

# Sustainable Sanitation Knowledge Node in the Philippines (2009-2010)



## **Narrative and Financial Report** **FINAL REPORT**



Submitted by



**Center for Advanced Philippine Studies**

*Pursuing innovations for development and environment.*

**20 June 2011**

## **Table of Contents**

<i>List of Abbreviations.....</i>	<i>ii</i>
<i>Introduction.....</i>	<i>1</i>
<i>Overview of Node Outcomes and Impacts.....</i>	<i>2</i>
<b>Objective 1: Increased capacity in sustainability issues of sanitation among stakeholders in the Philippines.....</b>	<b>2</b>
Output 1.1. Learning modules on SS developed and/or enhanced for specific target audience.....	2
Output 1.2. Key people and stakeholders, especially in government and the education sectors, are converted to, oriented and trained and are promoting Ecosan and SS.....	3
Output 1.3. Research studies identified, conducted, consolidated and used as basis for policy advocacy .....	5
<b>Objective 2: Efficient information and knowledge sharing among stakeholders in the Philippines and in the region .....</b>	<b>7</b>
Output 2.1.: The knowledge node network of institutions strengthened and active .....	7
Output 2.2. Information system on sustainable sanitation developed, installed and accessible .....	8
<b>Objective 3: Increased awareness on SS and related issues.....</b>	<b>9</b>
Output 3.1. The Sustainable Sanitation Framework being formulated by CAPS broadly circulated and discussed for submission and adoption by the proper authorities.....	9
<b>Objective 4: Effective coordination of all activities related to SS.....</b>	<b>10</b>
Output 4.1. A facility for coordination of KN activities in CAPS as host organization established ....	10
Output 4.2. Regional Southeast Asia outreach initiatives on Ecosan and SS conducted .....	11
<b>LFA – all years aggregated, 2009 - 2011.....</b>	<b>10</b>
<b>Appendix 1: List of knowledge products.....</b>	<b>12</b>
<b>Appendix 2: List of presentations/publications .....</b>	<b>15</b>
<b>Appendix 3: List of inventories (to be handed over).....</b>	<b>18</b>

## **List of Abbreviations**

BOA	KN Board of Advisers composed of United Nations Children's Fund (UNICEF), Department of Health (DOH), Local Government Academy (LGA), Manila Water Company, Inc. (MWCI), League of Cities (LCP) and CAPS
CAPS	Center for Advanced Philippine Studies
Dep Ed	The Department of Education
DILG	Department of the Interior and Local Government
DOH	Department of Health
DPWH	Department of Public Works and Highways
EASAN 2	Second East Asia Ministerial Conference on Sanitation and Hygiene
Ecosan	Ecological Sanitation
ESR2	EcoSanRes 2
GA	General Assembly of PEN
ILS	International Lecture Series on Sustainable Sanitation
KN	Knowledge Node, referring to the Philippine Sustainable Sanitation Knowledge Node
ILS	International Lecture Series
ISSUE2	Integrated Support for Sustainable Urban Environment-Phase 2, A Programme of WASTE from the Netherlands
LCP	League of Cities
LGA	Local Government Academy
MOU	Memorandum of Understanding
MTPDP	Medium Term Philippine Development Plan
MTRIP	Medium Term Public Investments Program
MWCI	Manila Water Company, Inc.
NSSP	National Sustainable Sanitation Plan
NSSMP	National Sewerage and Septage Management Program
PEN	Philippine Ecosan Network
PSSR	Philippine Sustainable Sanitation Roadmap
SEI	Stockholm Environment Institute
SS	Sustainable Sanitation
ToT	Training of Trainors
UNEP-IETC	United Nations Environment Program – International Environmental Technology Centre
UNICEF	United Nations Children's Fund
WASH	Water Supply, Sanitation and Hygiene
XU	Xavier University

## **Introduction**

This is the Final Report of the Philippine Sustainable Sanitation Knowledge Node in the Philippines covering the period 01 March 2009 to 30 May 2011. This Report summarizes the activities and outputs of the Node and reflections on its outcomes and impacts.

In February 2009, the SEI approved the Project Document for the Philippine Knowledge Node prepared by the Center for Advanced Philippine Studies (CAPS) on behalf of the Philippine Ecosan Network (PEN) while the Main Contract and Agreement came into effect in March 2009.

