Hall should be represented on the team.</p> <p>The Third Technical Exchange Mission delegation to provide a briefing to the team to share and discuss ideas from the mission.</p> <p>The team to develop a communication plan to engage departmental staff.</p> <p>The team to share and discuss ideas with junior and senior departmental staff.</p> <p>The team to prepare a draft strategy for the pilot program and present strategy to the Tuy Hoa People's Committee for approval.</p> <p>As part of the Fourth Technical Exchange Mission, Tuy Hoa to organize a meeting between Niagara Region delegation</p>

and staff to assess the success of the program, and determine the next steps.

ii. *Integration of Waste Management/ Environmental Themes in Education Curriculum*

Tuy Hoa to review with Education Department staff

- i. the concept of integration of waste management/ environmental themes into education curriculum (e.g. mathematics, science, literature, arts, and music);
- ii. the document entitled School Recycling Program Niagara Region Schools; and
- iii. the identification of possible initiatives in respect to integration of waste management themes into education curriculum, and possible initiatives to enhance recycling in the school.

As part of the Fourth Technical Exchange Mission, Tuy Hoa to organize a meeting between Niagara Region delegation and the Education Department to discuss the possible initiatives, identify a short-list of initiatives, reach agreement on one or two proposed pilot initiatives from the short-list of initiatives, and prepare draft outlines of the proposed pilot initiatives.

Accomplishment 2

Niagara Region and Tuy Hoa developed a draft Waste Disposal Site Design Peer Review Toolbox which is a list of key landfill design and operational considerations. (The draft Toolbox is included in Appendix B.)

Tuy Hoa to review the draft Toolbox with technical staff, Province of Phu Yen staff, and landfill design consultant(s) and revise accordingly.

Tuy Hoa to provide draft design of new waste disposal site to Niagara Region in advance of the Fourth Technical Exchange Mission, if available, for Niagara Region to carry out a preliminary design peer review.

As part of the Fourth Technical Exchange Mission, Tuy Hoa to organize a meeting between Niagara Region delegation, Tuy Hoa technical staff, Province of Phu Yen staff, and landfill design consultant(s) to discuss the Toolbox and use it as part of the peer review of the design of the new waste disposal site, if available.

As part of the Fourth Technical Exchange Mission, Tuy Hoa to organize a field trip for the Niagara Region delegation to the location of the new waste disposal site (including the valley floor) to better understand the field conditions with respect to the key landfill design and operational considerations.

Accomplishment 3

Niagara Region and Tuy Hoa prepared a strategy to identify stakeholders, how concerns of stakeholders can be made know, and how they can be addressed.

Tuy Hoa to review examples of Niagara Region communications to stakeholders in respect to various Public Works initiatives e.g. new recycling facility, new waste management initiatives, landfill improvements projects, and road construction projects.

As part of the Fourth Technical Exchange Mission, Tuy Hoa to organize a meeting between Niagara Region delegation, Tuy Hoa technical staff, Province of Phu Yen staff, and landfill design consultant(s) to discuss Niagara Region communications to stakeholders, and pilot stakeholder communication initiatives for Tuy Hoa.

<p>Accomplishment 4</p> <p>Niagara Region and Tuy Hoa to jointly develop a safe scavenging protocol to address health and safety issues.</p>	<p>As part of the Fourth Technical Exchange Mission, Tuy Hoa to organize a meeting between the Niagara Region delegation, Tuy Hoa technical staff, landfill design consultant(s) and key stakeholders such as the Tuy Hoa Women's Union staff to discuss a safe scavenging protocol.</p>
<p>Accomplishment 5</p> <p>There were discussions on additional mission objectives of the Fourth Technical Exchange Mission.</p>	<p>As part of the Fourth Technical Exchange Mission and if time permits, Tuy Hoa to organize a meeting between Niagara Region delegation, Tuy Hoa technical staff, Province of Phu Yen staff, and landfill design consultant(s) to discuss the operation, maintenance and monitoring of the new waste disposal site.</p> <p>As part of the Fourth Technical Exchange Mission and if time permits, Tuy Hoa to organize a meeting between Niagara Region delegation, Tuy Hoa technical staff, Province of Phu Yen staff, and landfill design consultant(s) to discuss the closure of the two existing waste disposal sites.</p>

Mission Observations

The Third Technical Exchange Mission was the most successful mission so far in the Niagara Region – Tuy Hoa Municipal Partnership Program. A large measure of the success is attributable to both partner municipalities completing the necessary pre-mission work activities which allowed fruitful discussions to take place during the mission activities.

