**Result of Feedback Survey**

- The Participants

Stakeholders were separated into 3 groups: government, private sector, and citizen/public. The government group includes government officers and state enterprise officers who joined seminars. The private sector group includes business operators/factories from seminars and direct mail. The citizen/public group includes the general public, those from public health and academic organizations, NGOs/CSOs, the media, and others that joined seminars.

**Summary of Stakeholders**

| Group | number | % | agency | number | % |
|---|---|---|---|---|---|
| **Government** | 77 | 31.95% | **Government office** | 71 | 29.46% |
| | | | **State enterprise officer** | 6 | 2.49% |
| **Private sector** | 120 | 49.79% | **Private sector**<br>**- seminar 50**<br>**- direct mail 70** | 120 | 49.79% |
| **Citizen/Public** | 44 | 18.26% | **General public** | 8 | 3.32% |
| | | | **Public health and hospital** | 10 | 4.15% |
| | | | **Academic organization** | 16 | 6.64% |
| | | | **NGO/CSO** | 7 | 2.90% |
| | | | **Media/journal** | 1 | 0.41% |
| | | | **Other** | 2 | 0.83% |
| **Total** | 241 | 100% | | 241 | 100% |

- Questionnaire Feedback Survey Results

The questionnaire survey of the PRTR pilot implementation consisted of 11 main question areas as follows:

1) Objectives of the PRTR system
2) Target substances
3) Point source definitions
4) Non-point source coverage
5) Estimation methods and work
6) Reporting systems
7) Data disclosure
8) Risk communication meetings
9) Audit & review
10) Implementation mechanism
11) Outputs (Evaluation of the project)

The first question regarding the objectives of the PRTR system received varied responses from each stakeholder. Four choices were provided to prioritize the objectives, as follows:

- To collect scientific emission/transfer data for policy making.
- To ensure the people's right to know.
- To promote voluntary reduction effort by industry.
- To provide common information platform for constructive dialogue among the stakeholders.

The first three choices are the common objectives usually defined in the PRTR system elsewhere, while the last choice was prepared to meet the situation of areas like Map Ta Phut. The results are shown below.

| | Government | Private sector | Citizen/ Public |
|---|---|---|---|
| To collect scientific emission/transfer data for policy making. | 1 | 3 | 2 |
| To ensure the people's right to know. | 3 | 4 | 4 |
| To promote voluntary reduction effort by industry. | 4 | 2 | 1 |
| To provide common information platform for constructive dialogue among the stakeholders. | 2 | 1 | 3 |

As expected, the government likes to collect the data for policy making. The private sector group places highest importance in the last choice, demonstrating the need for a platform for better relations with communities. In turn, this can be a basic incentive for the private sector to continue PRTR. Interestingly, the citizen group considers voluntary reduction as the highest priority, while the right to know choice is the lowest.

The results of major design parameters for 2) to 10) are as follows.

| Topics | Agree/Yes | | | |
|---|---|---|---|---|
| | Government | Private sector | Citizen/ Public | All |
| **Target substance** | | | | |
| Do you agree with the current criteria of target substance selection? | 98.7% | 99.2% | 97.7% | 98.7% |
| Do you suggest to add/remove substance(s)? | 93.5% | 91.7% | 97.7% | 93.4% |
| **Point source definition** | | | | |
| Do you agree with method of the current definition of point source? | 83.1% | 91.6% | 88.4% | 88.3% |
| Do you agree with industry category under DIW code that covered in point source? | 90.9% | 92.5% | 72.1% | 88.3% |
| Do you agree with industry size criteria? (Type 3: over 50 employee or over 50HP) | 96.1% | 94.1% | 90.5% | 94.1% |
| Do you agree with the amount of chemical handled criteria? ( 1 ton/year) | 90.9% | 87.5% | 86.1% | 88.3% |
| Do you agree with the amount of chemical handled criteria (1 ton/year) for every source? | 75.3% | 80.7% | 78.6% | 78.6% |
| Do you agree with industry category under DIW code (7 industry sectors) for PRTR pilot project? | 85.3% | 88.2% | 93.0% | 88.2% |
| **Non-point source coverage** | | | | |
| Do you agree with the non-point source to be covered by PRTR pilot project? | 76.1% | 80.8% | 80.7% | 80.0% |
| Do you agree with the target substance to be covered by the non-point source in PRTR pilot project? | 85.9% | 93.9% | 100% | 92.2% |
| **Estimation method and work** | | | | |
| Do you agree with estimation manual prepared by PCD, DIW or IEAT? | 78.6% | 78.1% | 75.0% | 78.0% |
| **Reporting system** | | | | |
| Do you agree with reporting format in PRTR pilot project? | 91.0% | 91.2% | 88.9% | 90.9% |
| Do you agree with reporting flow in PRTR pilot project? | 89.6% | 94.7% | 96.3% | 93.2% |