CAPS is a research and development foundation that has been involved in innovative urban environmental management projects and initiatives most especially in the field of integrated sustainable waste management and sustainable sanitation for poverty alleviation in the last 20 years. CAPS vision is to be the leading knowledge node and catalyst in sustainable sanitation and waste management. CAPS pioneered the EcoSan in the Philippines with the support of WASTE of the Netherlands. CAPS is also engaged in capacity development and curriculum development on sustainable sanitation working closely with government institutions and development agencies

PEN, formed in 2004, is a multi-sectoral sanitation platform advancing the sanitation agenda in the country. PEN spearheaded the first Philippine Sanitation Summit in July 2006. In 2008, PEN carried the banner of launching the 2008 International Year of Sanitation (IYS) nationwide and once again led the second national summit in July same year. In October 2009, the PEN held the first Philippine Symposium on Sustainable Sanitation as a major activity under the SEI-EcosanRes2 Knowledge Node Project. PEN assisted in a big way the Philippine Government in hosting the Second East Asia Ministerial Conference on Sanitation and Hygiene (EASAN 2) in January 2010. This led to the signing of the Manila Declaration on Sustainable Sanitation by 13 countries in the region.

The Node Team Leader is Dan Lapid, the Executive Director of CAPS. The Node has a Board of Advisers composed of United Nations Children's Fund (UNICEF), Department of Health (DOH), Local Government Academy (LGA), Manila Water Company, Inc. (MWCI), League of Cities (LCP) and CAPS. Website: [www.ecosan.ph](http://www.ecosan.ph)

The Overall Objective of the Philippine Sustainable Sanitation Knowledge Node Project (2009-2010) is to promote and support the institutionalization of sustainable sanitation (SS) in the Philippines through capacity development, efficient information and knowledge sharing, increased awareness on SS issues and developing a facility to coordinate the node activities.

The Philippine SSKN Project sees that by 2012 (Intermediate Outcome), a policy and legislative reform action in line with sustainable sanitation is adopted and implemented by major stakeholders (Intermediate Outcome). Essentially, this process has begun with the approval of the Philippine Sustainable Sanitation Roadmap by the Philippine Government in January 2010.

## **Overview of Node Outcomes and Impacts**

### **Objective 1: Increased capacity in sustainability issues of sanitation among stakeholders in the Philippines**

This Objective focused on increasing awareness, understanding and capacity to address sustainability issues in sanitation among stakeholders in the country. The vision of the Knowledge Node (KN) was *to promote and support the institutionalization of sustainable sanitation (SS) in the Philippines*, through the Philippine Ecosan Network (PEN).

#### **Output 1.1. Learning modules on SS developed and/or enhanced for specific target audience**

##### **Accumulated activities/outputs**

A Training of Trainers (ToT) course on Sustainable Sanitation was developed and formulated through a participative process involving the Development Academy of the Philippines, a government training institution, several PEN members and other resources persons.

The ToT course was intended to develop and produce trainers from different organizations (e.g. government, private sector, academe, etc.) as well as level off the understanding amongst members of the PEN on what constitutes the concept of sustainable sanitation.

##### **Accumulated outcomes**

- Developing the ToT course enabled CAPS KN Team to gain experience in course syllabus and training module development. In fact, the KN Team has developed other related courses use in its other cap dev projects;
- In enjoining and involving the sanitation experts of PEN and other resource person in developing the modules, there was a collective enhancement of appreciation of the principles, concepts, approaches and merits of sustainable sanitation;
- The Team and the other resource persons all learned to incorporate adult learning methodologies in training course development. They all agreed that with adult learning techniques, training becomes more effective in imparting substantive knowledge and training methodologies;

##### **Reflection of impacts**

The experience of developing the ToT course provided the CAPS KN Team and its roster of experts more capacity and confidence in developing training modules. This development proved useful in the long term for everyone involved.

**Accumulated deviations from the project document and the deviations' effect on the overall outcomes**

There were no significant deviations.

**An analysis of the achievements using the INDICATORS described in the project document**

There were five (5) training modules included in the ToT Course, namely, 1) Training Overview; 2) Sanitation Situation in the Philippines and Sustainable Sanitation Concepts; 3) Technology, Project Management and Finance; 4) Regulatory Framework for Sanitation and Action Planning; and 5) Lesson Planning using the 4-As (*Activity, Application, Abstraction, Analysis*) method of adult learning and teaching (andragogy).

**Output 1.2. Key people and stakeholders, especially in government and the education sectors, are converted to, oriented and trained and are promoting Ecosan and SS**

**Accumulated activities/outputs**

- The First Philippine Symposium on Sustainable Sanitation, October 2009, Manila Madarin Oriental, Makati City, with more than 200 participants
- A Training of Trainors (ToT) course on Sustainable Sanitation conducted 8-12 March 2010 at the Sunrise Holiday Mansion in Alfonso, Cavite, with 51 participants
- A Study Tour of Trainors in the Cities of Dumaguete and Bayawan, Negros Oriental conducted 8-10 June 2010 to showcase successful local initiatives on sanitation, with 16 participants.
- Four (4) Lectures under the International Lecture Series on Sustainable Sanitation, attended by more than 150 participants.
  - Wastewater Reuse in Buildings, 12 April 2010
  - Peak Phosphorous and Function-base Sanitation Ladder, 15 October 2010
  - Urine Reuse in Agriculture, 15 November 2010
  - Struvite Production from Human Urine, 27 January 2011

**Accumulated outcomes**

- Better appreciation of sustainable sanitation by a wider audience.
- More collaboration among relevant institutions, like, CAPS, Xavier University, Department of Health, World Health Organization, Local Government Academy, Streams of Knowledge in terms of supporting one another's capacity development activities and programs.
- More experts and resource persons in the country understand sustainable sanitation.