The mission plan allowed numerous opportunities for the Tuy Hoa delegation, Niagara Region staff and other mission participants to exchange ideas and experiences about not only waste management and environmental issues but also transportation, water and wastewater, and economic development and tourism issues.

In order to take full advantage of opportunities for dialogue with the Tuy Hoa delegation, Niagara Region arranged to have at least one official interpreter/translator available during the mission activities and formal events, and two interpreters/translators available during the informal and social events. Having these resources also allowed the timely translation of material during the mission which fostered follow-up discussions during the mission. Even with three interpreters/translators, the demands of a longer mission would not make this arrangement sustainable.

Remaining Program Schedule

The following is the recommended schedule for the remaining missions, all to be held in Tuy Hoa.

Fourth Technical Exchange Mission	October 2006
Fifth Technical Exchange Mission	April 2007
Evaluation Mission	Fall 2007

Delegation Composition

It is recommended that the two person delegation from Niagara Region have expertise in:

Landfill design, operation, maintenance, monitoring and closure;

Waste collection and diversion; and

Communications and public consultation.

Appendices

Appendix A

Preliminary Program Information
Pilot City of Tuy Hoa People's Committee Hall
Office Recycling Program (based on mission notes)

Appendix B

Draft Waste Disposal Site Design Peer Review Toolbox

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Niagara Region – Tuy Hoa Municipal Partnership Program

July 18, 2006

Appendix A

Preliminary Program Information Pilot City of Tuy Hoa People's Committee Hall Office Recycling Program (based on mission notes)

This preliminary information on the pilot City of Tuy Hoa People's Committee Hall Office Recycling Program is based on meeting notes from the Third Technical Exchange Mission.

The target group is the approximately 200 employees working in five municipal departments located in the City of Tuy Hoa People's Committee Hall.

It is important that Tuy Hoa identify an interdepartmental team to develop a draft strategy for the pilot program. Each of the five departments located in the building should be represented on the team. The department team member will be the "ambassador/champion" in work areas.

The Third Technical Exchange Mission delegation should provide a briefing to the team to share and discuss ideas from the mission.

The team should share and discuss ideas with departmental staff.

The team should prepare a draft strategy for the pilot program and present strategy to the Tuy Hoa People's Committee for approval.

The following are the proposed key objectives of the City of Tuy Hoa People's Committee Hall Office Recycling Program:

- Demonstrate municipal leadership

- Change behaviour of municipal staff and motivate staff to divert waste from disposal

- Increase awareness of waste management and environmental benefits

- Increase personal responsibility/ownership

- Enhance the Clean, Green and Beautiful Campaign

The proposed program could involve placing baskets for recyclable material next to the waste baskets. It would be advisable to develop and post information by the recycling and waste baskets.

The following are proposed initiatives to promote the office recycling program:

Letter of support from the Chief of Tuy Hoa Office (Hung Duc Ho)

Special program launch activities

Program updates during weekly staff meetings

Information hand-outs

Develop and display posters on bulletin boards

Information enclosed in pay envelopes

Social events including special days focusing on the environment

Recycling awards for recognizing program successes

It is important that there is the ability to measure the success of the City of Tuy Hoa People's Committee Hall Office Recycling Program. One of the functions of the interdepartmental team could be to monitor the program after three months as well as on an ongoing basis by assessing the quantity and quality of the recyclable material. This information could be compared to baseline data obtained prior to the commencement of the office recycling program.

Information about Niagara Region's office recycling program was included in the following documents which were translated and provided to the delegation during the mission: The Waste Reduction Sub Committee Strategic Plan, and The Communication Plan for Waste Reduction Sub Committee Strategic Plan May 27, 2005.

Appendix B

Draft Waste Disposal Site Design Peer Review Toolbox

List of Key Landfill Design and Operational Considerations

1. *Separation from land users in vicinity of new waste disposal site and haulage routes*

(e.g. residences, schools, airports)

2. *Hydrogeology, groundwater*

Presence of aquifers, sources of water for agriculture, residences, etc.

Location of residential wells

Field investigations to determine hydrogeology, groundwater

3. *Site configuration/capacity/design*

Expected site life of facility

Daily waste tonnage and total capacity

Field investigations to determine stratigraphy, bedrock

Progression of landfill cell development

Infrastructure should be designed and installed prior to operation

Adequate supply of geosynthetic material, clay material

Knowledge of storm (surface) water, and leachate volumes for management

Leachate treatment

Waste composition

4. *Site characterization/assessment*

Field investigations (geotechnical, slope analysis, soils, geology)

Meteorological information (e.g. precipitation)

5. *Mitigative Measures*

Measures to protect natural environment, surface water, adjacent land users (e.g. litter, odours, leachate, contaminated surface water)