All stakeholders agreed on most of current PRTR design principles and criteria, regardless of their background, except for suggestions to add/remove target substances. For data disclosure and risk communication, replies were obtained on a 5 scale from 5 (very good), 4 (good), 3(moderate), 2 (less than moderate), to 1 (bad). The results are shown in next table.

| Topics | Satisfaction (Average) | | | |
|---|---|---|---|---|
| | Government | Private sector | Citizen/ Public | All |
| **1) Data disclosure** | | | | |
| Is Data book well organized? | 3.77 | 3.36 | 3.77 | 3.54 |
| Is Data book easy to understand? | 3.49 | 3.35 | 3.55 | 3.42 |
| Does Data book contain necessary information? | 4.10 | 3.67 | 4.27 | 3.89 |
| **2) Risk communication meeting** | | | | |
| Was risk communication meeting well organized? | 4.06 | 3.45 | 4.00 | 3.72 |
| Was risk communication meeting helpful to understand PRTR data? | 4.09 | 3.58 | 4.29 | 3.85 |
| Does risk communication meeting contain necessary discussion? | 4.29 | 3.79 | 4.33 | 4.02 |
| **Topics** | **Agree/Yes** | | | |
| | **Government** | **Private sector** | **Citizen/ Public** | **All** |
| **3) Audit & review** | | | | |
| In the current plan, point sources will be audited to confirm the appropriateness of the estimation and reporting. Do you agree with this plan? | 97.4% | 99.2% | 100% | 98.7% |
| In the current plan, all PRTR system will be reviewed periodically to update substance list, point and non-point source, estimation method and data disclosure. Do you agree with this plan? | 100.0% | 98.3% | 97.7% | 98.7% |
| **4) Implementation mechanism** | | | | |
| Should PRTR be regulated by law? | 90.91% | 69.75% | 95.35% | 81.17% |
| Which agency shall take lead in PRTR?<br>1. Pollution Control Department (PCD)<br>2. Department of Industrial works (DIW)<br>3. Industrial Estate Authority of Thailand (IEAT)<br>4. Others | 1. PCD<br>2. DIW<br>3. All agency | 1. PCD<br>2. DIW<br>3. All | 1.PCD<br>2.IEAT<br>3.All | 1. PCD<br>2. DIW<br>3. All |
| What is the important capacity of the leading agency?<br>1. Authority as regulator<br>2. Experience/capacity of interagency coordination.<br>3. Experience/knowledge of chemical management<br>4. Experience/knowledge of pollution management at local level<br>5. Others | 1.Authority<br>2.pollution management<br>3. coordination | 1.chemical management<br>2.coordination<br>3. Authority | 1. Authority<br>2. coordination<br>3.chemical management | 1. Authority<br>2. coordination<br>3.chemical management |