- Supported by CAPS KN, WAND Foundation, an active KN partner, in Libertad, Misamis Oriental conducted Practical Training on Ecological Sanitation last 17-20 May 2010
- Publication of the WAND Foundation book entitled, *“With Our Own Hands: Experiences in Promoting Ecological Sanitation and Food Security in Mindanao* the publication of which was also supported by the Node.

### **Reflections of impacts**

- In terms of impact, the ToT course was “reuse” in several succeeding trainings conducted under the KN project and the ISSUE2 Project. The modules were modified and customized depending on the audience and time available for the trainings.
- Another impact which illustrates the success of the ToT course was the fact that some of Trainees became trainers in the succeeding trainings.
- The study tour in the Cities of Dumaguete and Bayawan in turn impacted or inspired the project team of ISSUE 2, a separate project engagement of CAPS with WASTE Netherlands, to pursue a similar activity. The result was another Study Tour in November 2010 for several local chief executives (i.e. Mayors) in the municipalities that make up the province of La Union. Furthermore, one of the Mayors was so affected that he sent all his 20 Barangay (Village) Chairpersons on the same Study Tour.
- Last but not least, the International Lecture Series (ILS) exposed more 150 persons of different backgrounds on some critical issues related to sustainable sanitation. The impact of the four lectures on the participants is not measurable since no monitoring was planned from the beginning. As for the impact to CAPS, the lectures have widened its network and information outreach substantially.

### **Accumulated deviations from the project document and the deviations’ effect on the overall outcomes**

There were no significant deviations.

### **An analysis of the achievements using the INDICATORS described in the project document**

All indicators were met and exceeded in most cases. For example, the number of trainers and decision makers trained and/or oriented reached more than 400, way beyond the target of 60.

**Output 1.3. Research studies identified, conducted, consolidated and used as basis for policy advocacy**

**Accumulated activities/outputs**

- Emergency Sanitation [A Policy Research] with a toolkit and a draft government Administrative Order (AO) as outputs
- State of Sanitation in the Public Elementary School System [A Policy Review];
- Field Testing of Urine Re-use for Agricultural Purposes in the Philippines.

**Accumulated outcomes**

- Emergency Sanitation output was noticed by UNICEF-Philippines and now has a good chance of being used in its future activities related to WASH (Water Supply, Sanitation and Hygiene) and humanitarian programs.
- The Study on School Sanitation heightened the awareness of government and donor agencies on the problems of public school sanitation and indirectly influenced these institutions to address school sanitation. The Department of Education (Dep. Ed), the UNICEF and the GIZ (former GTZ) have decided to prioritize/strengthen WASH in Schools programs.
- The partnership with the Sustainable Sanitation Center of the Xavier University (XU) produced these publications:
  - *“Low Cost Sustainable Sanitation Solutions for Mindanao and the Philippines: A Practical Construction Field Guide”*. Sustainable Sanitation Center, XU, 2010.
  - *“The Use of Urine as a Liquid Fertilizer in Agricultural Production in the Philippines – A Practical Field Guide”*. Sustainable Sanitation Center, XU, 2011.

**A reflection of impacts**

Department of Education launched in 1<sup>st</sup> quarter 2011 the “Oh My Gulay” (Oh My Vegetable) Program in Public Schools. This involved putting up Ecosan Toilets in 50 schools and using the urine and dried feces in school gardening activities to augment the nutrition program of the school. Using Ecosan in school sanitation now has huge potential in the public school system especially in water-scarce areas.

**Accumulated deviations from the project document and the deviations’ effect on the overall outcomes**

There was deviation from two research topics previously identified. Instead of researches relating to gender and cost benefit analysis, the KN tackled School Sanitation and Emergency Sanitation. The replacement topics were decided upon through proper consultation with the PEN members and the KN Board of Advisers. The research on Productive Sanitation was accomplished with the Urine Reuse Study.



An analysis of the achievements using the INDICATORS described in the project document

Three researches were accomplished as planned.

## **Objective 2: Efficient information and knowledge sharing among stakeholders in the Philippines and in the region**

The main focus of this Objective was to strengthen the KN network organizationally and establish an information system that will promote information sharing and exchange.

### **Output 2.1.: The knowledge node network of institutions strengthened and active**

#### **Accumulated activities/outputs**

- The PEN strategic planning session was held last 19-21 May 2010
- The PEN Executive Council met several times for activity and strategic planning sessions.

#### **Accumulated outcomes**

- The PEN strategic planning session held in May 2010 led to the holding of a General Assembly (GA) in 5 July. The GA confirmed the election of the new set of officers of PEN and the drafting of an operational guideline for the network.

#### **If possible, a reflection of impacts**

The PEN strategic planning session and the succeeding GA made the network stronger and more dynamic organizationally with the election of a new President in the person of Ms. Rory Villaluna of Streams of Knowledge and a Secretary General in the person of Dan Lapid of CAPS. CAPS was reappointed as PEN Secretariat. Both Ms. Villaluna and Mr. Lapid are known Sustainable Sanitation advocates and partners of SEI.

#### **Accumulated deviations from the project document and the deviations' effect on the overall outcomes**

There were no significant deviations.

#### **An analysis of the achievements using the INDICATORS described in the project document**

The PEN leadership and organizational structure was strengthened. Information exchanges among members were enhanced. Moreover, sharing of resources, like meeting venues, was practiced in many instances.

**Output 2.2. Information system on sustainable sanitation developed, installed and accessible**

**Accumulated activities/outputs**

- A considerable volume of publications, reports, and other reference materials are now available online in [www.ecosan.ph](http://www.ecosan.ph).
- A physical library is now available for researchers and students at CAPS Office.

**Accumulated outcomes**

- The [www.ecosan.ph](http://www.ecosan.ph) website made significant achievement in terms of providing access to relevant materials on Sustainable Sanitation. It is serving as a venue for knowledge sharing as evidenced by the number of hits and document downloads from the website.
- CAPS donated some of its library materials, which were acquired from partners abroad, to the Provincial Libraries of Sorsogon and La Union – a way of transmitting knowledge to a wider range of stakeholders.

**A reflection of impacts**

With promotions through our websites, several students from different universities had approached CAPS to learn more about Ecosan. A few of them decided to take Ecosan as topic for their term papers and/or thesis.

CAPS plans to continue maintaining and enhancing the virtual and physical resource infrastructure already established.

**Accumulated deviations from the project document and the deviations' effect on the overall outcomes**

There were no significant deviations.

**An analysis of the achievements using the INDICATORS described in the project document**

Both the virtual and physical information resources were established as planned.

### **Objective 3: Increased awareness on SS and related issues**

This Objective was focused on the promotion and advocacy of a Sustainable Sanitation Framework in the Philippines.

#### **Output 3.1. The Sustainable Sanitation Framework being formulated by CAPS broadly circulated and discussed for submission and adoption by the proper authorities**

##### **Accumulated activities/outputs**

- Adoption of the Philippines Sustainable Sanitation Framework formulated and proposed by CAPS to the Philippines Government.

##### **Accumulated outcomes**

- The Framework was adopted by the National Government when it approved the Philippine Sustainable Sanitation Roadmap (PSSR) in April 2010.
- A Bill on Sustainable Sanitation was filed at the Philippine Senate last May 2011. Another one is about to be filed in the lower House of Representatives.

##### **A reflection of impacts**

The adoption by the Government of the Sustainable Sanitation Framework in the Philippine Sustainable Sanitation Roadmap (PSSR) is perhaps the most pervasive of all Knowledge Node Outputs in terms of future impacts and outcomes. Many National Government Agencies are expected to follow and be guided by the Roadmap and formulate their respective sanitation plans and/or programs. In fact, it is already happening. For example, the Department of Health formulated its National Sustainable Sanitation Plan (NSSP); the Department of Public Works formulated its National Sewerage and Septage Management Program (NSSMP); and Department of Education its WASH in School Program; and the Department of Interior and Local Government its National Program on Abundant and Safe Water (and Sanitation) for All. Hopefully, other government agencies, like the Department of Agriculture, Department of Tourism, National Housing Authority, the National Anti-Poverty Commission, will follow suit.

##### **Accumulated deviations from the project document and the deviations' effect on the overall outcomes**

There were no significant deviations.

##### **An analysis of the achievements using the INDICATORS described in the project document**

Indicators achieved as planned.

## **Objective 4: Effective coordination of all activities related to SS**

The main focus of this Objective was to create a facility for coordination of PEN activities and at the same time reach out SS information sharing with regional partners.

### **Output 4.1. A facility for coordination of KN activities in CAPS as host organization established**

#### **Accumulated activities/outputs**

- Center for Advanced Philippine Studies (CAPS) acted as Secretariat of the Knowledge Node with core staff composed of a Team Leader, a KN Coordinator, an Information Officer and a Librarian.
- A KN Board of Advisers (KN-BoA) was created and mobilized and actively participated in the:
  - review of the research studies;
  - administration/participation in the 4 ILS sessions;
  - participation in major events like the first Philippine Symposium on Sustainable Sanitation in October 2009 attended by more than 200 sanitation decision makers, experts and practitioners

#### **Accumulated outcomes**

Overall, the Knowledge Node Project had tremendously assisted CAPS achieved its institutional vision and goal to be the primary knowledge center for waste management and sustainable sanitation.