| | | | | |
|---|---|---|---|---|
| What should be the role of local authority?<br>1. Awareness raising/education<br>2. Report collection<br>3. Non-point source estimation<br>4. Risk communication<br>5. Others | 1. Education<br>2. Risk com.<br>3.Report collection | 1.Education<br>2. Estimation<br>3. Risk com. | 1. Education<br>2.Risk com.<br>3.all choices | 1. Education<br>2. Risk com.<br>3.Estimation |
| **Topics** | **Agree/Yes** | | | |
| | **Government** | **Private sector** | **Citizen/ Public** | **All** |
| Who should lead the role in local scene?<br>In what area?<br>1. Municipality<br>2. Provincial Office of Natural Resources and Environment (PONRE)<br>3. Provincial Industry Office (PIO)<br>4. Regional Environmental Office (REO)<br>5. Provincial Office of Public Health (POPH)<br>6. Provincial Office of Education (POEd)<br>7. Others please | 1. PONRE<br>2. PIO<br>3.Municipality | 1. PONRE<br>2. PIO<br>3.Munici<br>-pality | 1. PONRE<br>2. PIO<br>3.Munici<br>-pality | 1. PONRE<br>2. PIO<br>3.Munici<br>-pality |
| What agency should lead the role in non-point source estimation such as agriculture, household and mobile source?<br>1. Pollution Control Department (PCD)<br>2. Department of Industrial works (DIW)<br>3. Industrial Estate Authority of Thailand (IEAT)<br>4. Other that have data of the source | 1.Other<br>2.PCD<br>3.IEAT | 1.Other<br>2.PCD<br>3.DIW | 1.Other<br>2.PCD<br>3.DIW | 1.Other<br>2.PCD<br>3.DIW |
| If PRTR is regulated by law, Should have PRTR pilot project expansion in other areas or not. | 96.1% | 90.8% | 90.7% | 92.5% |

(In computing the % of “Agree/Yes”, only “Yes” and “No” answers were used. “No comment” answers were removed from computation.)

Most stakeholders agree with the basic design and criteria of the pilot PRTR such as criteria of target substance selection, definition of point source, chemical handled criteria, non-point source coverage and reporting system, and are satisfied with the data disclosure and risk communication meetings that were implemented in the pilot project, to a moderate to good level.

For implementation mechanism, stakeholders agree that PRTR should be regulated by law, although there was an obvious difference between the private sector and the citizen groups. While over 95% of the citizen group replies consider that PRTR should be regulated by law, less than 70% of the private sector replies consider the same way. PCD should take the lead in PRTR, together with other regulating authorities. Local authorities should promote awareness raising/education. Provincial Offices of Natural Resources and Environment should lead the role in local scene. Agencies with data of the source should lead the role in non-point source estimation. Lastly, PRTR pilot project should be expanded to other areas.

Based on these results, there is no critical and immediate need for a major design change of PRTR.

For 11) output, evaluation of the project is as follows.

| Objective and Outputs | Satisfaction (Average) | | | |
|---|---|---|---|---|
| | Government | Private sector | Citizen/ Public | All |
| Project objective:<br>PRTR pilot project operated by PCD, DIW and IEAT's staff can achieve the objective of PRTR system | 3.70 | 3.51 | 3.68 | 3.59 |
| Output 1<br>Basic design of PRTR system in Thailand is established | 4.01 | 3.63 | 4.03 | 3.81 |
| Output 2<br>Emission reporting scheme of industry is developed | 3.67 | 3.39 | 3.70 | 3.54 |
| Output 3<br>Capacity of estimation of emission and transfer for point source is strengthened | 3.68 | 3.40 | 3.68 | 3.54 |
| Output 4<br>Capacity of emission estimation for non-point source is strengthened | 3.50 | 3.09 | 3.73 | 3.33 |
| Output 5<br>Importance of use of PRTR data including initial assessment is understood | 3.68 | 3.42 | 3.76 | 3.57 |
| Output 6<br>Implementation structure of risk communication is developed in the pilot area | 3.56 | 3.21 | 3.65 | 3.40 |

For the outputs, stakeholders think that JICA PRTR project through pilot in Rayong has achieved the capacity development of PCD, DIW and IEAT's staff in a moderate to good level, and are satisfied with the outputs in a moderate to good level. Based on result, there is no critical and immediate need for a major design change of PRTR.