#### **A reflection of impacts**

As an established knowledge center for sustainable sanitation, CAPS is now recognized by more institutions and stakeholders and is now invited to be involved in other sanitation issues, like, school sanitation and emergency sanitation. CAPS is now part of the UNICEF WASH Cluster initiatives.

#### **Accumulated deviations from the project document and the deviations' effect on the overall outcomes**

There were no significant deviations.

#### **An analysis of the achievements using the indicators described in the project document**

Several forms of indicators, e.g., physical, correspondence, minutes of meetings, will show that CAPS has firmly established itself as an established knowledge center for sustainable sanitation.

**Output 4.2. Regional Southeast Asia outreach initiatives on Ecosan and SS conducted**

**Accumulated activities/outputs**

- **Second East Asia Ministerial Conference on Sanitation and Hygiene (EASAN2), January 2010.**

The Philippine Government, through the Department of Health, hosted EASAN2 in January 2010. PEN assisted the Philippine Government in organizing and conducting this major Regional event. The Knowledge Node took this opportunity to accomplish Output 4.2 and advocated for Ecosan and Sustainable Sanitation to the delegates from 13 countries.

- **UNEP/IETC-KOICA-CAPS Regional Meeting on Ecosan and Decentralized Sanitation Systems, 30 May-01 June 2011.**

CAPS acquired a related project with UNEP-IETC that allowed a Regional Meeting to happen in the Philippines. Participants from Vietnam, Cambodia and Lao PDR who were knowledgeable on Ecosan and decentralized sanitation systems came to exchange experiences and ideas on said topics and sustainability issues were a major focus of discussion. The Regional Meeting provided the opportunity for CAPS to meet face to face other sanitation practitioners in the Region thereby expanding its network links. Moreover, the Regional Meeting allowed CAPS to project itself as a regional knowledge node. Participants from the Region committed to stay in touch and continue to exchange knowledge and experiences.

**Accumulated outcomes**

- **2010 Manila Declaration on Sustainable Sanitation:** The delegates from the 13 participating countries signed the Manila Declaration on Sustainable Sanitation formulated during the EASAN2.
- **International and Regional Advocacy and Outreach Outcomes** (At no cost to the KN budget):
  - **International Symposium in Alternative Technology for our Neighbors, 04 October 2010 in Seoul National University, South Korea:** Mr. Dan Lapid, KN Team Leader, was invited by the South Korean Scientist and Engineers Without Borders to present Ecological Sanitation in this Symposium.
  - **International Seminar: Local Wisdom and Appropriate Technology in Supporting Sustainable Sanitation, 18 December 2010 in Gadjah Mada University, Jogjakarta, Indonesia:** Mr. Leo De Castro, CAPS Program Manager, presented Ecological Sanitation in this seminar.
  - **International Water Management Conference, Murdoch University, Perth Australia, 2-5 February 2011:** Mr. Dan Lapid presented a paper on

“Development of Sustainable Sanitation” in the Philippines in this Conference. This paper was chosen to be included in the upcoming Conference publication.

- **Conference on Decentralised Wastewater Treatment Systems (DEWATS) for Urban Environments in Asia, Manila, 25 - 28 May 2011:** CAPS was able to attend this International Water Association (IWA), the Asian Development Bank (ADB), Bremen Overseas Research and Development Association (BORDA), and the Water Sanitation Program (WSP) sponsored event to further extend its networking reach.

### **A reflection of impacts**

The international and regional advocacy and outreach outcomes are indicators that CAPS has achieved a wide area of “influence” beyond its national borders. Hoping for timely and adequate support by international and local partners, CAPS is committed to continue to be an effective Knowledge Node for the country and neighbouring countries in the sub-region of Southeast Asia.

### **Accumulated deviations from the project document and the deviations’ effect on the overall outcomes**

There were no significant deviations.

### **An analysis of the achievements using the INDICATORS described in the project document**

The US\$20,000-grant CAPS tried to access in the beginning for a KN Regional Meeting did not materialize. However, CAPS was able to sign a Small Scale Funding Agreement with UNEP-IETC which provided funds for related activities including a Regional Meeting.

**LFA – all years aggregated, 2009 - 2011**

PROGRAMME OBJECTIVES	OBJECTIVELY VERIFIABLE INDICATORS	MEANS/SOURCES OF VERIFICATION	IMPACTS
<b>Objective 1:</b> Increased capacity in sustainability issues of sanitation among stakeholders in the Philippines	<p>Key stakeholders are able to do or attain the following:</p> <ul style="list-style-type: none"> <li>Understand sustainable issues in sanitation</li> <li>More understanding and awareness of linkage between sanitation</li> </ul>	<ul style="list-style-type: none"> <li>Written reports, proceedings of training workshops and conferences, i.e., the Philippine Symposium on Sustainable Sanitation (2009); the Training of Trainors on Sus San (2010), Study Tour (2010)</li> <li>Minutes of meetings and learning sessions, i.e., lecture series on wastewater reuse in building, peak phosphorous, urine reuse and struvite production.</li> <li>Research reports on Emergency Sanitation, School Sanitation and Urine Reuse.</li> </ul>	<p>A Trainors Training Course, Study Tour and International Lecture Series were all held to develop a growing cadre of trainors and advocates for the cause of sustainable sanitation.</p> <p>Three (3) research topics were also commissioned in aid of further advocacy for the development of appropriate policies.</p> <p>The Department of Education will soon implement Ecosan in 50 public schools with gardening component.</p>
<b>Objective 2:</b> Efficient information and knowledge sharing among stakeholders in the Philippines and in the region	<ul style="list-style-type: none"> <li>A number of physical and virtual resource centers are interacting and availing of each other's information sources</li> <li>Stakeholders are actively participating in information exchange and sharing</li> </ul>	<ul style="list-style-type: none"> <li>Physical library at CAPS</li> <li>Websites: caps.ph and ecosan.ph.</li> <li>Email communications</li> </ul>	<p>At the close of the PEN Strategic Planning workshop, the Network would have a clear and concerted effort in advancing its principles on sustainable sanitation. It would be aided by the EcoSan web portal as a potent platform for sharing knowledge materials.</p> <p>With promotions through our websites, several students from different universities have approached CAPS to learn more about Ecosan. A few of them have decided to take Ecosan as topic for their term papers and/or thesis. CAPS</p>



***Sustainable Sanitation Knowledge Node in the Philippines***

PROGRAMME OBJECTIVES	OBJECTIVELY VERIFIABLE INDICATORS	MEANS/SOURCES OF VERIFICATION	IMPACTS
			plans to continue maintaining and enhancing the virtual and physical resource infrastructure already established.
<b>Objective 3:</b> Increased awareness on Sustainable Sanitation and related issues	<ul style="list-style-type: none"> <li>▪ Requests for orientation, training and technical assistance from stakeholders</li> <li>▪ More participation of stakeholders in conferences, fora and other group activities related to SS</li> <li>▪ A Sustainable Sanitation Framework that is well circulated, discussed and adopted</li> </ul>	<ul style="list-style-type: none"> <li>▪ Copy of the Philippine Sustainable Sanitation Framework;</li> <li>▪ Copy of Philippine Sustainable Sanitation Roadmap;</li> <li>▪ Copy of the Senate Bill on Sustainable Sanitation.</li> </ul>	<p>The adoption by the Government of the Sustainable Sanitation Framework in the Philippine Sustainable Sanitation Roadmap (PSSR) is perhaps the most pervasive of all Knowledge Node Outputs in terms of future impacts and outcomes.</p> <p>Many National Government Agencies are expected to follow and be guided by the Roadmap and formulate their respective sanitation plans and/or programs. In fact, it is already happening. For example, the Department of Health formulated its National Sustainable Sanitation Plan; the Department of Public Works formulated its National Sewerage and Septage Management Program; and Department of Education its WASH in School Program; and the Department of Interior and Local Government its National Program on Abundant and Safe Water (and Sanitation) for All.</p> <p>Hopefully, other government agencies, like the Department of Agriculture, Department of Tourism, National Housing Authority, the National Anti-</p>

***Sustainable Sanitation Knowledge Node in the Philippines***

PROGRAMME OBJECTIVES	OBJECTIVELY VERIFIABLE INDICATORS	MEANS/SOURCES OF VERIFICATION	IMPACTS
			<p>Poverty Commission, will follow suit.</p> <p>Moreover, the PSSR's adoption would provide the needed leverage to infuse sanitation objectives in the Medium Term Philippine Development Plan (MTPDP), and eventually the Medium Term Public Investments Program (MTPIP).</p>
<p><b>Objective 4:</b> Effective coordination of all activities related to Sustainable Sanitation</p>	<ul style="list-style-type: none"> <li>▪ A facility for coordination established and operational with concrete capacity development program beyond 2010 in collaboration with PEN members</li> <li>▪ Regional Southeast Asia outreach initiatives or activities</li> </ul>	<ul style="list-style-type: none"> <li>▪ Existing physical center with governance structure and staff</li> <li>▪ Project Completion Report</li> <li>▪ Directory/list of institutions and/or individuals</li> <li>▪ Presentations and paper delivered in various international forums, i.e., in South Korea, Australia and Indonesia.</li> </ul>	<p>As a established knowledge center for sustainable sanitation, CAPS is now recognized by more institutions and stakeholders and is now invited to be involved in other sanitation issues, like, school sanitation and emergency sanitation.</p> <p>CAPS is now part of the UNICEF WASH Cluster initiatives.</p> <p>The international and regional advocacy and outreach outcomes are indicators that CAPS has achieved a wide area of "influence" beyond its national borders.</p> <p>Given proper and adequate support by international partners, CAPS can continue to be an effective Knowledge Node for the country and neighbouring region.</p>

## Appendix 1: List of knowledge products

Year	Date (if applicable)	Product type	Description of product	Context where used	File name	Downloadable at
2010	8-12 March	Proceedings of KN Activity	A Training of Trainors (ToT) course on Sustainable Sanitation	conducted CAPS KN Team at the Sunrise Holiday Mansion in Alfonso, Cavite		www.ecosan.ph
2010	8-10 June	Proceedings of KN Activity	A Study Tour of Trainors in the Cities of Dumaguete and Bayawan, Negros Oriental, with 20 participants.	conducted as follow-up learning activity to the ToT showcasing successful local initiatives on sanitation		www.ecosan.ph
2010	12 April	Proceedings and Brochures	International Lecture Series on Sustainable Sanitation	Conducted to raise awareness among a broad spectrum of decision makers and professional regarding critical issues on sustainable sanitation. All resources persons are international experts.		www.ecosan.ph
2010	15 October		Wastewater Reuse in Buildings			
2010	15 November		Peak Phosphorous and Function-base Sanitation Ladder			
2010	27 January		Urine Reuse in Agriculture			
2011			Struvite Production from Human Urine			
2011	March	A KN Research Report	Emergency Sanitation [A Policy Research] with a toolkit and a draft government Administrative Order (AO)	The Report contains a Reference Toolkit and Draft Department of Health Order on Emergency Sanitation	Contents: Philippine Emergency Sanitation Reference Toolkit Developing a Philippine Policy on Emergency Sanitation: Final Report	www.ecosan.ph
2010		A KN Research Report	State of Sanitation in the Public Elementary School	An Exploratory Study on the causes of poor sanitation		

### ***Sustainable Sanitation Knowledge Node in the Philippines***

Year	Date (if applicable)	Product type	Description of product	Context where used	File name	Downloadable at
			System [A Policy Review]	in Philippine public elementary schools		
2010	21 December	A KN Research Report	Field Testing of Urine Re-use for Agricultural Purposes in the Philippines: An Assessment of human urine as a source of nutrients for agricultural production under Philippine conditions and determination of appropriate urine application rates for different crops	Determination of the macronutrient content (N,P,K) of human urine from different areas in the Philippines (Cagayan de Oro, La Union, Bayawan) and determination of appropriate urine application rates for different vegetable crops (Sweet Corn, Petchay, Eggplant) that are commonly planted in the Philippines.		<a href="http://susancenter.xu.edu.ph">http://susancenter.xu.edu.ph</a>
2009	18 July	A Conceptual Framework Paper	Philippines Sustainable Sanitation Framework			
2010	April	An Official Policy Document	Philippine Sustainable Sanitation Roadmap (PSSR)	Collaborative effort in setting policies, directives and programs to achieve sustainable sanitation. Designing vision and goals as well as identifying outcomes, outputs and activities in implementing operational plans.		<a href="http://www.ecosan.ph">www.ecosan.ph</a>
2011	May	A Legislative Bill filed in the Philippine Senate.	A Bill on Sustainable Sanitation	A Bill filed in the Philippine Senate resulting from the PSSR		
2010	January	A Conference Statement	EASAN2 Manila Declaration on Sustainable Sanitation	A declaration of understanding on the common principles of		<a href="http://www.ecosan.ph">www.ecosan.ph</a>

***Sustainable Sanitation Knowledge Node in the Philippines***

Year	Date (if applicable)	Product type	Description of product	Context where used	File name	Downloadable at
				sustainable sanitation by 13 East and Southeast Asian Countries		

## Appendix 2: List of presentations/publications

Year	Date (if applicable)	Title	Presenter/author(s)	Location	Context	File name	Downloadable at
2010	January	The First Philippine Symposium on Sustainable Sanitation, October 2009, Manila Mandarin Oriental, Makati City	CAPS	Mandarin Oriental, Makati City, Manila 15-16 October, 2009	A venue to promote concepts of sustainable sanitation, to share insights and initiatives to tackle sanitation issues and an effort to engaged LGUs in sustainable sanitation systems		<a href="http://www.caps.ph">www.caps.ph</a>
2010	September	"With Our Own Hands: Experiences in Promoting Ecological Sanitation and Food Security in Mindanao	WAND Foundation	Water, Agro-Forestry, Nutrition and development Foundation Libertad, Misamis Oriental	A practical guide in building an affordable, socially and culturally acceptable and sustainable toilet at the household and community level. Addressed the needs of poor households in remote un-served and disaster afflicted areas without adequate		<a href="http://www.wandphilsorg.com">www.wandphilsorg.com</a> Available at CAPS Library Call Number: TD 918 S29 2010

***Sustainable Sanitation Knowledge Node in the Philippines***

Year	Date (if applicable)	Title	Presenter/author(s)	Location	Context	File name	Downloadable at
					of no supply of clean water.		
2010	24 February	"Low Cost Sustainable Sanitation Solutions for Mindanao and the Philippines: A Practical Construction Field Guide"	Sustainable Sanitation Center, Xavier University		Compilation of existing experiences in Mindanao and provides practical easy-to-understand and mostly picture-based guidance on how to construct and replicate these sanitation technologies in the Philippines		<a href="http://susancenter.xu.edu.ph">http://susancenter.xu.edu.ph</a> Available at CAPS Library Call Number: TD 918 L69 2011
2011		"Urine as a Liquid Fertilizer in Agricultural Production in the Philippines: A Practical Field Guide"	Sustainable Sanitation Center, Xavier University		Developed to accommodate the ever-increasing demand for more detailed and scientifically backed information on how to use urine in agricultural production.		<a href="http://susancenter.xu.edu.ph">http://susancenter.xu.edu.ph</a> Available at CAPS Library Call Number: TD 918 L69 2011
2010	04 October	"Ecological Sanitation in the Philippines: It's	Dan Lapid, KN Team Leader and CAPS	Seoul National	as presented at the International		Available at CAPS Library Call Number:

***Sustainable Sanitation Knowledge Node in the Philippines***

Year	Date (if applicable)	Title	Presenter/author(s)	Location	Context	File name	Downloadable at
		Prospects and Challenges”	Executive Director	University, South Korea	Symposium in Alternative Technology for our Neighbors		T 49.5 I58 2010
2010	18 December	“Ecological Sanitation in the Philippines”	Leo De Castro, CAPS Program Manager	Gadjah Mada University, Jogjakarta, Indonesia	as presented at the International Seminar: Local Wisdom and Appropriate Technology in Supporting Sustainable Sanitation		
2011	2-5 February	“Development of Sustainable Sanitation in the Philippines”	Dan Lapid, KN Team Leader and CAPS Executive Director	Murdoch University, Perth, WA Australia	as present at the 2011 International Water Management Conference		



**Appendix 3: List of inventories (to be handed over)**

Object/Type of product	Brand and model	Serial number or similar	Purchase Date	Purchase price	Estimated value April 2011
None					

## **Project-related Appendices**

### **Appendix:**

1. The First Philippine Symposium on Sustainable Sanitation, October 2009, Manila Mandarin Oriental, Makati City
2. A Training of Trainors (ToT) course on Sustainable Sanitation conducted 8-12 March 2010 at the Sunrise Holiday Mansion in Alfonso, Cavite
3. A Study Tour of Trainors in the Cities of Dumaguete and Bayawan, Negros Oriental conducted 8-10 June 2010 to showcase successful local initiatives on sanitation, with 20 participants.
4. Four (4) Lectures under the International Lecture Series on Sustainable Sanitation, attended by more than 150 participants.
  - a. Wastewater Reuse in Buildings, 12 April 2010
  - b. Peak Phosphorous and Function-base Sanitation Ladder, 15 October 2010
  - c. Urine Reuse in Agriculture, 15 November 2010
  - d. Struvite Production from Human Urine, 27 January 2011
5. Publication of the WAND Foundation book entitled, *“With Our Own Hands: Experiences in Promoting Ecological Sanitation and Food Security in Mindanao*
6. Emergency Sanitation [A Policy Research] with a toolkit and a draft government Administrative Order (AO) as outputs
7. State of Sanitation in the Public Elementary School System [A Policy Review];
8. Field Testing of Urine Re-use for Agricultural Purposes in the Philippines.
  - 8.1 *“Low Cost Sustainable Sanitation Solutions for Mindanao and the Philippines: A Practical Construction Field Guide”*. Sustainable Sanitation Center, Xavier University book entitled, 2010.
  - 8.2 *“The Use of Urine as a Liquid Fertilizer in Agricultural Production in the Philippines – A Practical Field Guide”*. Sustainable Sanitation Center, Xavier University book entitled, 2011.
9. Philippines Sustainable Sanitation Framework
10. Philippine Sustainable Sanitation Roadmap (PSSR) in April 2010.
11. A Bill on Sustainable Sanitation was filed at the Philippine Senate last May 2011.
12. Manila Declaration 2010
13. “Ecological Sanitation in the Philippines” as presented by Mr. Dan Lapid, KN Team Leader, in the International Symposium in Alternative Technology for our Neighbors, 04 October 2010 in Seoul National University, South Korea
14. “Ecological Sanitation in the Philippines” as presented by Mr. Leo De Castro, CAPS Program Manager in the International Seminar: Local Wisdom and Appropriate Technology in Supporting Sustainable Sanitation, 18 December 2010 in Gadjah Mada University, Jogjakarta, Indonesia
15. “Development of Sustainable Sanitation in the Philippines” as present by Mr. Dan Lapid, KN Team Leader, in the International Water Management Conference, Murdoch University, Perth Australia, 2-5 February 2011